

# 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

## CCR LANDFILL MONTROSE GENERATING STATION CLINTON, MISSOURI

Presented To:  
Eversource Energy, Inc.

**SCS ENGINEERS**

27213168.21 | January 2022, Revised December 20, 2022

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Overland Park, Kansas 66210  
913-681-0030

## CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and Registered Geologist in the State of Missouri, do hereby certify that the 2021 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill at the Montrose Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).

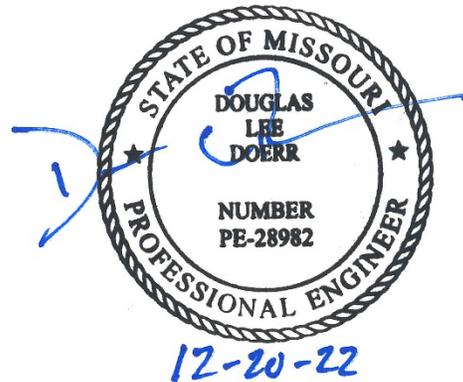


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John R. Rockhold, R.G.

SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Missouri, do hereby certify that the 2021 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill at the Montrose Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).



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Douglas L. Doerr, P.E.

SCS Engineers

# 2021 Groundwater Monitoring and Corrective Action Report

Revision Number	Revision Date	Revision Section	Summary of Revisions
0	January 2022	NA	Original Report.
1	December 20, 2022	Addendum 1	Added Addendum 1

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# 1 INTRODUCTION

This 2021 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the “Coal Combustion Residuals (CCR) Final Rule” (Rule) published by the United States Environmental Protection Agency (USEPA) in the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, dated April 17, 2015 (USEPA, 2015), and subsequent revisions. Specifically, this report was prepared for Evergy Metro, Inc. (Evergy) to fulfill the requirements of 40 CFR 257.90 (e). The applicable sections of the Rule are provided below in *italics*, followed by applicable information relative to the 2021 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill at the Montrose Generating Station.

## 1.1 § 257.90(e)(6) SUMMARY

*A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:*

### 1.1.1 § 257.90(e)(6)(i) Initial Monitoring Program

*At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;*

At the start of the current annual reporting period, (January 1, 2021), the CCR Landfill was operating under a detection monitoring program in compliance with § 257.94.

### 1.1.2 § 257.90(e)(6)(ii) Final Monitoring Program

*At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;*

At the end of the current annual reporting period, (December 31, 2021), the CCR Landfill was operating under a detection monitoring program in compliance with § 257.94.

### 1.1.3 § 257.90(e)(6)(iii) Statistically Significant Increases

*If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III to this part pursuant to § 257.94(e):*

*(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and*

Monitoring Event	Monitoring Well	Constituent	ASD
Fall 2020	MW-605	Chloride	Successful

*(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.*

Not applicable because an assessment monitoring program was not initiated.

1.1.4 § 257.90(e)(6)(iv) Statistically Significant Levels

*If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in Appendix IV to this part pursuant to § 257.95(g) include all of the following:*

(A) *Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase;*

Not applicable because there was no assessment monitoring conducted.

(B) *Provide the date when the assessment of corrective measures was initiated for the CCR unit;*

Not applicable because there was no assessment of corrective measures initiated for the CCR Unit.

(C) *Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and*

Not applicable because there was no assessment of corrective measures initiated for the CCR Unit.

(D) *Provide the date when the assessment of corrective measures was completed for the CCR unit.*

Not applicable because there was no assessment of corrective measures initiated for the CCR Unit.

1.1.5 § 257.90(e)(6)(v) Selection of Remedy

*Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection; and*

Not applicable because corrective measures are not required.

1.1.6 § 257.90(e)(6)(vi) Remedial Activities

*Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.*

Not applicable because corrective measures are not required.

## 2 § 257.90(E) ANNUAL REPORT REQUIREMENTS

***Annual groundwater monitoring and corrective action report.*** For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this

subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

### 2.1 § 257.90(E)(1) SITE MAP

A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

A site map with an aerial image showing the CCR Landfill and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR Landfill groundwater monitoring program is provided as **Figure 1** in **Appendix A**.

### 2.2 § 257.90(E)(2) MONITORING SYSTEM CHANGES

Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

No new monitoring wells were installed and no wells were decommissioned as part of the CCR groundwater monitoring program for the CCR Landfill in 2021.

### 2.3 § 257.90(E)(3) SUMMARY OF SAMPLING EVENTS

In addition to all the monitoring data obtained under § 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

Only detection monitoring was required to be conducted during the reporting period (2021). Samples collected in 2021 were collected and analyzed for Appendix III detection monitoring constituents. Results of the sampling events are provided in **Appendix B, Table 1** (Appendix III Detection Monitoring Results), and **Table 2** (Detection Monitoring Field Measurements). These tables include the Fall 2020 semiannual detection monitoring event verification sample data collected and analyzed in 2021; the Spring 2021 semiannual detection monitoring data, and verification sample data; and, the Fall 2021 semiannual detection monitoring data. The dates of sample collection and the monitoring program requiring the sample are also provided in these tables.

## 2.4 § 257.90(E)(4) MONITORING TRANSITION NARRATIVE

*A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and*

There was no transition between monitoring programs in 2020. Only detection monitoring was conducted in 2021.

## 2.5 § 257.90(e)(5) OTHER REQUIREMENTS

*Other information required to be included in the annual report as specified in § 257.90 through 257.98.*

A summary of potentially required information and the corresponding section of the Rule is provided in the following sections. In addition, the information, if applicable, is provided.

### 2.5.1 § 257.90(e) Program Status

*Status of Groundwater Monitoring and Corrective Action Program.*

The groundwater monitoring and corrective action program is in detection monitoring.

*Summary of Key Actions Completed.*

- a. completion of the Fall 2020 verification sampling and analyses per the certified statistical method,
- b. completion of the statistical evaluation of the Fall 2020 semiannual detection monitoring sampling and analysis event per the certified statistical method,
- c. completion of the 2020 Annual Groundwater Monitoring and Corrective Action Report,
- d. completion of a successful alternative source demonstration for the Fall 2020 semiannual detection monitoring sampling and analysis event,
- e. completion of the Spring 2021 semiannual detection monitoring sampling and analysis event with subsequent verification sampling per the certified statistical method,
- f. completion of the statistical evaluation of the Spring 2021 semiannual detection monitoring sampling and analysis event per the certified statistical method, and
- g. initiation of the Fall 2021 semiannual detection monitoring sampling and analysis event.

*Description of Any Problems Encountered.*

No noteworthy problems were encountered.

*Discussion of Actions to Resolve the Problems.*

Not applicable because no noteworthy problems were encountered.

### *Projection of Key Activities for the Upcoming Year (2022).*

Completion of verification sampling and data analysis, and the statistical evaluation of Fall 2021 detection monitoring sampling and analysis event, and, if required, alternative source demonstration(s). Semiannual Spring and Fall 2022 groundwater sampling and analysis. Completion of the statistical evaluation of the Spring 2022 detection monitoring sampling and analysis event, and, if required, alternative source demonstration(s).

### 2.5.2 § 257.94(d)(3) Demonstration for Alternative Detection Monitoring Frequency

*The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).*

Not applicable because no alternative monitoring frequency for detection monitoring and certification was pursued.

### 2.5.3 § 257.94(e)(2) Detection Monitoring Alternate Source Demonstration

*Demonstration that a source other than the CCR unit caused the statistically significant increase (SSI) over background levels for a constituent or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. In addition, certification of the demonstration is to be included in the annual report.*

The following demonstration reports are included as **Appendix C**:

- C.1 CCR Landfill Groundwater Monitoring Alternative Source Demonstration Report  
November 2020 Groundwater Monitoring Event, CCR Landfill, Montrose Generating Station (May 2021).

### 2.5.4 § 257.95(c)(3) Demonstration for Alternative Assessment Monitoring Frequency

*The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).*

Not applicable because there was no assessment monitoring conducted.

### 2.5.5 § 257.95(d)(3) Assessment Monitoring Concentrations and Groundwater Protection Standards

*Include the concentrations of Appendix III and detected Appendix IV constituents from the assessment monitoring, the established background concentrations, and the established groundwater protection standards.*

Not applicable because there was no assessment monitoring conducted.

### 2.5.6 § 257.95(g)(3)(ii) Assessment Monitoring Alternate Source Demonstration

*Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in appendices III and IV to this part are at or below background as specified in paragraph (e) of this section. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.*

Not applicable because there was no assessment monitoring conducted.

### 2.5.7 § 257.96(a) Demonstration for Additional Time for Assessment of Corrective Measures

*Within 90 days of finding that any constituent listed in appendix IV to this part has been detected at a statistically significant level exceeding the groundwater protection standard defined under § 257.95(h), or immediately upon detection of a release from a CCR unit, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected area to original conditions. The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer attesting that the demonstration is accurate. The 90-day deadline to complete the assessment of corrective measures may be extended for no longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.*

Not applicable because there was no assessment monitoring conducted.

## 2.6 § 257.90(E)(6) OVERVIEW SUMMARY

*A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit.*

§ 257.90(e)(6) is addressed in Section 1.1 of this report.

### 3 GENERAL COMMENTS

This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. The information contained in this report is a reflection of the conditions encountered at the Montrose Generating Station at the time of fieldwork. This report includes a review and compilation of the required information and does not reflect any variations of the subsurface, which may occur between sampling locations. Actual subsurface conditions may vary and the extent of such variations may not become evident without further investigation.

Conclusions drawn by others from the result of this work should recognize the limitation of the methods used. Please note that SCS Engineers does not warrant the work of regulatory agencies or other third parties supplying information used in the assimilation of this report. This report is prepared in accordance with generally accepted environmental engineering and geological practices, within the constraints of the client's directives. It is intended for the exclusive use of Evergy Metro, Inc. for specific application to the Montrose Generating Station CCR Landfill. No warranties, express or implied, are intended or made.

## APPENDIX A

### FIGURES

Figure 1: Site Map

Figure 2: Potentiometric Surface Map (May 2021)

Figure 3: Potentiometric Surface Map (November 2021)

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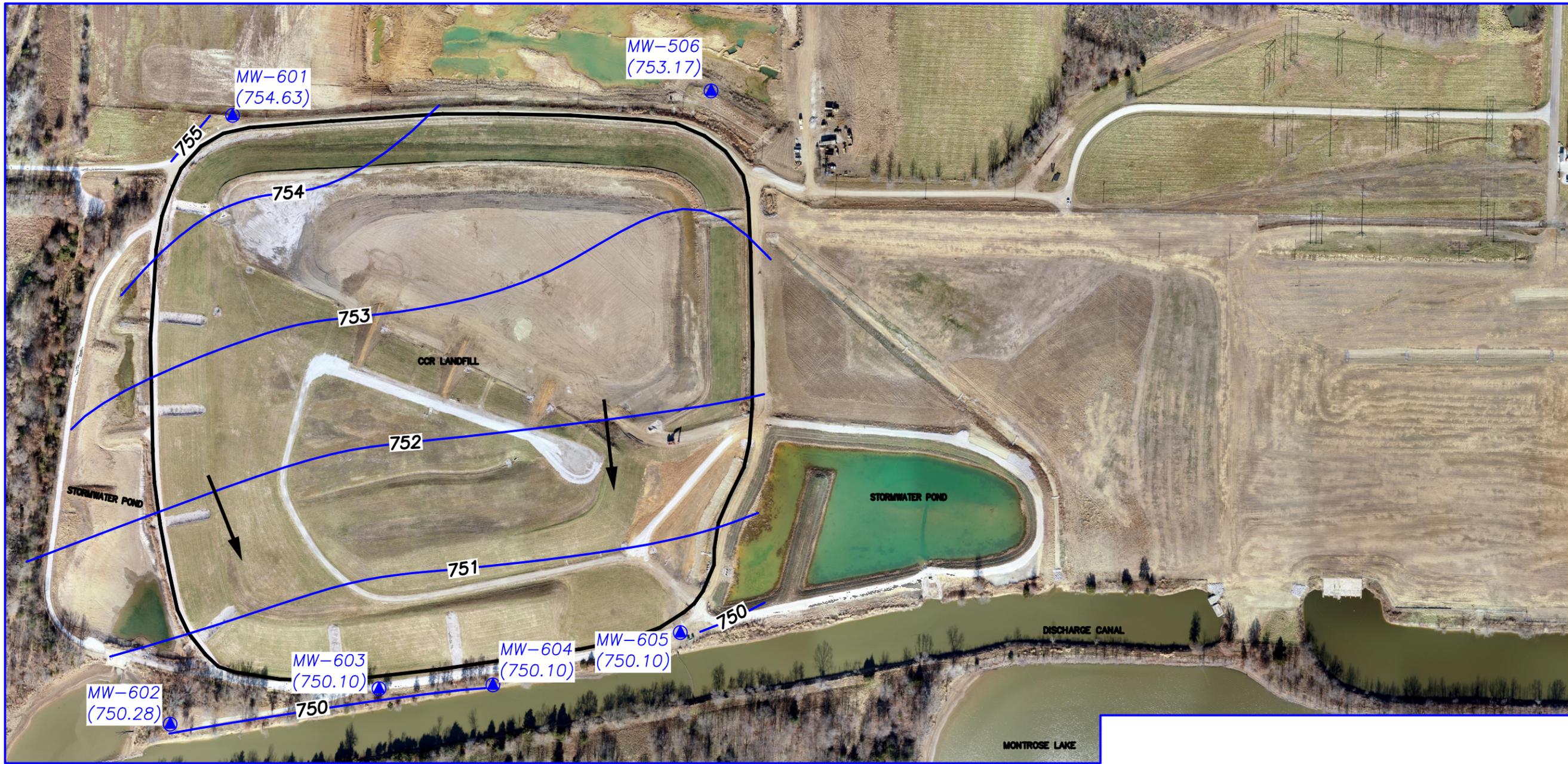


**LEGEND:**  
 — CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)  
 ● MW-506 CCR GROUNDWATER MONITORING WELL SYSTEM

- NOTES:**
- HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
  - VERTICAL DATUM: NAVD 88
  - DRONE IMAGE BY EVERGY, DATED DECEMBER 3, 2021.
  - APPROXIMATE BOUNDARY LOCATIONS PROVIDED BY AECOM.
  - MONITOR WELL LOCATIONS PROVIDED BY SHAFFER, KLINE, & WARREN SURVEY DATED JULY 21, 2017.



<b>SCS ENGINEERS</b> ENVIRONMENTAL CONSULTANTS AND CONTRACTORS 8575 W. 110th St. Ste. 100 Overland Park, Kansas 66210 PH. (913) 881-0030 FAX. (913) 881-0012 PROJ. NO. 2721.131.68.21 DATE: 1/24/2022	CLIENT <b>EVERGY METRO, INC.</b> MONTROSE GENERATING STATION MONTROSE, MISSOURI	SHEET TITLE <b>SITE MAP</b> <b>CCR LANDFILL</b> <b>CCR GROUNDWATER MONITORING SYSTEM</b>	CK BY — — — — — —
	PROJECT TITLE <b>2020 GROUNDWATER MONITORING</b> <b>AND CORRECTIVE ACTION REPORT</b>	REV. DATE — — — — —	DATE 1/24/2022



**LEGEND:**

- CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
- MW-506 (747.77)  
CCR GROUNDWATER MONITORING WELL SYSTEM
- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- GROUNDWATER FLOW DIRECTION

**NOTES:**

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. DRONE IMAGE BY EVERYG, DATED DECEMBER 3, 2021.
4. APPROXIMATE BOUNDARY LOCATIONS PROVIDED BY AECOM.
5. MONITOR WELL LOCATIONS PROVIDED BY SHAFFER, KLINE, & WARREN SURVEY DATED JULY 21, 2017.



REV.	DATE	CK. BY
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SHEET TITLE  
**POTENTIOMETRIC SURFACE MAP (MAY 2021)**

PROJECT TITLE  
**MONTROSE GROUNDWATER 2021**

CLIENT  
**EVERGY METRO, INC.  
MONTROSE GENERATING STATION  
MONTROSE, MISSOURI**

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PROJ. NO. 27213188.20  
DATE: 1/14/2021

DWG. BY: ALR  
CHK. BY: JRR  
C/A RW BY: JRR  
PROJ. MGR: JRR

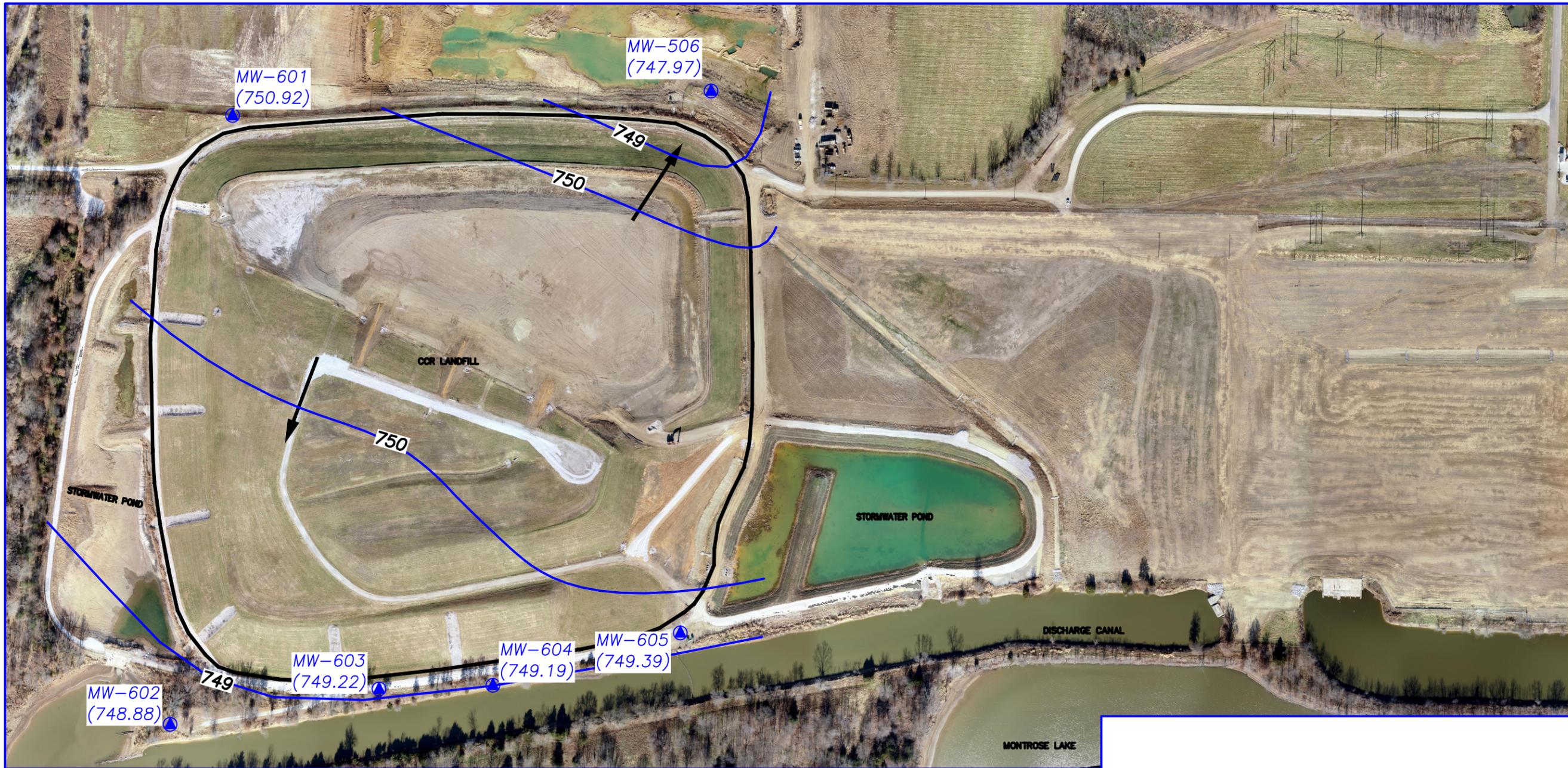
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DATE:  
1/14/2021

FIGURE NO.  
**2**

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**LEGEND:**

-  CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
-  MW-506 (747.77) CCR GROUNDWATER MONITORING WELL SYSTEM
-  GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
-  GROUNDWATER FLOW DIRECTION

**NOTES:**

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
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5. MONITOR WELL LOCATIONS PROVIDED BY SHAFFER, KLINE, & WARREN SURVEY DATED JULY 21, 2017.



REV.	DATE	CK. BY
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SHEET TITLE  
**POTENTIOMETRIC SURFACE MAP**  
 (NOVEMBER 2021)

PROJECT TITLE  
**MONTROSE GROUNDWATER 2021**

CLIENT  
**EVERGY METRO, INC.**  
 MONTROSE GENERATING STATION  
 MONTROSE, MISSOURI

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PROJ. NO. 27213168.20  
 DESK BY: ALR  
 CHK. BY: JRR  
 C/A RW BY: JRR  
 PROJ. MGR. JRR

CADD FILE:  
 27213168.20\_NOVEMBER 2021\_V1.DWG

DATE:  
 1/24/2022

FIGURE NO.  
**3**

## APPENDIX B

### TABLES

Table 1: Appendix III Detection Monitoring Results

Table 2: Detection Monitoring Field Measurements

**Table 1**  
**CCR Landfill**  
**Appendix III Detection Monitoring Results**  
**Evergy Montrose Generating Station**

Well Number	Sample Date	Appendix III Constituents						Total Dissolved Solids (mg/L)
		Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	pH (S.U.)	Sulfate (mg/L)	
MW-506	5/18/2021	<0.200	375	91.3	<0.150	5.73	1880	2800
MW-506	11/16/2021	<0.200	353	86.3	<0.150	5.53	1590	2670
MW-601	5/18/2021	<0.200	466	48.6	0.439	5.56	3200	4650
MW-601	11/16/2021	<0.200	460	36.6	0.384	5.30	3030	3710
MW-602	5/17/2021	4.17	311	3.95	<0.150	5.76	1190	1730
MW-602	11/16/2021	4.09	292	3.65	<0.150	5.82	1170	1690
MW-603	5/17/2021	6.22	403	6.17	0.535	4.60	2130	2600
MW-603	11/16/2021	5.25	370	5.53	0.540	4.37	1860	2290
MW-604	5/17/2021	5.32	486	15.6	0.491	5.98	2090	2960
MW-604	7/19/2021	---	*432	*14.7	---	**5.69	---	---
MW-604	11/16/2021	5.92	472	16.3	0.425	5.66	1940	2710
MW-605	2/3/2021	---	---	*59.3	---	**5.66	---	---
MW-605	3/1/2021	---	---	*58.2	---	**5.96	---	---
MW-605	5/17/2021	1.54	420	52.5	0.216	5.36	2040	2770
MW-605	11/16/2021	1.63	435	46.6	0.212	5.44	1850	2410

\* Verification Sample obtained per certified statistical method and Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009.

\*\*Extra Sample for Quality Control Validation or per Standard Sampling Procedure

mg/L - milligrams per liter

pCi/L - picocuries per liter

S.U. - Standard Units

--- Not Sampled

**Table 2**  
**CCR Landfill**  
**Detection Monitoring Field Measurements**  
**Every Montrose Generating Station**

Well Number	Sample Date	pH (S.U.)	Specific Conductivity (µS)	Temperature (°C)	Turbidity (NTU)	ORP (mV)	DO (mg/L)	Water Level (ft btoc)	Groundwater Elevation (ft NGVD)
MW-506	5/18/2021	5.73	2770	20.43	20.4	243	0.33	8.40	753.17
MW-506	11/16/2021	5.53	3140	18.76	0.0	237	0.00	13.60	747.97
MW-601	5/18/2021	5.56	4160	17.82	32.5	223	6.96	10.48	754.63
MW-601	11/16/2021	5.30	4610	17.67	7.7	245	0.00	14.19	750.92
MW-602	5/17/2021	5.76	2090	15.89	43.4	42	0.00	5.58	750.28
MW-602	11/16/2021	5.82	2020	16.44	26.4	55	0.00	6.98	748.88
MW-603	5/17/2021	4.60	3250	15.69	0.0	340	0.00	13.54	750.10
MW-603	11/16/2021	4.37	2990	19.06	0.0	385	0.00	14.42	749.22
MW-604	5/17/2021	5.98	3120	15.92	1.9	192	4.71	13.29	750.10
MW-604	7/19/2021	**5.69	3000	16.73	2.2	183	0.00	10.93	752.46
MW-604	11/16/2021	5.66	3320	16.93	0.0	268	0.00	14.20	749.19
MW-605	2/3/2021	**5.66	2690	13.16	13.8	163	0.80	13.43	750.68
MW-605	3/1/2021	**5.96	3100	13.86	46.2	181	1.95	13.19	750.92
MW-605	5/17/2021	5.36	3240	16.66	0.0	252	0.00	14.01	750.10
MW-605	11/16/2021	5.44	3170	19.08	0.0	246	0.00	14.72	749.39

\* Verification Sample obtained per certified statistical method and Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009.

\*\*Extra Sample for Quality Control Validation or per Standard Sampling Procedure

S.U. - Standard Units

µS - microsiemens

°C - Degrees Celsius

ft btoc - Feet Below Top of Casing

ft NGVD - National Geodetic Vertical Datum (NAVD 88)

NTU - Nephelometric Turbidity Unit

## APPENDIX C

### ALTERNATIVE SOURCE DEMONSTRATIONS

#### C.1 CCR Landfill Groundwater Monitoring Alternative Source Demonstration Report November 2020 Groundwater Monitoring Event, CCR Landfill, Montrose Generating Station (May 2021)

C.1 CCR Landfill Groundwater Monitoring Alternative Source  
Demonstration Report November 2020 Groundwater Monitoring  
Event, CCR Landfill, Montrose Generating Station (May 2021)

CCR GROUNDWATER MONITORING  
ALTERNATIVE SOURCE DEMONSTRATION REPORT  
NOVEMBER 2020 GROUNDWATER MONITORING EVENT

CCR LANDFILL

Montrose Generating Station  
Evergy Metro, Inc.  
Clinton, Missouri

**SCS ENGINEERS**

May 2021  
File No. 27213168.20

8575 W. 110<sup>th</sup> Suite 100  
Overland Park, KS 66210  
913-749-0700

## CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and Registered Geologist in the State of Missouri, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill at the Montrose Generating Station. The Alternative Source Demonstration was prepared by me or under my direct supervision in accordance with generally accepted hydrogeological practices and the local standard of care.

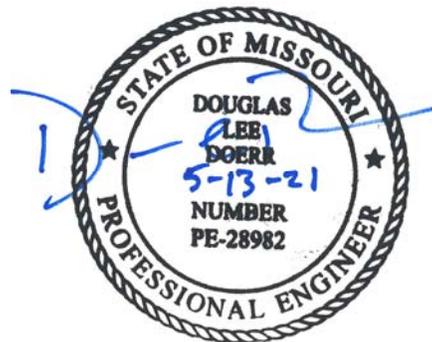


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John R. Rockhold, R.G.

SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Missouri, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill at the Montrose Generating Station. The Alternative Source Demonstration was prepared by me or under my direct supervision in accordance with generally accepted engineering practices and the local standard of care.



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Douglas L. Doerr, P.E.

SCS Engineers

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## Appendices

- Appendix A Box and Whiskers Plots**
- Appendix B Piper Diagram Plots and Analytical Results**
- Appendix C Time Series Plot**

# 1 REGULATORY FRAMEWORK

Certain owners or operators of Coal Combustion Residuals (CCR) units are required to complete groundwater monitoring activities to evaluate whether a release from the unit has occurred. Included in the activities is the completion of a statistical analysis of the groundwater quality data as prescribed in § 257.93(h) of the CCR Final Rule. If the initial analysis indicates a statistically significant increase (SSI) over background levels, the owner or operator may perform an alternative source demonstration (ASD). In accordance with § 257.94(e)(2), the owner or operator of the CCR unit may demonstrate that a source other than the CCR unit caused the SSI over background levels for a constituent, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator must complete the written demonstration within 90 days of detecting a SSI over background levels to include obtaining a certification from a qualified professional engineer verifying the accuracy of the information in the report. If a successful demonstration is completed within the 90-day period, the owner or operator of the CCR unit may continue with a detection monitoring program under § 257.94. If a successful demonstration is not completed within the 90-day period, the owner or operator of the CCR unit must initiate an assessment monitoring program as required under § 257.95. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer.

# 2 STATISTICAL RESULTS

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill at the Montrose Generating Station has been completed in substantial compliance with the “Statistical Method Certification by A Qualified Professional Engineer” dated October 12, 2017. Detection monitoring groundwater samples were collected on November 10, 2020. Review and validation of the results from the November 2020 Detection Monitoring Event was completed on December 22, 2020, which constitutes completion and finalization of detection monitoring laboratory analyses. A statistical analysis was then conducted to determine whether there was a statistically significant increase (SSI) over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring. Two rounds of verification sampling were conducted for certain constituents on February 3, 2021 and March 1, 2021.

The completed statistical evaluation identified one Appendix III constituent above the prediction limit established for monitoring well MW-605.

Constituent/Monitoring Well	*UPL	Observation November 10, 2020	1st Verification February 3, 2021	2nd Verification March 1, 2021
Chloride MW-605	55.57	59.7	59.3	58.2

\*UPL – Upper Prediction Limit

**Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified a SSI above the background prediction limit for chloride at monitoring well MW-605.**

### 3 ALTERNATIVE SOURCE DEMONSTRATION

An Alternative Source Demonstration (ASD) is a means to provide supporting lines of evidence that something other than a release from a regulated CCR unit caused an SSI. For the above identified SSI for the CCR Landfill at the Montrose Generating Station, there are multiple lines of supporting evidence to indicate the above SSI was not caused by a release from the CCR Landfill. Select multiple lines of supporting evidence are described as follows.

#### 3.1 BOX AND WHISKERS PLOTS

A commonly accepted method to demonstrate and visualize the distribution of data in a given data set is to construct box and whiskers plots. The basic box plotted graphically locates the median, 25<sup>th</sup> and 75<sup>th</sup> percentiles of the data set; the "whiskers" extend to the minimum and maximum values of the data set. The range between the ends of a box plot represents the Interquartile Range, which can be used as an estimate of spread or variability. The mean is denoted by a "+".

When comparing multiple wells or well groups, box plots for each well can be lined up on the same axis to roughly compare the variability in each well. This may be used as an exploratory screening for the test of homogeneity of variance across multiple wells.

An SSI was identified in well MW-605 for chloride. Therefore, box and whiskers plots for chloride in MW-605 and the two upgradient wells MW-506 and MW-601 were prepared to allow comparison of the chloride concentrations between wells. The comparison between wells indicates the chloride concentrations in well MW-605 are within or below the range of chloride in upgradient wells. This demonstrates that a source other than the CCR Landfill caused the SSI in chloride over background levels, or that the SSI resulted from natural variation in groundwater quality. Box and whisker plots are provided in **Appendix A**.

#### 3.2 PIPER DIAGRAM PLOTS

Piper diagrams are a form of tri-linear diagram, and a widely-accepted method to provide a visual representation of the ion concentration of groundwater. Piper diagrams portray water compositions and facilitate the interpretation and presentation of chemical analyses. They may be used to visually compare the chemical composition of water quality across wells, and aid in determining whether the waters are similar or dis-similar, and can over time indicate whether the waters are mixing.

A piper diagram has two triangular plots on the right and left side of a 4-sided center field. The three major cations are plotted in the left triangle and anions in the right. Each of the three cation/anion variables, in milliequivalents, is divided by the sum of the three values, to produce a percent of total cation/anions. These percentages determine the location of the associated symbol. The data points in the center field are located by extending the points in the lower triangles to the point of intersection. In order for a piper diagram to be produced, the selected data file must contain the following constituents: Sodium (Na), Potassium (K), Calcium (Ca), Magnesium (Mg), Chloride (Cl), Sulfate (SO<sub>4</sub>), Carbonate (CO<sub>3</sub>), and Bicarbonate (HCO<sub>3</sub>).

A piper diagram generated for MW-605 and landfill leachate is provided in **Appendix B** along with the analytical results and indicates the groundwater from this well does not exhibit the same geochemical

characteristics as the leachate. The groundwater and the leachate plot in totally different hydrochemical facies indicating there is no mixing of the two types of water (groundwater and leachate). This demonstrates that a source other than the CCR Landfill caused the SSI over background levels for chloride or that the SSI resulted from natural variation in groundwater quality.

### 3.3 TIME SERIES PLOTS

Time series plots provide a graphical method to view changes in data at a particular well (monitoring point) or wells over time. Time series plots display the variability in concentration levels over time and can be used to indicate possible outliers or data errors. More than one well can be compared on the same plot to look for differences between wells. Non-detect data is plotted as censored data at one-half of the laboratory reporting limit. Time series plots can also be used to examine the data for trends.

Time series plots for the chloride concentrations in MW-605 were plotted along with the chloride concentrations for upgradient wells MW-506 and MW-601. The plots indicate the chloride concentrations in MW-605 are below the concentrations in MW-506 and are often below or very near the concentrations in MW-601. This demonstrates that a source other than the CCR Landfill caused the SSI over background levels, or that the SSI resulted from natural variation in groundwater quality. Time series plots are provided in **Appendix C**.

## 4 CONCLUSION

Our opinion is that a sufficient body of evidence is available and presented above to demonstrate that a source other than the CCR Landfill caused the SSI over background levels, or that the SSI resulted from natural variation in groundwater quality. Based on the successful ASD, the owner or operator of the CCR Landfill may continue with the detection monitoring program under § 257.94.

## 5 GENERAL COMMENTS

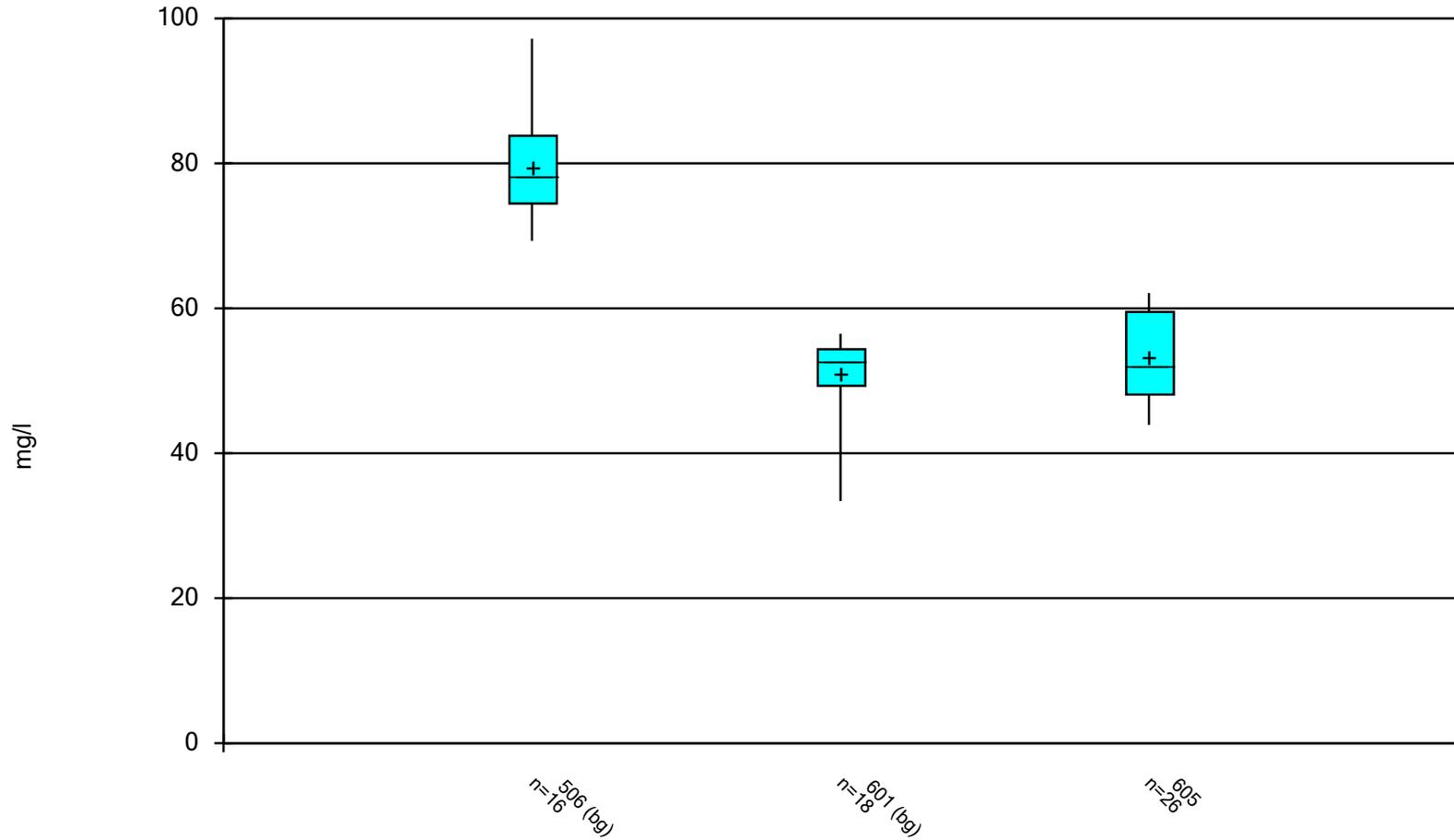
This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. Please note that SCS Engineers does not warrant the work of regulatory agencies or other third parties supplying information used in the assimilation of this report. This report is prepared in accordance with generally accepted environmental engineering and geological practices, within the constraints of the client's directives. It is intended for the exclusive use of Evergy Metro, Inc. for specific application to the Montrose Generating Station. No warranties, express or implied, are intended or made.

The signatures of the certifying registered geologist and professional engineer on this document represent that to the best of their knowledge, information, and belief in the exercise of their professional judgement in accordance with the standard of practice, it is their professional opinions that the aforementioned information is accurate as of the date of such signatures. Any opinion or decisions by them are made on the basis of their experience, qualifications, and professional judgement and are not to be construed as warranties or guaranties. In addition, opinions relating to regulatory, environmental, geologic, geochemical and geotechnical conditions interpretations or other estimates are based on available data, and actual conditions may vary from those encountered at the times and locations where data are obtained, despite the use of due care.

## **Appendix A**

### **Box and Whiskers Plots**

### Box & Whiskers Plot



Constituent: Chloride Analysis Run 4/27/2021 4:28 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

# Box & Whiskers Plot

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose Printed 4/27/2021, 4:33 PM

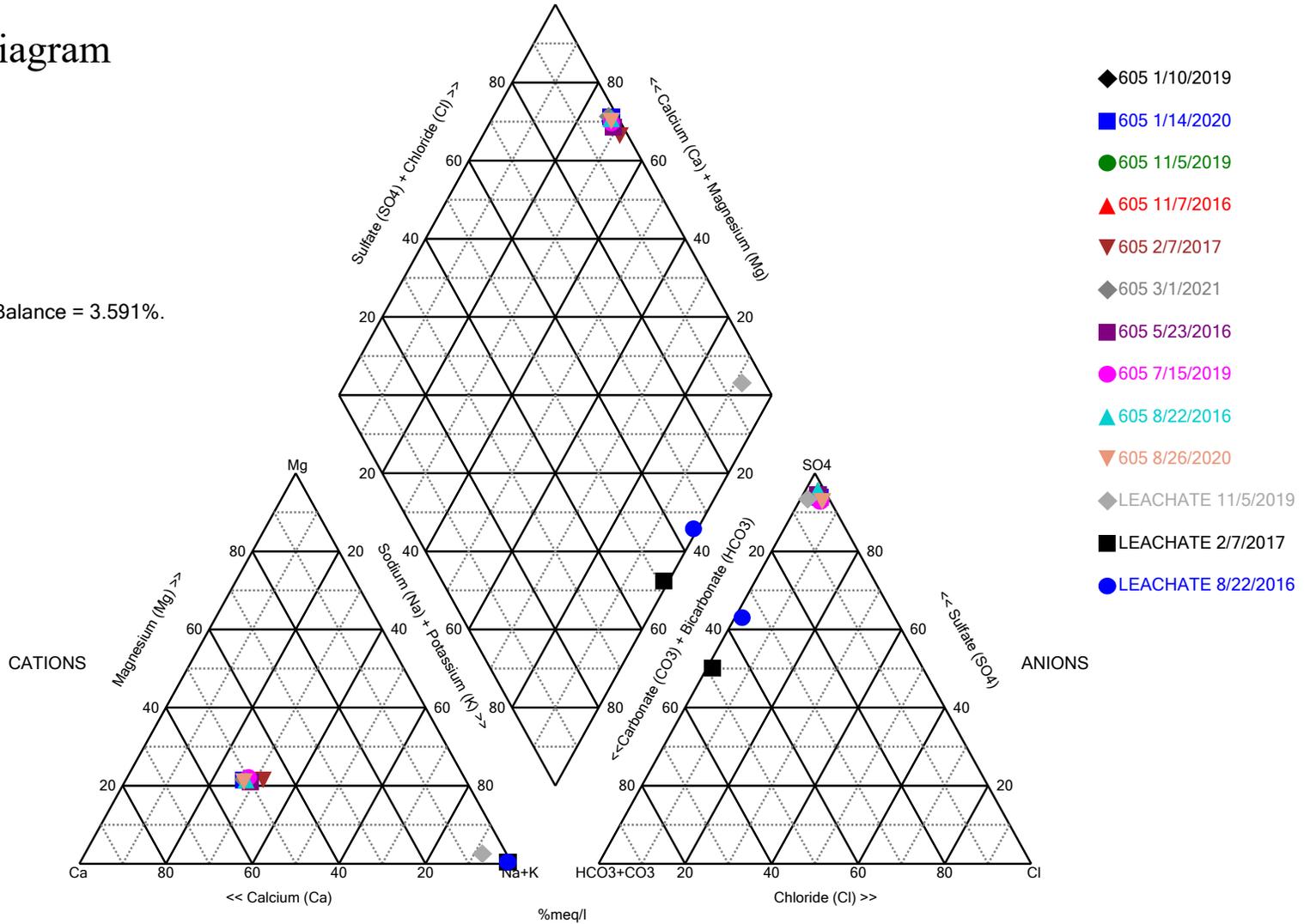
<u>Constituent</u>	<u>Well</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Std. Err.</u>	<u>Median</u>	<u>Min.</u>	<u>Max.</u>	<u>%NDs</u>
Chloride (mg/l)	506 (bg)	16	79.59	7.387	1.847	78.35	69.3	97.2	0
Chloride (mg/l)	601 (bg)	18	51.09	5.255	1.239	52.6	33.4	56.5	0
Chloride (mg/l)	605	26	53.43	5.899	1.157	52.05	43.9	62.1	0

## **Appendix B**

### **Piper Diagram Plots and Analytical Results**

# Piper Diagram

Cation-Anion Balance = 3.591%.



Analysis Run 4/27/2021 4:39 PM View: LF CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

# Piper Diagram

Analysis Run 4/27/2021 4:42 PM View: LF CCR III

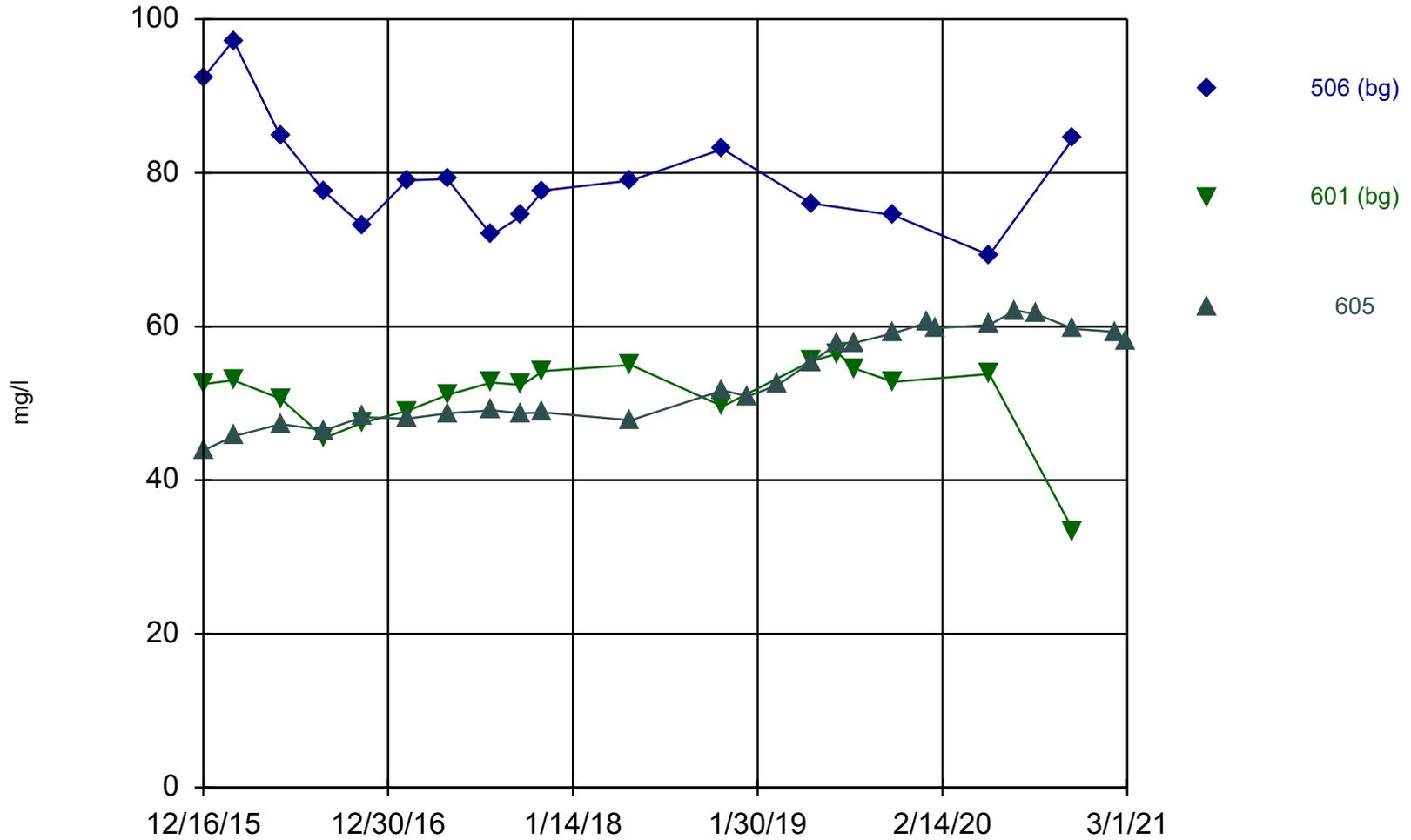
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Totals (ppm)	Na	K	Ca	Mg	Cl	SO4	HCO3	CO3
605 5/23/2016	276	2.57	412	105	47.3	1880	47.9	10
605 8/22/2016	270	2.51	431	111	46.5	2230	40.9	10
605 11/7/2016	271	2.63	407	104	48.2	2280	44	10
605 2/7/2017	284	2.71	367	101	48	2050	48.1	10
605 1/10/2019	264	2.79	421	107	50.9	1870	42	10
605 7/15/2019	261	2.73	407	108	57.8	1640	41.6	10
605 11/5/2019	248	2.6	399	102	59.1	1730	42.8	10
605 1/14/2020	240	2.48	395	101	60.5	1860	38.1	10
605 8/26/2020	244	2.44	396	97.5	61.6	1690	36.8	10
605 3/1/2021	244	2.55	407	103	58.2	1720	40.1	10
LEACHATE 8/22/2016	1010	20.8	5.88	0.5	18.5	1560	10	549
LEACHATE 2/7/2017	1050	23.9	5.47	0.5	16.3	1360	10	840
LEACHATE 11/5/2019	970	17	49.2	14.5	20.3	2240	44.1	64.2

## **Appendix C**

### **Time Series Plots**

### Time Series



Constituent: Chloride Analysis Run 4/27/2021 4:34 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

## **ADDENDUM 1**

### **2021 Annual Groundwater Monitoring and Corrective Action Report Addendum 1**

December 20, 2022  
File No. 27213168.21

To: Evergy Metro, Inc.  
Jared Morrison – Director, Water and Waste Programs

From: SCS Engineers  
Douglas L. Doerr, P.E.  
John R. Rockhold, P.G.

Subject: 2021 Annual Groundwater Monitoring and Corrective Action Report Addendum 1  
Evergy Metro, Inc.  
CCR Landfill  
Montrose Generating Station – Clinton, Missouri



The CCR Landfill at the Montrose Generating Station is subject to the groundwater monitoring and corrective action requirements of the “Coal Combustion Residuals (CCR) Final Rule” (Rule); as described in CFR 40 257.90 through CFR 40 257.98. An Annual Groundwater Monitoring and Corrective Action (GWMCA) Report documenting activities completed in 2021 for the CCR Landfill was completed and placed in the facility’s operating record on January 28, 2022, as required by the Rule. The Annual GWMCA report was to fulfill the requirements specified in 40 CFR 257.90(e).

This Addendum has been prepared to supplement the operating record in recognition of comments received by Evergy from the U.S. Environmental Protection Agency (USEPA) on January 11, 2022. In addition to the information listed in 40 CFR 257.90(e), the USEPA indicated in their comments that the GWMCA Report contain the following:

- Results of laboratory analysis of groundwater or other environmental media samples for 40 CFR 257 Appendix III and Appendix IV constituents or other constituents, such as those supporting characterization of site conditions that may ultimately affect a remedy.
- Required statistical analysis performed on laboratory analysis results; and
- Calculated groundwater flow rate and direction.

This information is not specifically referred to in 40 CFR 257.90(e) for inclusion in the GWMCA Reports; however, it is routinely collected, determined and maintained in Evergy’s files and is being provided in the attachments to this addendum.

The attachments to this addendum are as follows:

- Attachment 1 – Laboratory Analytical Reports:  
Includes laboratory data packages with supporting information such as case narrative, sample and method summary, analytical results, quality control, and chain-of-custody documentation. The laboratory data packages for the following sampling events are provided:



- February 2021 – First verification sampling for the Fall 2020 detection monitoring event.
  - March 2021 – Second verification sampling for the Fall 2020 detection monitoring event.
  - May 2021 – Spring 2021 semiannual detection monitoring sampling event.
  - July 2021 – First verification sampling for the Spring 2021 detection monitoring sampling event.
  - November 2021 - Fall 2021 semiannual detection monitoring sampling event.
- Attachment 2 - Statistical Analyses:

Includes summary of statistical results, prediction limit plots, prediction limit background data, detection sample results, first and second verification re-sample results (when applicable), extra sample results for pH (collected as part of the approved sampling procedures), input parameters, and a Prediction Limit summary table. Statistical analyses completed in 2021 included the following:

    - Fall 2020 semiannual detection monitoring statistical analyses.
    - Spring 2021 semiannual detection monitoring statistical analyses.
- Attachment 3 - Groundwater Potentiometric Surface Maps:

Includes revised groundwater potentiometric surface maps with the measured groundwater elevations at each well and the generalized groundwater flow direction and the calculated groundwater flow rate. Maps for the following sampling events are provided:

    - May 2021 - Spring 2021 semiannual detection monitoring sampling event.
    - November 2021 - Fall 2021 semiannual detection monitoring sampling event.

Jared Morrison  
December 20, 2022

**ATTACHMENT 1**  
**Laboratory Analytical Reports**

Jared Morrison  
December 20, 2022

**ATTACHMENT 1-1**  
**February 2021 Sampling Event Laboratory Report**

## SCS Engineers - KS

Sample Delivery Group: L1314503  
Samples Received: 02/05/2021  
Project Number: 27213168.21  
Description: Evergy - Montrose Generating Station

Report To: Jason Franks  
8575 W. 110th Street  
Overland Park, KS 66210

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



<b>Cp: Cover Page</b>	<b>1</b>	<b><sup>1</sup>Cp</b>
<b>Tc: Table of Contents</b>	<b>2</b>	<b><sup>2</sup>Tc</b>
<b>Ss: Sample Summary</b>	<b>3</b>	<b><sup>3</sup>Ss</b>
<b>Cn: Case Narrative</b>	<b>4</b>	<b><sup>4</sup>Cn</b>
<b>Sr: Sample Results</b>	<b>5</b>	<b><sup>5</sup>Sr</b>
<b>MW-605 L1314503-01</b>	<b>5</b>	
<b>DUPLICATE L1314503-02</b>	<b>6</b>	
<b>Qc: Quality Control Summary</b>	<b>7</b>	<b><sup>6</sup>Qc</b>
<b>Wet Chemistry by Method 9056A</b>	<b>7</b>	
<b>Gl: Glossary of Terms</b>	<b>9</b>	<b><sup>7</sup>Gl</b>
<b>Al: Accreditations &amp; Locations</b>	<b>10</b>	<b><sup>8</sup>Al</b>
<b>Sc: Sample Chain of Custody</b>	<b>11</b>	<b><sup>9</sup>Sc</b>

# SAMPLE SUMMARY



## MW-605 L1314503-01 GW

Collected by: Whit Martin  
 Collected date/time: 02/03/21 10:25  
 Received date/time: 02/05/21 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618819	1	02/11/21 19:58	02/11/21 19:58	MCG	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

## DUPLICATE L1314503-02 GW

Collected by: Whit Martin  
 Collected date/time: 02/03/21 10:30  
 Received date/time: 02/05/21 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618819	1	02/11/21 22:08	02/11/21 22:08	MCG	Mt. Juliet, TN

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	59300		1000	1	02/11/2021 19:58	<a href="#">WG1618819</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	59300		1000	1	02/11/2021 22:08	<a href="#">WG1618819</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3621989-1 02/11/21 10:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		379	1000

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L1314344-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1314344-02 02/11/21 15:25 • (DUP) R3621989-3 02/11/21 15:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ND	ND	5	0.000		15

L1314536-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1314536-01 02/11/21 21:03 • (DUP) R3621989-10 02/11/21 21:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	38000	38500	1	1.32		15

Laboratory Control Sample (LCS)

(LCS) R3621989-2 02/11/21 10:37

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40000	39900	99.7	80.0-120	

L1314464-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314464-02 02/11/21 17:08 • (MS) R3621989-4 02/11/21 17:21 • (MSD) R3621989-5 02/11/21 17:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	10500	60400	61500	99.9	102	1	80.0-120			1.84	15

L1314460-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314460-02 02/11/21 19:18 • (MS) R3621989-6 02/11/21 19:32 • (MSD) R3621989-7 02/11/21 19:45

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	16800	66700	67500	99.8	101	1	80.0-120			1.15	15



L1314503-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314503-01 02/11/21 19:58 • (MS) R3621989-8 02/11/21 20:11 • (MSD) R3621989-9 02/11/21 20:24

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	59300	107000	104000	94.8	88.9	1	80.0-120	E	E	2.80	15

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
---	---

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN, 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	AZLA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

## Pace Analytical National 1313 Point Mallard Parkway SE Suite B Decatur, AL, 35601

Alabama	40160
ANSI National Accreditation Board	L2239

## Pace Analytical National 660 Bercut Dr. Ste. C Sacramento, CA, 95811

California	2961	Oregon	CA300002
Minnesota	006-999-465	Washington	C926
North Dakota	R-214		

## Pace Analytical National 6000 South Eastern Avenue Ste 9A Las Vegas, NV, 89119

Nevada	NV009412021-1
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## Pace Analytical National 1606 E. Brazos Street Suite D Victoria, TX, 77901

Texas	T104704328-20-18
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<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable





Jared Morrison  
December 20, 2022

**ATTACHMENT 1-2**  
**March 2021 Sampling Event Laboratory Report**

## SCS Engineers - KS

Sample Delivery Group: L1322439  
Samples Received: 03/03/2021  
Project Number: 27213168.21  
Description: Evergy - Montrose Generating Station

Report To: Jason Franks  
8575 W. 110th Street  
Overland Park, KS 66210

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



<b>Cp: Cover Page</b>	<b>1</b>	<b><sup>1</sup>Cp</b>
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# SAMPLE SUMMARY



## MW-605 L1322439-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1630926	1	03/09/21 03:33	03/09/21 03:33	MCG	Mt. Juliet, TN

Collected by  
Collected date/time  
Received date/time

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

## DUPLICATE L1322439-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1630926	1	03/09/21 04:55	03/09/21 04:55	MCG	Mt. Juliet, TN

Collected by  
Collected date/time  
Received date/time

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	58200		1000	1	03/09/2021 03:33	<a href="#">WG1630926</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	58000		1000	1	03/09/2021 04:55	<a href="#">WG1630926</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3628601-1 03/08/21 11:30

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		379	1000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1322262-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1322262-01 03/08/21 21:48 • (DUP) R3628601-3 03/08/21 22:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	121000	121000	1	0.0180	E	15

L1322439-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1322439-02 03/09/21 04:55 • (DUP) R3628601-7 03/09/21 05:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	58000	58100	1	0.206		15

Laboratory Control Sample (LCS)

(LCS) R3628601-2 03/08/21 11:46

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40000	40800	102	80.0-120	

L1322262-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1322262-02 03/08/21 22:21 • (MS) R3628601-4 03/08/21 22:37

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	92600	141000	97.1	1	80.0-120	E

L1322439-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1322439-01 03/09/21 03:33 • (MS) R3628601-5 03/09/21 04:22 • (MSD) R3628601-6 03/09/21 04:38

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	58200	102000	102000	87.1	87.2	1	80.0-120	E	E	0.0505	15



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

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Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable





**SCS Engineers - KS**

Sample Delivery Group: L1322443  
Samples Received: 03/03/2021  
Project Number: 27213168.21  
Description: Evergy - Montrose Generating Station

Report To: Jason Franks  
8575 W. 110th Street  
Overland Park, KS 66210

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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# SAMPLE SUMMARY

MW-605 L1322443-01 GW

Collected by: G. Panaflor  
 Collected date/time: 03/01/21 10:35  
 Received date/time: 03/03/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1629824	1	03/05/21 10:08	03/05/21 10:08	SL	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1630420	100	03/06/21 22:40	03/06/21 22:40	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1629875	1	03/08/21 17:27	03/09/21 11:46	KMG	Mt. Juliet, TN

- <sup>1</sup>Cp
- <sup>2</sup>Tc
- <sup>3</sup>Ss
- <sup>4</sup>Cn
- <sup>5</sup>Sr
- <sup>6</sup>Qc
- <sup>7</sup>Gl
- <sup>8</sup>Al
- <sup>9</sup>Sc

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jeff Carr  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	40100		20000	1	03/05/2021 10:08	<a href="#">WG1629824</a>
Alkalinity,Carbonate	ND		20000	1	03/05/2021 10:08	<a href="#">WG1629824</a>

Sample Narrative:

L1322443-01 WG1629824: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	1720000		500000	100	03/06/2021 22:40	<a href="#">WG1630420</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	407000		1000	1	03/09/2021 11:46	<a href="#">WG1629875</a>
Magnesium	103000		1000	1	03/09/2021 11:46	<a href="#">WG1629875</a>
Potassium	2550		2000	1	03/09/2021 11:46	<a href="#">WG1629875</a>
Sodium	244000		3000	1	03/09/2021 11:46	<a href="#">WG1629875</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3627767-1 03/05/21 03:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity,Bicarbonate	U		8450	20000
Alkalinity,Carbonate	U		8450	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

- <sup>1</sup>Cp
- <sup>2</sup>Tc
- <sup>3</sup>Ss
- <sup>4</sup>Cn
- <sup>5</sup>Sr
- <sup>6</sup>Qc
- <sup>7</sup>Gl
- <sup>8</sup>Al
- <sup>9</sup>Sc

Method Blank (MB)

(MB) R3628020-1 03/06/21 09:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Sulfate	U		594	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1323725-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1323725-03 03/06/21 11:01 • (DUP) R3628020-3 03/06/21 11:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	ND	ND	1	0.0741		15

L1323931-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1323931-09 03/06/21 15:02 • (DUP) R3628020-7 03/06/21 15:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	31100	31300	1	0.792		15

Laboratory Control Sample (LCS)

(LCS) R3628020-2 03/06/21 09:17

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Sulfate	40000	41100	103	80.0-120	

L1323725-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1323725-06 03/06/21 11:27 • (MS) R3628020-4 03/06/21 12:06 • (MSD) R3628020-5 03/06/21 12:19

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Sulfate	50000	ND	51800	51400	101	101	1	80.0-120			0.860	15

L1323924-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1323924-05 03/06/21 14:35 • (MS) R3628020-6 03/06/21 14:49

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	ND	51000	101	1	80.0-120	

Method Blank (MB)

(MB) R3628906-1 03/09/21 10:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		79.3	1000
Magnesium	U		85.3	1000
Potassium	U		261	2000
Sodium	U		504	3000

Laboratory Control Sample (LCS)

(LCS) R3628906-2 03/09/21 10:52

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	10000	9740	97.4	80.0-120	
Magnesium	10000	9670	96.7	80.0-120	
Potassium	10000	9080	90.8	80.0-120	
Sodium	10000	9550	95.5	80.0-120	

L1322448-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1322448-02 03/09/21 10:54 • (MS) R3628906-4 03/09/21 11:00 • (MSD) R3628906-5 03/09/21 11:02

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	117000	125000	125000	77.5	74.0	1	75.0-125	V		0.278	20
Magnesium	10000	40500	49100	49100	85.6	86.3	1	75.0-125			0.134	20
Potassium	10000	2180	11500	11500	93.2	93.6	1	75.0-125			0.379	20
Sodium	10000	10200	19700	19700	95.3	95.0	1	75.0-125			0.171	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# GLOSSARY OF TERMS

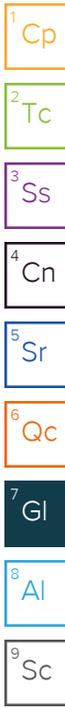
## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

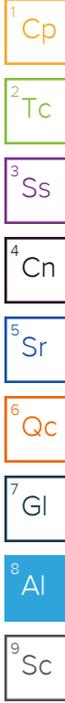
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address: **SCS Engineers - KS**  
 8575 W. 110th Street  
 Overland Park, KS 66210

Billing Information:  
 Accounts Payable  
 8575 W. 110th Street  
 Overland Park, KS 66210

Report to: **Jason Franks**

Project Description: **Evergry - Montrose Generating Station**

City/State Collected: **Montrose**

Please Circle: PT MT CT ET

Email To: **jfranks@scsengineers.com;jay.martin@evergy.com**

Client Project #: **27213168.21**

Lab Project #: **AQUAOPKS-MONTROSE**

Site/Facility ID #: \_\_\_\_\_

P.O. #: \_\_\_\_\_

Quote #: \_\_\_\_\_

Rush? (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day

Date Results Needed: **std**

No. of Cntrs: \_\_\_\_\_

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKBI, ALKCA 125mlHDPE-NoPres	Metals-Ca, Mg, K, Na 250mlHDPE-HNO3	Sulfate 125mlHDPE-NoPres	Analysis / Container / Preservative	Chain of Custody
MW-605	GPAB	GW		3/1/21	1035	3	X	X	X		Page ___ of ___
											 12065 Lebanon Road Mt Juliet, TN 37122 Phone: 615-758-5858 Alt: 800-767-5859 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/hubs/pas-standard-terms.pdf">https://info.pacelabs.com/hubs/pas-standard-terms.pdf</a> SDG # <b>L1322443</b> <b>I093</b> Acctnum: <b>AQUAOPKS</b> Template: <b>T182502</b> Prelogin: <b>P830728</b> PM: <b>206 - Jeff Carr</b> PB: Shipped Via: Remarks: _____ Sample # (lab only) <b>-01</b>

\* Matrix:  
 SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other \_\_\_\_\_

Remarks: \_\_\_\_\_

pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via: \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier \_\_\_\_\_ Tracking # \_\_\_\_\_

Relinquished by: (Signature) *[Signature]* Date: **03/02/21** Time: **1214**

Received by: (Signature) *[Signature]* **3-2-21** Time: **1214**

Trip Blank Received: Yes/No  HCL/ MeoH TBR

Temp: **17°C** Bottles Received: **3**

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received for lab by: (Signature) *[Signature]* Date: **3/3/21** Time: **1300**

Hold: \_\_\_\_\_ Condition: **NCF 1/OK**

Sample Receipt Checklist  
 COC Seal Present/Intact:  NP  Y  N  
 COC Signed/Accurate:  Y  N  
 Bottles arrive intact:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 If Applicable  
 VOA Zero Headspace:  Y  N  
 Preservation Correct/Checked:  Y  N  
 RAD Screen <0.5 mR/hr:  Y  N

Jared Morrison  
December 20, 2022

**ATTACHMENT 1-3**  
**May 2021 Sampling Event Laboratory Report**

## SCS Engineers - KS

Sample Delivery Group: L1355008  
Samples Received: 05/19/2021  
Project Number: 27213168.21-B  
Description: Evergy - Montrose Generating Station

Report To: Jason Franks  
8575 W. 110th Street  
Overland Park, KS 66210

Entire Report Reviewed By:

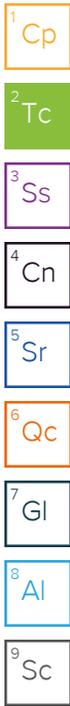


Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

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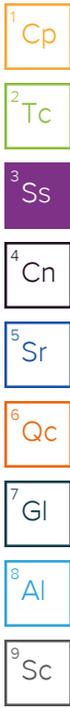


# SAMPLE SUMMARY

## MW-601 L1355008-01 GW

Collected by Whit Martin      Collected date/time 05/18/21 12:15      Received date/time 05/19/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677155	1	05/25/21 14:38	05/25/21 16:54	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	1	06/02/21 05:36	06/02/21 05:36	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	100	06/02/21 05:52	06/02/21 05:52	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1680761	1	06/01/21 10:07	06/03/21 17:05	CCE	Mt. Juliet, TN



## MW-602 L1355008-02 GW

Collected by Whit Martin      Collected date/time 05/17/21 10:35      Received date/time 05/19/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1676315	1	05/24/21 12:35	05/24/21 13:53	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	1	06/02/21 06:09	06/02/21 06:09	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	50	06/02/21 06:25	06/02/21 06:25	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1680761	1	06/01/21 10:07	06/03/21 17:09	CCE	Mt. Juliet, TN

## MW-603 L1355008-03 GW

Collected by Whit Martin      Collected date/time 05/17/21 11:15      Received date/time 05/19/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1676315	1	05/24/21 12:35	05/24/21 13:53	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	1	06/02/21 06:41	06/02/21 06:41	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	100	06/02/21 06:58	06/02/21 06:58	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1680761	1	06/01/21 10:07	06/03/21 17:12	CCE	Mt. Juliet, TN

## MW-604 L1355008-04 GW

Collected by Whit Martin      Collected date/time 05/17/21 12:00      Received date/time 05/19/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1676555	1	05/24/21 18:27	05/24/21 19:30	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	1	06/02/21 07:14	06/02/21 07:14	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	100	06/02/21 08:36	06/02/21 08:36	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1681847	1	06/02/21 19:29	06/03/21 18:45	CCE	Mt. Juliet, TN

## MW-605 L1355008-05 GW

Collected by Whit Martin      Collected date/time 05/17/21 12:30      Received date/time 05/19/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1676475	1	05/24/21 15:35	05/24/21 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	1	06/02/21 08:53	06/02/21 08:53	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	100	06/02/21 09:09	06/02/21 09:09	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1681847	1	06/02/21 19:29	06/03/21 19:06	CCE	Mt. Juliet, TN

## DUPLICATE L1355008-06 GW

Collected by Whit Martin      Collected date/time 05/17/21 12:00      Received date/time 05/19/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1676555	1	05/24/21 18:27	05/24/21 19:30	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	1	06/02/21 09:25	06/02/21 09:25	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	100	06/02/21 09:42	06/02/21 09:42	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1681847	1	06/02/21 19:29	06/03/21 19:15	CCE	Mt. Juliet, TN

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jeff Carr  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	4650		50.0	1	05/25/2021 16:54	<a href="#">WG1677155</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	48600		1000	1	06/02/2021 05:36	<a href="#">WG1680864</a>
Fluoride	439		150	1	06/02/2021 05:36	<a href="#">WG1680864</a>
Sulfate	3200000		500000	100	06/02/2021 05:52	<a href="#">WG1680864</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	06/03/2021 17:05	<a href="#">WG1680761</a>
Calcium	466000		1000	1	06/03/2021 17:05	<a href="#">WG1680761</a>

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	1730	J3	25.0	1	05/24/2021 13:53	WG1676315

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	3950		1000	1	06/02/2021 06:09	WG1680864
Fluoride	ND		150	1	06/02/2021 06:09	WG1680864
Sulfate	1190000		250000	50	06/02/2021 06:25	WG1680864

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	4170		200	1	06/03/2021 17:09	WG1680761
Calcium	311000		1000	1	06/03/2021 17:09	WG1680761

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2600	J3	50.0	1	05/24/2021 13:53	WG1676315

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	6170		1000	1	06/02/2021 06:41	WG1680864
Fluoride	535		150	1	06/02/2021 06:41	WG1680864
Sulfate	2130000		500000	100	06/02/2021 06:58	WG1680864

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	6220		200	1	06/03/2021 17:12	WG1680761
Calcium	403000		1000	1	06/03/2021 17:12	WG1680761

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2960		50.0	1	05/24/2021 19:30	<a href="#">WG1676555</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	15600		1000	1	06/02/2021 07:14	<a href="#">WG1680864</a>
Fluoride	491		150	1	06/02/2021 07:14	<a href="#">WG1680864</a>
Sulfate	2090000		500000	100	06/02/2021 08:36	<a href="#">WG1680864</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	5320	<a href="#">O1</a>	200	1	06/03/2021 18:45	<a href="#">WG1681847</a>
Calcium	486000	<a href="#">O1V</a>	1000	1	06/03/2021 18:45	<a href="#">WG1681847</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2770		50.0	1	05/24/2021 17:11	<a href="#">WG1676475</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	52500		1000	1	06/02/2021 08:53	<a href="#">WG1680864</a>
Fluoride	216		150	1	06/02/2021 08:53	<a href="#">WG1680864</a>
Sulfate	2040000		500000	100	06/02/2021 09:09	<a href="#">WG1680864</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1540		200	1	06/03/2021 19:06	<a href="#">WG1681847</a>
Calcium	420000		1000	1	06/03/2021 19:06	<a href="#">WG1681847</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2960		50.0	1	05/24/2021 19:30	<a href="#">WG1676555</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	15400		1000	1	06/02/2021 09:25	<a href="#">WG1680864</a>
Fluoride	480		150	1	06/02/2021 09:25	<a href="#">WG1680864</a>
Sulfate	2130000		500000	100	06/02/2021 09:42	<a href="#">WG1680864</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	5330		200	1	06/03/2021 19:15	<a href="#">WG1681847</a>
Calcium	491000		1000	1	06/03/2021 19:15	<a href="#">WG1681847</a>

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3659102-1 05/24/21 13:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

1 Cp

2 Tc

3 Ss

L1355008-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1355008-02 05/24/21 13:53 • (DUP) R3659102-3 05/24/21 13:53

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1730	1840	1	5.89	J3	5

4 Cn

5 Sr

6 Qc

L1355008-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1355008-03 05/24/21 13:53 • (DUP) R3659102-4 05/24/21 13:53

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2600	2810	1	7.78	J3	5

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3659102-2 05/24/21 13:53

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	8760	99.5	77.4-123	

Method Blank (MB)

(MB) R3659088-1 05/24/21 17:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

L1355207-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1355207-04 05/24/21 17:11 • (DUP) R3659088-3 05/24/21 17:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2690	2800	1	4.01		5

<sup>4</sup>Cn

<sup>5</sup>Sr

L1355207-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1355207-05 05/24/21 17:11 • (DUP) R3659088-4 05/24/21 17:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1150	1220	1	5.91	J3	5

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3659088-2 05/24/21 17:11

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	8280	94.1	77.4-123	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3659092-1 05/24/21 19:30

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1354704-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1354704-01 05/24/21 19:30 • (DUP) R3659092-3 05/24/21 19:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1480	1670	1	11.8	J3	5

L1354919-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1354919-01 05/24/21 19:30 • (DUP) R3659092-4 05/24/21 19:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	950	1080	1	12.6	J3	5

Laboratory Control Sample (LCS)

(LCS) R3659092-2 05/24/21 19:30

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	8660	98.4	77.4-123	

Method Blank (MB)

(MB) R3659607-1 05/25/21 16:54

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3659607-3 05/25/21 16:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	2840	2840	1	1.24		5

<sup>4</sup>Cn

<sup>5</sup>Sr

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3659607-4 05/25/21 16:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	1450	1450	1	1.80		5

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3659607-2 05/25/21 16:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Dissolved Solids	8800	8420	95.7	77.4-123	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3662195-1 06/01/21 20:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1355256-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1355256-01 06/01/21 23:19 • (DUP) R3662195-3 06/01/21 23:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3470	3460	1	0.395		15
Fluoride	ND	ND	1	3.50		15
Sulfate	ND	ND	1	0.491		15

L1359548-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1359548-01 06/02/21 04:14 • (DUP) R3662195-4 06/02/21 04:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	6740	6770	1	0.463		15
Fluoride	ND	ND	1	5.65		15
Sulfate	19200	19200	1	0.134		15

Laboratory Control Sample (LCS)

(LCS) R3662195-2 06/01/21 20:21

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40000	40700	102	80.0-120	
Fluoride	8000	8320	104	80.0-120	
Sulfate	40000	40800	102	80.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1355042-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355042-01 06/02/21 09:58 • (MS) R3662195-7 06/02/21 10:15 • (MSD) R3662195-8 06/02/21 10:31

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	91300	133000	133000	84.0	84.1	1	80.0-120	<u>E</u>	<u>E</u>	0.0528	15
Fluoride	5000	ND	4620	4620	90.2	90.2	1	80.0-120			0.0281	15
Sulfate	50000	1750000	1730000	1740000	0.000	0.000	1	80.0-120	<u>EV</u>	<u>EV</u>	0.332	15

L1355008-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355008-04 06/02/21 07:14 • (MS) R3662195-5 06/02/21 07:31 • (MSD) R3662195-6 06/02/21 07:47

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	15600	63300	62900	95.5	94.6	1	80.0-120			0.730	15
Fluoride	5000	491	5230	5220	94.7	94.7	1	80.0-120			0.0459	15
Sulfate	50000	2050000	1980000	1960000	0.000	0.000	1	80.0-120	<u>EV</u>	<u>EV</u>	0.744	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3663072-1 06/03/21 15:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3663072-2 06/03/21 15:52

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	1000	100	80.0-120	
Calcium	10000	10200	102	80.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3663084-1 06/03/21 18:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3663084-2 06/03/21 18:42

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Boron	1000	962	96.2	80.0-120	
Calcium	10000	9740	97.4	80.0-120	

L1355008-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355008-04 06/03/21 18:45 • (MS) R3663084-4 06/03/21 18:51 • (MSD) R3663084-5 06/03/21 18:54

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Boron	1000	5320	6200	6190	87.5	86.8	1	75.0-125			0.109	20
Calcium	10000	486000	484000	483000	0.000	0.000	1	75.0-125	V	V	0.321	20

L1355042-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355042-01 06/03/21 18:57 • (MS) R3663084-6 06/03/21 19:00 • (MSD) R3663084-7 06/03/21 19:03

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Boron	1000	ND	1060	1060	96.1	95.7	1	75.0-125			0.368	20
Calcium	10000	375000	378000	376000	28.7	7.52	1	75.0-125	V	V	0.563	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J3	The associated batch QC was outside the established quality control range for precision.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

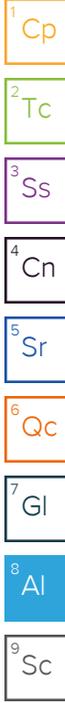
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address:  
**SCS Engineers - KS**  
 8575 W. 110th Street  
 Overland Park, KS 66210

Billing Information:  
**Accounts Payable**  
 8575 W. 110th Street  
 Overland Park, KS 66210

Pres Chk  
 Analysis / Container / Preservative

Chain of Custody Page 1 of 1  


Report to:  
**Jason Franks**

Email To:  
 jfranks@scsengineers.com;jay.martin@evergy.c

Project Description:  
**Evergy - Montrose Generating Station**

City/State Collected:  
**Montrose, MO**

Please Circle:  
 PT MT **ET**

Phone: **913-681-0030**

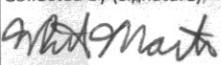
Client Project #  
**27213168.21-B**

Lab Project #  
**AQUAOPKS-MONTROSE**

Collected by (print):  
**Whit Martin**

Site/Facility ID #

P.O. #

Collected by (signature):  
  
 Immediately Packed on Ice N \_\_\_ Y **X**

**Rush?** (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day

Quote #  
 Date Results Needed  
**Std**

Anions (Cl, F, SO4) 125mIHDP-E-NoPres

B, Ca - 6010 250mIHDP-E-HNO3

TDS 250mIHDP-E-NoPres

12065 Lebanon Rd Mount Juliet, TN 37122  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG # **1355008**

Table # **1207**

Acctnum: **AQUAOPKS**

Template: **T135966**

Prelogin: **P846546**

PM: **206 - Jeff Carr**

PB: **DN 5/11/21**

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs												
MW-601	Grab	GW		5/18/21	1215	3	X	X	X									
MW-602	Grab	GW		5/17/21	1035	3	X	X	X									
MW-603	Grab	GW		5/17/21	1115	3	X	X	X									
MW-604	Grab	GW		5/17/21	1200	3	X	X	X									
MW-605	Grab	GW		5/17/21	1230	3	X	X	X									
MW604MS / MSD	Grab	GW		5/17/21	1200	3	X	X	X									
DUPLICATE	Grab	GW		5/17/21	1200	3	X	X	X									

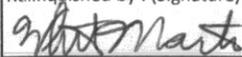
Remarks | Sample # (lab only)

-01  
-02  
-03  
-04  
-05  
-06

\* Matrix:  
 SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other

Remarks:  
 pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_  
 Samples returned via:  
 \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier \_\_\_\_\_  
 Tracking # **9883 0088 6605**

Sample Receipt Checklist  
 COC Seal Present/Intact:  Y  N  
 COC Signed/Accurate:  Y  N  
 Bottles arrive intact:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 If Applicable  
 VOA Zero Headspace:  Y  N  
 Preservation Correct/Checked:  Y  N  
 RAD Screen <0.5 mR/hr:  Y  N

Relinquished by: (Signature)  


Date: **5/18/21**  
 Time: **1850**

Received by: (Signature)  
 Trip Blank Received: Yes/No  
 HCL/MeOH  
 TBR

Temp. **16.5** °C  
 Bottles Received: **21**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:  
 Time:

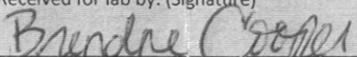
Received by: (Signature)  
 Date: **5/19/21**  
 Time: **9:30**

Date: **5/19/21**  
 Time: **9:30**

Hold:  
 Condition: **NCF / OK**

Relinquished by: (Signature)

Date:  
 Time:

Received for lab by: (Signature)  


Date: **5/19/21**  
 Time: **9:30**

Hold:  
 Condition: **NCF / OK**

## SCS Engineers - KS

Sample Delivery Group: L1355042  
Samples Received: 05/19/2021  
Project Number: 27213168.21-A  
Description: Evergy - Montrose Generating Station

Report To: Jason Franks  
8575 W. 110th Street  
Overland Park, KS 66210

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

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<b>Wet Chemistry by Method 9056A</b>	8	<sup>6</sup> Qc
<b>Metals (ICP) by Method 6010B</b>	10	
<b>Gl: Glossary of Terms</b>	11	<sup>7</sup> Gl
<b>Al: Accreditations &amp; Locations</b>	12	<sup>8</sup> Al
<b>Sc: Sample Chain of Custody</b>	13	<sup>9</sup> Sc

# SAMPLE SUMMARY

## MW-506 L1355042-01 GW

Collected by: Whit Martin  
 Collected date/time: 05/18/21 15:05  
 Received date/time: 05/19/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677155	1	05/25/21 14:38	05/25/21 16:54	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	1	06/02/21 09:58	06/02/21 09:58	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	100	06/02/21 10:47	06/02/21 10:47	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1681847	1	06/02/21 19:29	06/03/21 18:57	CCE	Mt. Juliet, TN

## DUPLICATE L1355042-02 GW

Collected by: Whit Martin  
 Collected date/time: 05/18/21 15:05  
 Received date/time: 05/19/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677155	1	05/25/21 14:38	05/25/21 16:54	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	1	06/02/21 11:04	06/02/21 11:04	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1680864	100	06/02/21 11:53	06/02/21 11:53	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1681847	1	06/02/21 19:29	06/03/21 19:18	CCE	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jeff Carr  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2800		50.0	1	05/25/2021 16:54	<a href="#">WG1677155</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	91300		1000	1	06/02/2021 09:58	<a href="#">WG1680864</a>
Fluoride	ND		150	1	06/02/2021 09:58	<a href="#">WG1680864</a>
Sulfate	1880000		500000	100	06/02/2021 10:47	<a href="#">WG1680864</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	06/03/2021 18:57	<a href="#">WG1681847</a>
Calcium	375000	<u>V</u>	1000	1	06/03/2021 18:57	<a href="#">WG1681847</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2820		50.0	1	05/25/2021 16:54	<a href="#">WG1677155</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	91100		1000	1	06/02/2021 11:04	<a href="#">WG1680864</a>
Fluoride	ND		150	1	06/02/2021 11:04	<a href="#">WG1680864</a>
Sulfate	1830000		500000	100	06/02/2021 11:53	<a href="#">WG1680864</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	06/03/2021 19:18	<a href="#">WG1681847</a>
Calcium	375000		1000	1	06/03/2021 19:18	<a href="#">WG1681847</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3659607-1 05/25/21 16:54

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1355042-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1355042-01 05/25/21 16:54 • (DUP) R3659607-3 05/25/21 16:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2800	2840	1	1.24		5

L1355337-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1355337-03 05/25/21 16:54 • (DUP) R3659607-4 05/25/21 16:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1430	1450	1	1.80		5

Laboratory Control Sample (LCS)

(LCS) R3659607-2 05/25/21 16:54

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	8420	95.7	77.4-123	

Method Blank (MB)

(MB) R3662195-1 06/01/21 20:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1355256-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1355256-01 06/01/21 23:19 • (DUP) R3662195-3 06/01/21 23:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3470	3460	1	0.395		15
Fluoride	ND	ND	1	3.50		15
Sulfate	ND	ND	1	0.491		15

L1359548-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1359548-01 06/02/21 04:14 • (DUP) R3662195-4 06/02/21 04:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	6740	6770	1	0.463		15
Fluoride	ND	ND	1	5.65		15
Sulfate	19200	19200	1	0.134		15

Laboratory Control Sample (LCS)

(LCS) R3662195-2 06/01/21 20:21

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40000	40700	102	80.0-120	
Fluoride	8000	8320	104	80.0-120	
Sulfate	40000	40800	102	80.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1355042-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355042-01 06/02/21 09:58 • (MS) R3662195-7 06/02/21 10:15 • (MSD) R3662195-8 06/02/21 10:31

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	91300	133000	133000	84.0	84.1	1	80.0-120	<u>E</u>	<u>E</u>	0.0528	15
Fluoride	5000	ND	4620	4620	90.2	90.2	1	80.0-120			0.0281	15
Sulfate	50000	1750000	1730000	1740000	0.000	0.000	1	80.0-120	<u>EV</u>	<u>EV</u>	0.332	15

L1355008-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355008-04 06/02/21 07:14 • (MS) R3662195-5 06/02/21 07:31 • (MSD) R3662195-6 06/02/21 07:47

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	15600	63300	62900	95.5	94.6	1	80.0-120			0.730	15
Fluoride	5000	491	5230	5220	94.7	94.7	1	80.0-120			0.0459	15
Sulfate	50000	2050000	1980000	1960000	0.000	0.000	1	80.0-120	<u>EV</u>	<u>EV</u>	0.744	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3663084-1 06/03/21 18:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3663084-2 06/03/21 18:42

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	962	96.2	80.0-120	
Calcium	10000	9740	97.4	80.0-120	

L1355008-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355008-04 06/03/21 18:45 • (MS) R3663084-4 06/03/21 18:51 • (MSD) R3663084-5 06/03/21 18:54

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	5320	6200	6190	87.5	86.8	1	75.0-125			0.109	20
Calcium	10000	486000	484000	483000	0.000	0.000	1	75.0-125	⚡	⚡	0.321	20

L1355042-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355042-01 06/03/21 18:57 • (MS) R3663084-6 06/03/21 19:00 • (MSD) R3663084-7 06/03/21 19:03

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1060	1060	96.1	95.7	1	75.0-125			0.368	20
Calcium	10000	375000	378000	376000	28.7	7.52	1	75.0-125	⚡	⚡	0.563	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
V	The sample concentration is too high to evaluate accurate spike recoveries.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# ACCREDITATIONS & LOCATIONS

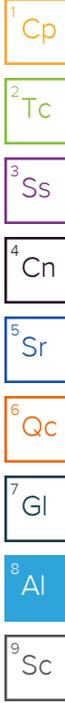
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address:

SCS Engineers - KS

8575 W. 110th Street  
Overland Park, KS 66210

Billing Information:

Accounts Payable  
8575 W. 110th Street  
Overland Park, KS 66210

Fres  
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



12065 Lebanon Rd Mount Juliet, TN 37122  
Submitting a sample via this chain of custody  
constitutes acknowledgment and acceptance of the  
Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

Report to:  
Jason Franks

Email To:  
jfranks@scsengineers.com;jay.martin@evergy.c

Project Description:  
Energy - Montrose Generating Station

City/State  
Collected:

Please Circle:  
PT MT **CT** ET

Phone: 913-681-0030

Client Project #  
27213168.21-A

Lab Project #  
AQUAOPKS-MONTROSE

Collected by (print):  
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):  
Whit Martin

Rush? (Lab MUST Be Notified)

Quote #

Same Day Five Day  
Next Day 5 Day (Rad Only)  
Two Day 10 Day (Rad Only)  
Three Day

Date Results Needed  
Std

No.  
of  
Cntrs

Immediately  
Packed on Ice N  Y

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

MW-506

Grab

GW

5/18/21 1505

3

X

X

X

MW-506 MS/MSD

Grab

GW

5/18/21 1505

3

X

X

X

DUPLICATE

Grab

GW

5/18/21 1505

3

X

X

X

\* Matrix:  
SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks:

Samples returned via:  
 UPS  FedEx  Courier

Tracking # 9883 0088 6649

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Sample Receipt Checklist

COC Seal Present/Intact:  NP  Y  N  
COC Signed/Accurate:  Y  N  
Bottles arrive intact:  Y  N  
Correct bottles used:  Y  N  
Sufficient volume sent:  Y  N  
If Applicable  
VOA Zero Headspace:  Y  N  
Preservation Correct/Checked:  Y  N  
RAD Screen <0.5 mR/hr:  Y  N

Relinquished by: (Signature)

Whit Martin

Date:

5/18/21

Time:

1850

Received by: (Signature)

Brenda Cooper

Trip Blank Received: Yes/No

HCL / MeOH

TBR

Temp: \_\_\_\_\_ °C Bottles Received: 4.5+1.24.6 9

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Brenda Cooper

Date:

5/19/21

Time:

9:30

Hold:

Condition:  
NCF / (OK)

Jared Morrison  
December 20, 2022

**ATTACHMENT 1-4**  
**July 2021 Sampling Event Laboratory Report**

## SCS Engineers - KS

Sample Delivery Group: L1381299  
Samples Received: 07/21/2021  
Project Number: 27213168.21 - G  
Description: Evergy - Montrose Generating Station

Report To: Jason Franks  
8575 W. 110th Street  
Overland Park, KS 66210

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

# TABLE OF CONTENTS

<b>Cp: Cover Page</b>	1	<sup>1</sup> Cp
<b>Tc: Table of Contents</b>	2	
<b>Ss: Sample Summary</b>	3	<sup>2</sup> Tc
<b>Cn: Case Narrative</b>	4	
<b>Sr: Sample Results</b>	5	<sup>3</sup> Ss
<b>MW-604 L1381299-01</b>	5	
<b>DUPLICATE 1 L1381299-02</b>	6	<sup>4</sup> Cn
<b>Qc: Quality Control Summary</b>	7	<sup>5</sup> Sr
<b>Wet Chemistry by Method 9056A</b>	7	
<b>Metals (ICP) by Method 6010B</b>	8	<sup>6</sup> Qc
<b>Gl: Glossary of Terms</b>	9	<sup>7</sup> Gl
<b>Al: Accreditations &amp; Locations</b>	10	<sup>8</sup> Al
<b>Sc: Sample Chain of Custody</b>	11	<sup>9</sup> Sc

# SAMPLE SUMMARY

## MW-604 L1381299-01 GW

Collected by  
07/19/21 10:35      Collected date/time  
07/21/21 08:30      Received date/time

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1711019	1	07/27/21 16:36	07/27/21 16:36	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1712965	1	07/29/21 09:47	08/01/21 11:40	EL	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

## DUPLICATE 1 L1381299-02 GW

Collected by  
07/19/21 10:35      Collected date/time  
07/21/21 08:30      Received date/time

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1711019	1	07/27/21 17:25	07/27/21 17:25	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1712965	1	07/29/21 09:47	08/01/21 12:23	EL	Mt. Juliet, TN

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jeff Carr  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	14700		1000	1	07/27/2021 16:36	<a href="#">WG1711019</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	432000	<u>V</u>	1000	1	08/01/2021 11:40	<a href="#">WG1712965</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	14800		1000	1	07/27/2021 17:25	<a href="#">WG1711019</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	430000		1000	1	08/01/2021 12:23	<a href="#">WG1712965</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Method Blank (MB)

(MB) R3684750-1 07/27/21 12:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		379	1000

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

L1381295-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1381295-05 07/27/21 15:46 • (DUP) R3684750-3 07/27/21 15:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	37400	37500	1	0.210		15

<sup>4</sup>Cn

<sup>5</sup>Sr

L1382223-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1382223-05 07/27/21 18:34 • (DUP) R3684750-8 07/27/21 19:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ND	ND	1	2.45		15

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3684750-2 07/27/21 12:44

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40000	40500	101	80.0-120	

L1381295-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1381295-05 07/27/21 15:46 • (MS) R3684750-4 07/27/21 16:06 • (MSD) R3684750-5 07/27/21 16:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	37400	88800	88200	103	102	1	80.0-120			0.659	15

L1381299-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1381299-01 07/27/21 16:36 • (MS) R3684750-6 07/27/21 17:05 • (MSD) R3684750-7 07/27/21 17:15

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	14700	66800	65300	104	101	1	80.0-120			2.19	15

Method Blank (MB)

(MB) R3686434-1 08/01/21 11:35

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3686434-2 08/01/21 11:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9560	95.6	80.0-120	

L1381299-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1381299-01 08/01/21 11:40 • (MS) R3686434-4 08/01/21 11:45 • (MSD) R3686434-5 08/01/21 11:48

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	432000	436000	432000	45.1	0.000	1	75.0-125	<u>V</u>	<u>V</u>	1.06	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# GLOSSARY OF TERMS

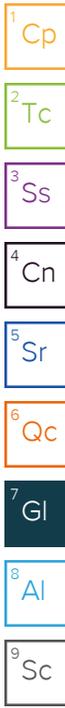
## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Company Name/Address: **SCS Engineers - KS**  
 8575 W. 110th Street  
 Overland Park, KS 66210

Billing Information:  
 Accounts Payable  
 8575 W. 110th Street  
 Overland Park, KS 66210

Report to: **Jason Franks**  
 Email To: **jfranks@scsengineers.com;jay.martin@evergy.c**

Project Description: **Evergy - Montrose Generating Station**  
 City/State Collected: **Montrose, MO**  
 Please Circle: PT MT **(C)** ET

Phone: **913-681-0030**  
 Client Project #: **27213168.21 - G**  
 Lab Project #: **AQUAOPKS-MONTROSE**

Collected by (print): **Whit Martin**  
 Site/Facility ID #  
 P.O. #

Collected by (signature): **Whit Martin**  
 Immediately Packed on Ice N \_\_\_ Y **X**  
 Rush? (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day

Quote #  
 Date Results Needed: **Std**  
 No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Calcium - 6010 250mlHDPE-HNO3	Chloride - 9056 125mlHDPE-NoPres	Analysis / Container / Preservative	Chain of Custody
MW-604	Grab	GW		7/19/21	1035	2	X	X		Pace Analytical® 12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/hubfs/pas-standard-terms.pdf">https://info.pacelabs.com/hubfs/pas-standard-terms.pdf</a> SDG # <b>1381299</b> <b>1202</b> Acctnum: <b>AQUAOPKS</b> Template: <b>T135965</b> Prelogin: <b>P861393</b> PM: <b>206 - Jeff Carr</b> PB: Shipped Via: Remarks   Sample # (lab only)
MW-604 MS/MSD	Grab	GW		7/19/21	1035	2	X	X		
DUPLICATE 1	Grab	GW		7/19/21	1035	2	X	X		

\* Matrix: SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other \_\_\_\_\_

Remarks: pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via: \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier \_\_\_\_\_  
 Tracking # **517 4431 1174**

Sample Receipt Checklist

COC Seal Present/Intact:	NP	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N
COC Signed/Accurate:		<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N
Bottles arrive intact:		<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N
Correct bottles used:		<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N
Sufficient volume sent:		<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N
If Applicable					
VOA Zero Headspace:		<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N
Preservation Correct/Checked:		<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N
RAD Screen <0.5 mR/hr:		<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N

Relinquished by: (Signature) <b>Whit Martin</b>	Date: <b>7/20/21</b>	Time: <b>1500</b>	Received by: (Signature)	Trip Blank Received: <b>1</b> Yes/No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (HCL) MeOH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C <b>0.5-1.0-0.4</b> Bottles Received: <b>6</b>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <b>Jasmine Juqua</b>	Date: <b>7/21/21</b> Time: <b>830</b> If preservation required by Login: Date/Time Condition: <b>NCF 10W</b>

Jared Morrison  
December 20, 2022

**ATTACHMENT 1-5**  
**November 2021 Sampling Event Laboratory Report**

## SCS Engineers - KS

Sample Delivery Group: L1433072  
Samples Received: 11/18/2021  
Project Number: 27213168.21-A  
Description: Evergy - Montrose Generating Station

Report To: Jason Franks  
8575 W. 110th Street  
Overland Park, KS 66210

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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# SAMPLE SUMMARY

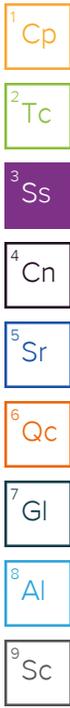
## MW-601 L1433072-01 GW

Collected by  
Whit Martin

Collected date/time  
11/16/21 12:40

Received date/time  
11/18/21 15:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1779293	1	11/23/21 16:55	11/23/21 17:57	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	1	12/09/21 03:16	12/09/21 03:16	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	100	12/09/21 03:32	12/09/21 03:32	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1787177	1	12/10/21 07:53	12/10/21 20:20	KMG	Mt. Juliet, TN



## MW-602 L1433072-02 GW

Collected by  
Whit Martin

Collected date/time  
11/16/21 10:55

Received date/time  
11/18/21 15:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1779293	1	11/23/21 16:55	11/23/21 17:57	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	1	12/09/21 03:48	12/09/21 03:48	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	20	12/09/21 04:04	12/09/21 04:04	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1787177	1	12/10/21 07:53	12/10/21 20:23	KMG	Mt. Juliet, TN

## MW-603 L1433072-03 GW

Collected by  
Whit Martin

Collected date/time  
11/16/21 12:25

Received date/time  
11/18/21 15:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1779293	1	11/23/21 16:55	11/23/21 17:57	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	1	12/09/21 04:29	12/09/21 04:29	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	100	12/09/21 04:44	12/09/21 04:44	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1787177	1	12/10/21 07:53	12/10/21 20:31	KMG	Mt. Juliet, TN

## MW-604 L1433072-04 GW

Collected by  
Whit Martin

Collected date/time  
11/16/21 13:55

Received date/time  
11/18/21 15:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1779073	1	11/23/21 13:07	11/23/21 14:10	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	1	12/09/21 05:00	12/09/21 05:00	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	100	12/09/21 06:20	12/09/21 06:20	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1787177	1	12/10/21 07:53	12/10/21 19:31	KMG	Mt. Juliet, TN

## MW-605 L1433072-05 GW

Collected by  
Whit Martin

Collected date/time  
11/16/21 14:40

Received date/time  
11/18/21 15:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1779073	1	11/23/21 13:07	11/23/21 14:10	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	1	12/09/21 06:35	12/09/21 06:35	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	100	12/09/21 06:51	12/09/21 06:51	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1787177	1	12/10/21 07:53	12/10/21 20:34	KMG	Mt. Juliet, TN

## DUPLICATE L1433072-06 GW

Collected by  
Whit Martin

Collected date/time  
11/16/21 13:55

Received date/time  
11/18/21 15:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1779139	1	11/23/21 14:01	11/23/21 18:14	MEU	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	1	12/09/21 07:07	12/09/21 07:07	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	100	12/09/21 07:23	12/09/21 07:23	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1787177	1	12/10/21 07:53	12/10/21 20:37	KMG	Mt. Juliet, TN

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jeff Carr  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	3710		50.0	1	11/23/2021 17:57	<a href="#">WG1779293</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	36600		1000	1	12/09/2021 03:16	<a href="#">WG1786205</a>
Fluoride	384		150	1	12/09/2021 03:16	<a href="#">WG1786205</a>
Sulfate	3030000		500000	100	12/09/2021 03:32	<a href="#">WG1786205</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	12/10/2021 20:20	<a href="#">WG1787177</a>
Calcium	460000		1000	1	12/10/2021 20:20	<a href="#">WG1787177</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	1690		20.0	1	11/23/2021 17:57	<a href="#">WG1779293</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	3650		1000	1	12/09/2021 03:48	<a href="#">WG1786205</a>
Fluoride	ND		150	1	12/09/2021 03:48	<a href="#">WG1786205</a>
Sulfate	1170000		100000	20	12/09/2021 04:04	<a href="#">WG1786205</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	4090		200	1	12/10/2021 20:23	<a href="#">WG1787177</a>
Calcium	292000		1000	1	12/10/2021 20:23	<a href="#">WG1787177</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2290		50.0	1	11/23/2021 17:57	<a href="#">WG1779293</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	5530		1000	1	12/09/2021 04:29	<a href="#">WG1786205</a>
Fluoride	540		150	1	12/09/2021 04:29	<a href="#">WG1786205</a>
Sulfate	1860000		500000	100	12/09/2021 04:44	<a href="#">WG1786205</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	5250		200	1	12/10/2021 20:31	<a href="#">WG1787177</a>
Calcium	370000		1000	1	12/10/2021 20:31	<a href="#">WG1787177</a>

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2710		50.0	1	11/23/2021 14:10	<a href="#">WG1779073</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	16300		1000	1	12/09/2021 05:00	<a href="#">WG1786205</a>
Fluoride	425		150	1	12/09/2021 05:00	<a href="#">WG1786205</a>
Sulfate	1940000		500000	100	12/09/2021 06:20	<a href="#">WG1786205</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	5920		200	1	12/10/2021 19:31	<a href="#">WG1787177</a>
Calcium	472000	<u>V</u>	1000	1	12/10/2021 19:31	<a href="#">WG1787177</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2410		50.0	1	11/23/2021 14:10	<a href="#">WG1779073</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	46600		1000	1	12/09/2021 06:35	<a href="#">WG1786205</a>
Fluoride	212		150	1	12/09/2021 06:35	<a href="#">WG1786205</a>
Sulfate	1850000		500000	100	12/09/2021 06:51	<a href="#">WG1786205</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1630		200	1	12/10/2021 20:34	<a href="#">WG1787177</a>
Calcium	435000		1000	1	12/10/2021 20:34	<a href="#">WG1787177</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	3050		50.0	1	11/23/2021 18:14	<a href="#">WG1779139</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	16200		1000	1	12/09/2021 07:07	<a href="#">WG1786205</a>
Fluoride	444		150	1	12/09/2021 07:07	<a href="#">WG1786205</a>
Sulfate	1940000		500000	100	12/09/2021 07:23	<a href="#">WG1786205</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	5890		200	1	12/10/2021 20:37	<a href="#">WG1787177</a>
Calcium	470000		1000	1	12/10/2021 20:37	<a href="#">WG1787177</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3734195-1 11/23/21 14:10

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1432107-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1432107-02 11/23/21 14:10 • (DUP) R3734195-3 11/23/21 14:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	783	825	1	5.31	J3	5

L1432321-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1432321-01 11/23/21 14:10 • (DUP) R3734195-4 11/23/21 14:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1400	1550	1	9.90	J3	5

Laboratory Control Sample (LCS)

(LCS) R3734195-2 11/23/21 14:10

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	8340	94.8	77.4-123	

Method Blank (MB)

(MB) R3734170-1 11/23/21 18:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1433076-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1433076-01 11/23/21 18:14 • (DUP) R3734170-3 11/23/21 18:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2410	2430	1	0.723		5

L1433076-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1433076-02 11/23/21 18:14 • (DUP) R3734170-4 11/23/21 18:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2280	2290	1	0.656		5

Laboratory Control Sample (LCS)

(LCS) R3734170-2 11/23/21 18:14

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	8570	97.4	77.4-123	

Method Blank (MB)

(MB) R3734199-1 11/23/21 17:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1432826-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1432826-03 11/23/21 17:57 • (DUP) R3734199-3 11/23/21 17:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	303	322	1	6.08	J3	5

L1432912-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1432912-05 11/23/21 17:57 • (DUP) R3734199-4 11/23/21 17:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	771	783	1	1.54		5

Laboratory Control Sample (LCS)

(LCS) R3734199-2 11/23/21 17:57

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	8510	96.7	77.4-123	

Method Blank (MB)

(MB) R3738957-1 12/08/21 23:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1432919-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1432919-22 12/09/21 00:21 • (DUP) R3738957-3 12/09/21 00:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	ND	ND	1	0.000		15
Fluoride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

L1437768-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1437768-01 12/09/21 11:22 • (DUP) R3738957-8 12/09/21 12:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	9460	9440	1	0.147		15
Fluoride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.105		15

Laboratory Control Sample (LCS)

(LCS) R3738957-2 12/08/21 23:33

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	39100	97.7	80.0-120	
Fluoride	8000	7990	99.9	80.0-120	
Sulfate	40000	39600	99.0	80.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1433072-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1433072-04 12/09/21 05:00 • (MS) R3738957-4 12/09/21 05:48 • (MSD) R3738957-5 12/09/21 06:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	16300	64700	64500	96.8	96.5	1	80.0-120			0.248	15
Fluoride	5000	425	5010	5040	91.7	92.3	1	80.0-120			0.571	15
Sulfate	50000	2010000	1980000	2000000	0.000	0.000	1	80.0-120	<u>EV</u>	<u>EV</u>	0.892	15

L1433073-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1433073-01 12/09/21 07:39 • (MS) R3738957-6 12/09/21 07:55 • (MSD) R3738957-7 12/09/21 08:11

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	86300	130000	131000	88.1	90.1	1	80.0-120	<u>E</u>	<u>E</u>	0.779	15
Fluoride	5000	ND	4620	4660	90.3	91.0	1	80.0-120			0.761	15
Sulfate	50000	1680000	1680000	1680000	3.59	0.000	1	80.0-120	<u>EV</u>	<u>EV</u>	0.166	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3739620-1 12/10/21 19:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3739620-2 12/10/21 19:28

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	975	97.5	80.0-120	
Calcium	10000	9730	97.3	80.0-120	

L1433072-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1433072-04 12/10/21 19:31 • (MS) R3739620-4 12/10/21 19:36 • (MSD) R3739620-5 12/10/21 19:39

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	5920	6930	6900	101	98.3	1	75.0-125			0.429	20
Calcium	10000	472000	478000	473000	59.2	15.7	1	75.0-125	<u>V</u>	<u>V</u>	0.914	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J3	The associated batch QC was outside the established quality control range for precision.
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

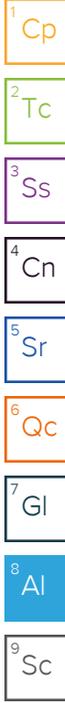
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address:  
**SCS Engineers - KS**  
 8575 W. 110th Street  
 Overland Park, KS 66210

Billing Information:  
**Accounts Payable**  
 8575 W. 110th Street  
 Overland Park, KS 66210

Report to:  
**Jason Franks**

Email To:  
 jfranks@scsengineers.com;jay.martin@evergy.c

Project Description:  
**Evergy - Montrose Generating Station**

City/State Collected:  
**Montrose, MO**

Please Circle:  
 PT MT **CT** ET

Phone: **913-681-0030**

Client Project #  
**27213168.21-A**

Lab Project #  
**AQUAOPKS-MONTROSE**

Collected by (print):  
**Whit Martin**

Site/Facility ID #

P.O. #

Collected by (signature):  
*Whit Martin*

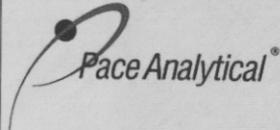
**Rush?** (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day

Quote #

Date Results Needed  
**std**

Immediately Packed on Ice N \_\_\_ Y **X**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative
MW-601	Grab	GW		11/16/21	1240	3	Anions (Cl, F, SO4) 125mIHDPPE-NoPres
MW-602	Grab	GW		11/16/21	1055	3	B, Ca - 6010 250mIHDPPE-HNO3
MW-603	Grab	GW		11/16/21	1225	3	TDS 250mIHDPPE-NoPres
MW-604	Grab	GW		11/16/21	1355	3	
MW-605	Grab	GW		11/16/21	1440	3	
604 MS / MSD	Grab	GW		11/16/21	1355	3	
DUPLICATE	Grab	GW		11/16/21	1355	3	

Chain of Custody	Page	of
 12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/hubfs/pas-standard-terms.pdf">https://info.pacelabs.com/hubfs/pas-standard-terms.pdf</a>		
SDG #	<b>4433072</b>	
Table	<b>J106</b>	
Acctnum:	<b>AQUAOPKS</b>	
Template:	<b>T135966</b>	
Prelogin:	<b>P885772</b>	
PM:	<b>206 - Jeff Carr</b>	
PB:		
Shipped Via:	<b>FedEX Ground</b>	
Remarks	Sample # (lab only)	
		01
		02
		03
		07
		05
		04
		06

\* Matrix:  
 SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other

Remarks:

pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:  
 \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier \_\_\_\_\_

Tracking # \_\_\_\_\_

Sample Receipt Checklist	
COC Seal Present/Intact:	___ NP ___ Y <input checked="" type="checkbox"/>
COC Signed/Accurate:	___ Y ___ N <input checked="" type="checkbox"/>
Bottles arrive intact:	___ Y ___ N <input checked="" type="checkbox"/>
Correct bottles used:	___ Y ___ N <input checked="" type="checkbox"/>
Sufficient volume sent:	___ Y ___ N <input checked="" type="checkbox"/>
If Applicable	
VOA Zero Headspace:	___ Y ___ N <input checked="" type="checkbox"/>
Preservation Correct/Checked:	___ Y ___ N <input checked="" type="checkbox"/>
RAD Screen <0.5 mR/hr:	___ Y ___ N <input checked="" type="checkbox"/>

Relinquished by: (Signature) <i>Whit Martin</i>	Date: <b>11-17-21</b>	Time: <b>1212</b>	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: <b>26.2</b> °C Bottles Received: <b>2</b>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: <b>11/16/21</b> Time: <b>1500</b>

If preservation required by Login: Date/Time

Hold: \_\_\_\_\_ Condition: **NCF / OK**

<u>Tracking Numbers</u>	<u>Temperature</u>
SWA	2.6 ± 0 = 2.6 AKH
SWA	2.3 ± 0 = 2.3 AKH
SWA	2.6 ± 0 = 2.6 AKH
SWA	2.6 ± 0 = 2.6 AKH



## SCS Engineers - KS

Sample Delivery Group: L1433073  
Samples Received: 11/18/2021  
Project Number: 27213168.21-A  
Description: Evergy - Montrose Generating Station

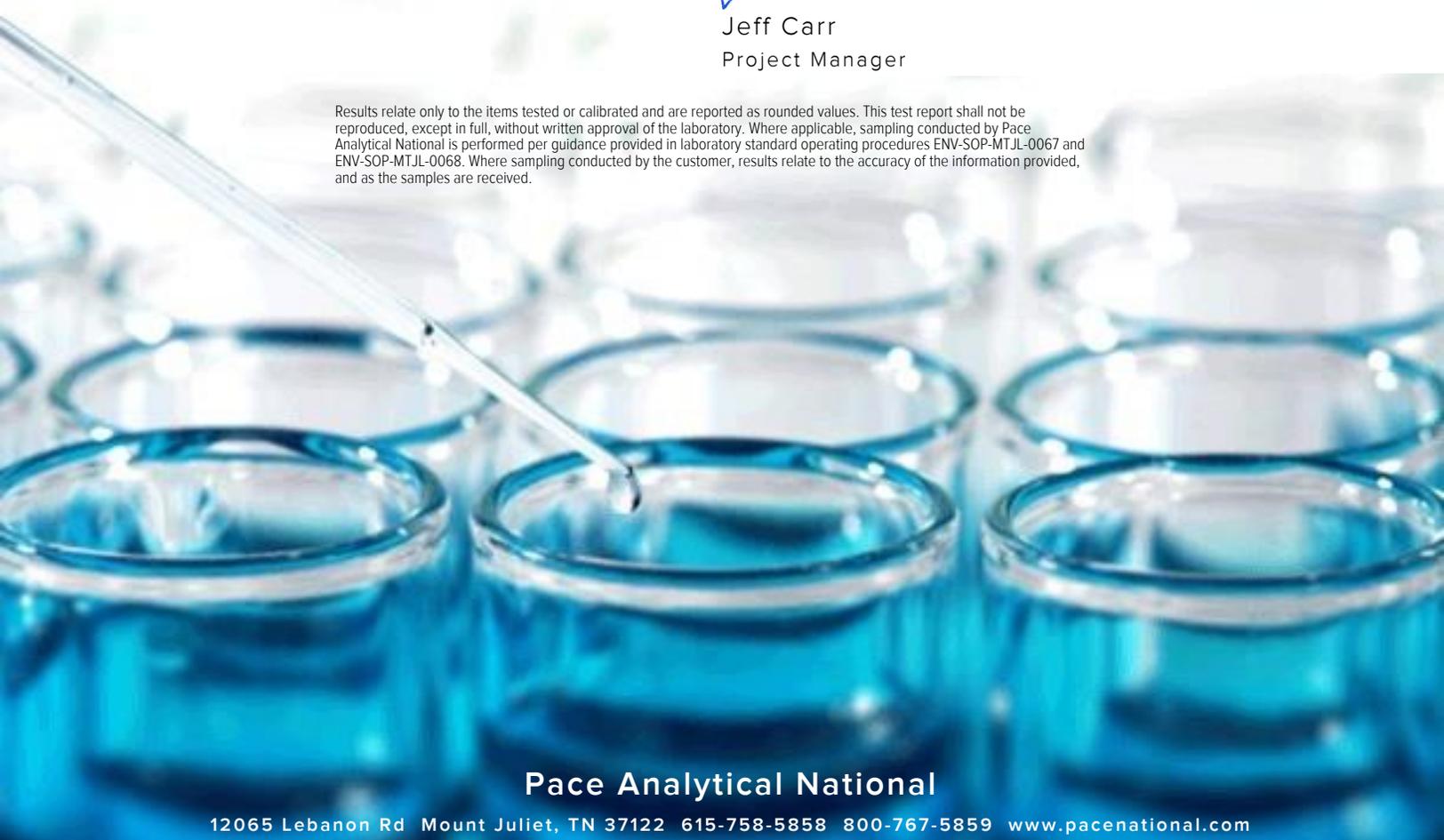
Report To: Jason Franks  
8575 W. 110th Street  
Overland Park, KS 66210

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



**Pace Analytical National**

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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# SAMPLE SUMMARY

## MW-506 L1433073-01 GW

Collected by Whit Martin      Collected date/time 11/16/21 14:05      Received date/time 11/18/21 15:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1779139	1	11/23/21 14:01	11/23/21 18:14	MEU	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	1	12/09/21 07:39	12/09/21 07:39	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	100	12/09/21 08:59	12/09/21 08:59	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1788842	1	12/14/21 10:31	12/14/21 18:44	CCE	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

## DUPLICATE L1433073-02 GW

Collected by Whit Martin      Collected date/time 11/16/21 14:05      Received date/time 11/18/21 15:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1779139	1	11/23/21 14:01	11/23/21 18:14	MEU	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	1	12/09/21 09:15	12/09/21 09:15	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786205	100	12/09/21 09:30	12/09/21 09:30	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1788314	1	12/13/21 14:16	12/15/21 03:27	CCE	Mt. Juliet, TN

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jeff Carr  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2670		50.0	1	11/23/2021 18:14	<a href="#">WG1779139</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	86300		1000	1	12/09/2021 07:39	<a href="#">WG1786205</a>
Fluoride	ND		150	1	12/09/2021 07:39	<a href="#">WG1786205</a>
Sulfate	1590000		500000	100	12/09/2021 08:59	<a href="#">WG1786205</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	12/14/2021 18:44	<a href="#">WG1788842</a>
Calcium	353000	<u>V</u>	1000	1	12/14/2021 18:44	<a href="#">WG1788842</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2700		50.0	1	11/23/2021 18:14	<a href="#">WG1779139</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	86400		1000	1	12/09/2021 09:15	<a href="#">WG1786205</a>
Fluoride	ND		150	1	12/09/2021 09:15	<a href="#">WG1786205</a>
Sulfate	1610000		500000	100	12/09/2021 09:30	<a href="#">WG1786205</a>

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	12/15/2021 03:27	<a href="#">WG1788314</a>
Calcium	357000		1000	1	12/15/2021 03:27	<a href="#">WG1788314</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3734170-1 11/23/21 18:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

1 Cp

2 Tc

3 Ss

L1433076-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1433076-01 11/23/21 18:14 • (DUP) R3734170-3 11/23/21 18:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2410	2430	1	0.723		5

4 Cn

5 Sr

L1433076-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1433076-02 11/23/21 18:14 • (DUP) R3734170-4 11/23/21 18:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2280	2290	1	0.656		5

6 Qc

7 Gl

8 Al

Laboratory Control Sample (LCS)

(LCS) R3734170-2 11/23/21 18:14

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	8570	97.4	77.4-123	

9 Sc

Method Blank (MB)

(MB) R3738957-1 12/08/21 23:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1432919-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1432919-22 12/09/21 00:21 • (DUP) R3738957-3 12/09/21 00:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	ND	ND	1	0.000		15
Fluoride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

L1437768-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1437768-01 12/09/21 11:22 • (DUP) R3738957-8 12/09/21 12:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	9460	9440	1	0.147		15
Fluoride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.105		15

Laboratory Control Sample (LCS)

(LCS) R3738957-2 12/08/21 23:33

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	39100	97.7	80.0-120	
Fluoride	8000	7990	99.9	80.0-120	
Sulfate	40000	39600	99.0	80.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1433072-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1433072-04 12/09/21 05:00 • (MS) R3738957-4 12/09/21 05:48 • (MSD) R3738957-5 12/09/21 06:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	16300	64700	64500	96.8	96.5	1	80.0-120			0.248	15
Fluoride	5000	425	5010	5040	91.7	92.3	1	80.0-120			0.571	15
Sulfate	50000	2010000	1980000	2000000	0.000	0.000	1	80.0-120	<u>EV</u>	<u>EV</u>	0.892	15

L1433073-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1433073-01 12/09/21 07:39 • (MS) R3738957-6 12/09/21 07:55 • (MSD) R3738957-7 12/09/21 08:11

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	86300	130000	131000	88.1	90.1	1	80.0-120	<u>E</u>	<u>E</u>	0.779	15
Fluoride	5000	ND	4620	4660	90.3	91.0	1	80.0-120			0.761	15
Sulfate	50000	1680000	1680000	1680000	3.59	0.000	1	80.0-120	<u>EV</u>	<u>EV</u>	0.166	15

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3740935-1 12/15/21 03:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3740935-2 12/15/21 03:10

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	1000	100	80.0-120	
Calcium	10000	10300	103	80.0-120	

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3740819-1 12/14/21 18:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3740819-2 12/14/21 18:41

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	991	99.1	80.0-120	
Calcium	10000	10000	100	80.0-120	

L1433073-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1433073-01 12/14/21 18:44 • (MS) R3740819-4 12/14/21 18:50 • (MSD) R3740819-5 12/14/21 18:53

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1080	1080	98.2	98.6	1	75.0-125			0.404	20
Calcium	10000	353000	349000	350000	0.000	0.000	1	75.0-125	V	V	0.275	20

L1433184-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1433184-07 12/14/21 18:55 • (MS) R3740819-6 12/14/21 18:58 • (MSD) R3740819-7 12/14/21 19:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	1640	2630	2610	98.3	96.8	1	75.0-125			0.594	20
Calcium	10000	85300	95500	94300	102	89.8	1	75.0-125			1.32	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

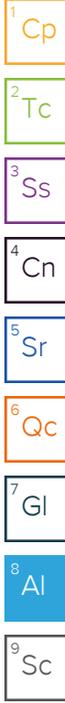
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address: **SCS Engineers - KS**  
 8575 W. 110th Street  
 Overland Park, KS 66210

Billing Information:  
 Accounts Payable  
 8575 W. 110th Street  
 Overland Park, KS 66210

Report to: **Jason Franks**  
 Email To: **jfranks@scsengineers.com;jay.martin@evergy.c**

Project Description: **Energy - Montrose Generating Station**  
 City/State Collected: **Montrose, MO**  
 Please Circle: PT MT **CT** ET

Phone: **913-681-0030** Client Project #: **27213168.21-A** Lab Project #: **AQUAOPKS-MONTROSE**

Collected by (print): **Whit Martin** Site/Facility ID #: P.O. #

Collected by (signature): *[Signature]* **Rush?** (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only) \_\_\_ Three Day

Quote # \_\_\_\_\_ Date Results Needed: **std**

Packed on Ice N \_\_\_ Y **X** No. of Cnrs: \_\_\_\_\_

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cnrs	Anions (Cl, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres	Analysis / Container / Preservative	Chain of Custody
MW-506	Grab	GW		11/16/21	1405	3	X	X	X		12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/hubs/pas-standard-terms.pdf">https://info.pacelabs.com/hubs/pas-standard-terms.pdf</a>
MW-506 MS/MSD	Grab	GW		11/16/21	1405	3	X	X	X	SDG # <b>11433073</b>	
DUPLICATE	Grab	GW		11/16/21	1405	3	X	X	X	Table <b>J105</b>	

\* Matrix: SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other \_\_\_\_\_

Remarks: \_\_\_\_\_

Samples returned via: \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier \_\_\_\_\_ Tracking # \_\_\_\_\_

Relinquished by: (Signature) *[Signature]* Date: **11/17/21** Time: **1212** Received by: (Signature) *[Signature]* Trip Blank Received: Yes/No  
 HCL/MeOH TBR

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Temp: **26.0, 26.0** °C Bottles Received: **4**

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received for lab by: (Signature) *[Signature]* Date: **11/18/21** Time: **1502** Hold: \_\_\_\_\_ Condition: NCF / OK

Sample Receipt Checklist  
 COC Seal Present/Intact: \_\_\_ NP \_\_\_ Y \_\_\_ N  
 COC Signed/Accurate: \_\_\_ Y \_\_\_ N  
 Bottles arrive intact: \_\_\_ Y \_\_\_ N  
 Correct bottles used: \_\_\_ Y \_\_\_ N  
 Sufficient volume sent: \_\_\_ Y \_\_\_ N  
 If Applicable  
 VOA Zero Headpace: \_\_\_ Y \_\_\_ N  
 Preservation Correct/Checked: \_\_\_ Y \_\_\_ N  
 RAD Screen <0.5 mR/hr: \_\_\_ Y \_\_\_ N

<u>Tracking Numbers</u>	<u>Temperature</u>
SWA	2.6 ± 0 = 2.6 AKKH
SWA	2.3 ± 0 = 2.3 AKKH
SWA	2.6 ± 0 = 2.6 AKKH
SWA	2.6 ± 0 = 2.6 AKKH

Jared Morrison  
December 20, 2022

**ATTACHMENT 2**  
**Statistical Analyses**

Jared Morrison  
December 20, 2022

**ATTACHMENT 2-1**  
**Fall 2020 Semiannual Detection Monitoring Statistical Analyses**

**MEMORANDUM**

**March 22, 2021**

**To: Montrose Generating Station  
400 SW Highway P  
Clinton, MO 64735  
Eversource Energy, Inc.**



**From: SCS Engineers**

**RE: Determination of Statistically Significant Increases - CCR Landfill  
Fall 2020 Semiannual Detection Monitoring 40 CFR 257.94**

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill at the Montrose Generating Station has been completed in substantial compliance with the “Statistical Method Certification by A Qualified Professional Engineer” dated October 12, 2017. Detection monitoring groundwater samples were collected on November 10, 2020. Review and validation of the results from the November 2020 Detection Monitoring Event was completed on December 22, 2020, which constitutes completion and finalization of detection monitoring laboratory analyses. A statistical analysis was then conducted to determine whether there was a statistically significant increase (SSI) over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring. Two rounds of verification sampling were conducted for certain constituents on February 3, 2021 and March 1, 2021.

The completed statistical evaluation identified one Appendix III constituent above the prediction limit established for monitoring well MW-605.

Constituent/Monitoring Well	*UPL	Observation November 10, 2020	1st Verification February 3, 2021	2nd Verification March 1, 2021
<b>Chloride</b>				
MW-605	55.57	59.7	59.3	58.2

\*UPL – Upper Prediction Limit

**Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified a SSI above the background prediction limit for chloride at monitoring well MW-605.**

Attached to this memorandum are the following backup information:

Attachment 1: Sanitas™ Output:

Statistical evaluation output from Sanitas™ for the prediction limit analysis. This includes prediction limit plots, prediction limit background data, detection sample results, 1<sup>st</sup> verification re-sample results (when applicable), 2<sup>nd</sup> verification re-sample results (when applicable), extra sample results for pH because pH is collected as part of the



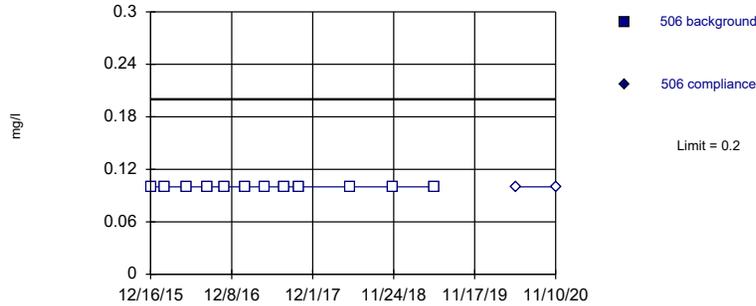
Montrose Generating Station  
Determination of Statistically Significant Increases  
CCR Landfill  
March 22, 2021

## **ATTACHMENT 1**

**Sanitas™ Output**

Within Limit

Prediction Limit  
Intrawell Non-parametric

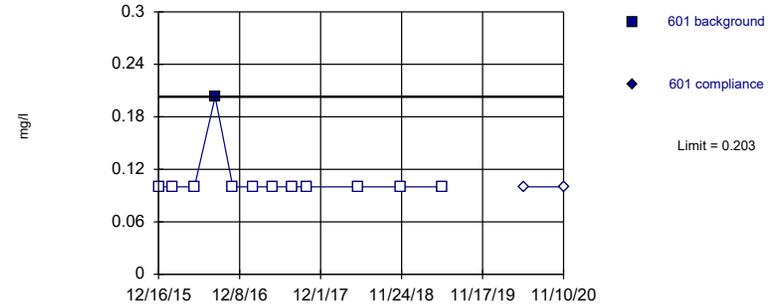


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 3/10/2021 9:51 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Non-parametric



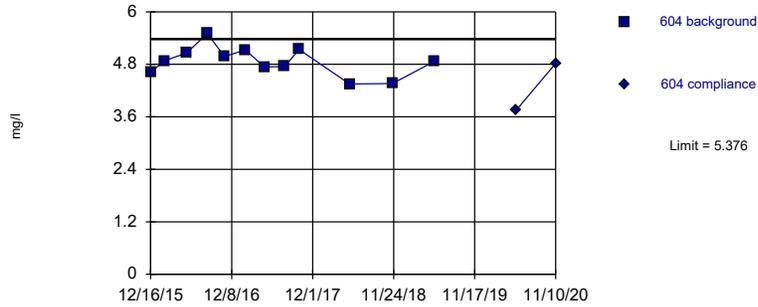
# Prediction Limit

Constituent: Boron Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	506	506	601	601	602	602	603	603
12/16/2015	<0.2		<0.2		5.08		6.28	
2/16/2016	<0.2		<0.2		5.04		6.81	
5/23/2016	<0.2		<0.2		5.17		7.06	
8/22/2016	<0.2		0.203		4.62		6.91	
11/7/2016					4.84		6.43	
11/8/2016	<0.2		<0.2					
2/7/2017	<0.2		<0.2		4.62		6.39	
5/1/2017	<0.2							
5/2/2017			<0.2		4.35		5.83	
7/31/2017	<0.2		<0.2		4.63		6.9	
10/2/2017	<0.2		<0.2		4.94		6.5	
5/14/2018	<0.2		<0.2		4.39		5.94	
11/19/2018	<0.2		<0.2		4.32		5.56	
5/21/2019	<0.2		<0.2		4.48		7.35	
7/15/2019							6.49	
5/21/2020		<0.2		<0.2		4.27		5.37
11/10/2020		<0.2		<0.2		4.18		5.69

Within Limit

Prediction Limit  
Intrawell Parametric



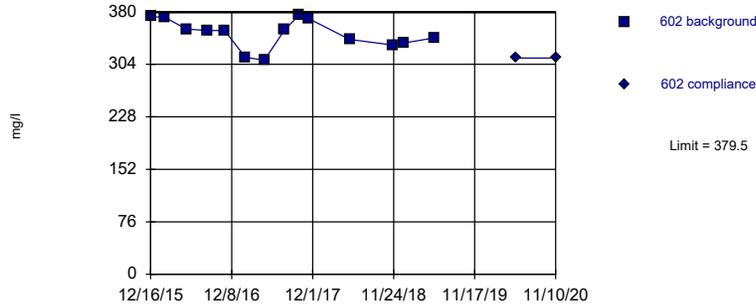
# Prediction Limit

Constituent: Boron, Calcium Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	604	604	605	605	506	506	601	601
12/16/2015	4.62				479		469	
12/17/2015			2.02					
2/16/2016	4.88		2.03		448		481	
5/23/2016	5.06		2.02		404		473	
8/22/2016	5.5		1.89		393		502	
11/7/2016	4.98		1.85					
11/8/2016					363		481	
2/7/2017	5.13		1.84		322		427	
5/1/2017					361			
5/2/2017	4.74		1.78				430	
7/31/2017	4.75		1.74		346		480	
10/2/2017	5.14		1.87		341		508	
11/15/2017					354		498	
5/14/2018	4.35		1.73		347		453	
11/19/2018	4.36		1.68		346		456	
5/21/2019	4.86		1.65		357		472	
7/15/2019							472	
5/21/2020		3.76		1.45		343		478
11/10/2020		4.82		1.47		367		479

Within Limit

Prediction Limit  
Intrawell Parametric



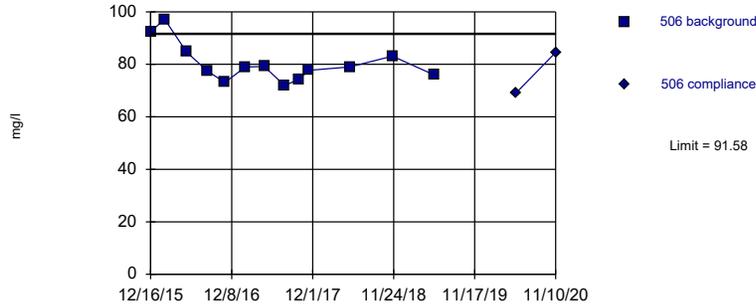
# Prediction Limit

Constituent: Calcium Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	602	602	603	603	604	604	605	605
12/16/2015	373		444		454			
12/17/2015							427	
2/16/2016	372		445		470		426	
5/23/2016	355		429		474		412	
8/22/2016	353		445		440		431	
11/7/2016	353		437		412		407	
2/7/2017	314		409		392		367	
5/2/2017	310		405		381		376	
7/31/2017	354		434		369		415	
10/2/2017	375		476		442		447	
11/15/2017	370		471		417		442	
12/29/2017			455					
5/14/2018	340		426		421		412	
11/19/2018	332		423		420		407	
1/10/2019	335						421	
5/21/2019	342		429		476		416	
7/15/2019			424		386		407	
5/21/2020		313		397		440		411
11/10/2020		313		410		436		395
3/1/2021								407 Extra Sample

Within Limit

Prediction Limit  
Intrawell Parametric



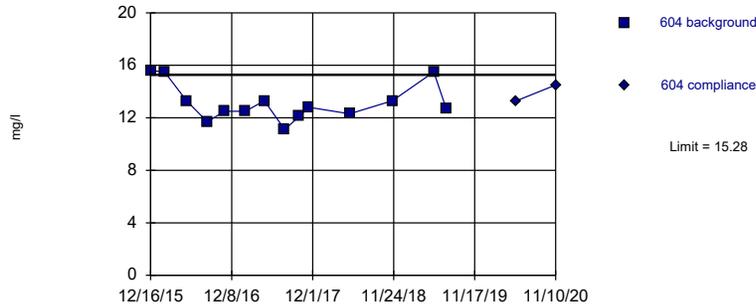
# Prediction Limit

Constituent: Chloride Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	506	506	601	601	602	602	603	603
12/16/2015	92.4		52.5		4.48		7.33	
2/16/2016	97.2		53		4.38		7.65	
5/23/2016	84.7		50.6		4.29		7.64	
8/22/2016	77.5		45.5		4.65		7.9	
11/7/2016					4.35		7.67	
11/8/2016	73.1		47.5					
2/7/2017	79		49		4.04		7.35	
5/1/2017	79.2							
5/2/2017			51.1		4.69		7.67	
7/31/2017	71.9		52.7		4.28		8.03	
10/2/2017	74.4		52.4		6.06		8.37	
11/15/2017	77.7		54.2		4.93		7.83	
12/29/2017					4.44			
5/14/2018	79		55		4.14		7.16	
11/19/2018	83.1		49.6		3.97		6.76	
1/10/2019					3.71			
5/21/2019	76		55.5		4.11		8.24	
7/15/2019			56.5				8.75	
8/19/2019			54.5				6.54	
5/21/2020		69.3		53.8		3.99		5.93
11/10/2020		84.5		33.4		3.77		6.27

Within Limit

Prediction Limit  
Intrawell Parametric

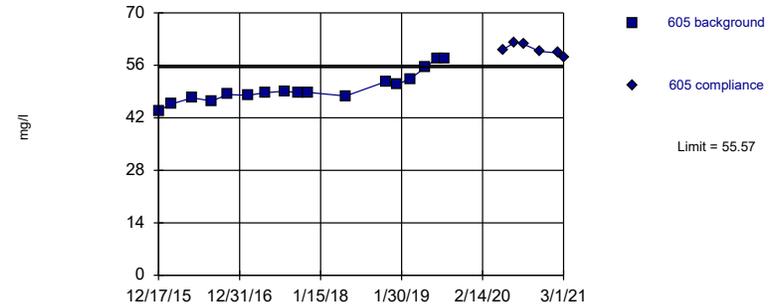


Background Data Summary: Mean=13.16, Std. Dev.=1.425, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8723, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 3/10/2021 9:51 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Exceeds Limit

Prediction Limit  
Intrawell Parametric

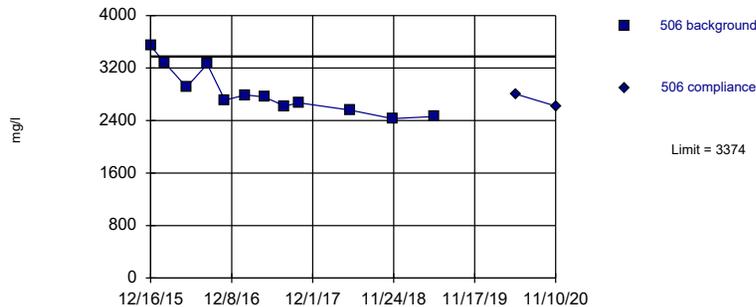


Background Data Summary: Mean=49.93, Std. Dev.=3.99, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.904, critical = 0.851. Kappa = 1.413 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 3/10/2021 9:51 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric



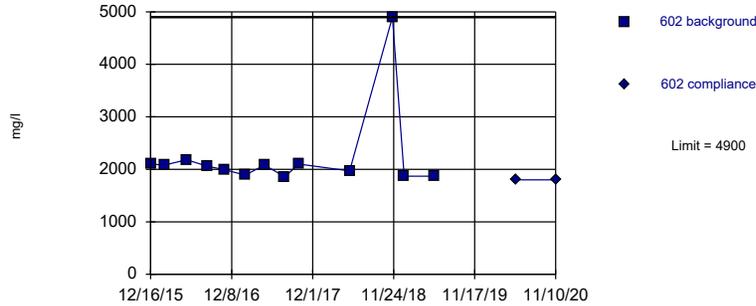
# Prediction Limit

Constituent: Chloride, Dissolved Solids Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	604	604	605	605	506	506	601	601
12/16/2015	15.6				3540		4470	
12/17/2015			43.9					
2/16/2016	15.5		45.7		3280		4280	
5/23/2016	13.3		47.3		2910		4530	
8/22/2016	11.7		46.5		3260		4810	
11/7/2016	12.5		48.2					
11/8/2016					2710		4370	
2/7/2017	12.5		48		2790		4640	
5/1/2017					2760			
5/2/2017	13.3		48.7				4530	
7/31/2017	11.1		49.1		2620		4030	
10/2/2017	12.1		48.7		2670		4790	
11/15/2017	12.8		48.8					
5/14/2018	12.3		47.8		2560		4760	
11/19/2018	13.3		51.7		2430		4100	
1/10/2019			50.9					
3/13/2019			52.4					
5/21/2019	15.5		55.4		2460		4410	
7/15/2019	12.7		57.8					
8/19/2019			57.9					
5/21/2020		13.3		60.2		2800		4680
7/14/2020				62.1	1st Verification			
8/26/2020				61.6	2nd Verification			
11/10/2020		14.5		59.7		2620		4280
2/3/2021				59.3	1st Verification			
3/1/2021				58.2	2nd Verification			

Within Limit

Prediction Limit  
Intrawell Non-parametric



# Prediction Limit

Constituent: Dissolved Solids Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	602	602	603	603	604	604	605	605
12/16/2015	2100		2940		2820			
12/17/2015							2800	
2/16/2016	2080		3140		2690		2750	
5/23/2016	2180		2990		3010		2760	
8/22/2016	2060		3350		2890		2990	
11/7/2016	1990		3240		2270		2760	
2/7/2017	1890		3150		2670		2580	
5/2/2017	2080		2880		2350		2500	
7/31/2017	1860		2920		2070		2170	
10/2/2017	2100		3190		2570		2900	
5/14/2018	1970		3110		2820		2550	
11/19/2018	4900		3160		2320		2410	
1/10/2019	1870							
5/21/2019	1870		2990		3270		2810	
7/15/2019					2680			
5/21/2020		1800		2840		2780		2740
11/10/2020		1800		2850		2790		2730



# Prediction Limit

Constituent: Fluoride Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	506	506	601	601	602	602	603	603
12/16/2015	0.12		0.45		0.148		0.673	
2/16/2016	<0.1		0.406		<0.1		0.552	
5/23/2016	<0.1		0.276		<0.1		0.523	
8/22/2016	<0.1		0.435		0.114		0.431	
11/7/2016					<0.1		0.442	
11/8/2016	<0.1		0.446					
2/7/2017	<0.1		0.399		<0.1		0.459	
5/1/2017	<0.1							
5/2/2017			0.36		0.122		0.585	
7/31/2017	<0.1		0.526		0.116		0.388	
10/2/2017	<0.1		0.488		0.108		0.666	
5/14/2018	<0.1		0.483		0.113		0.727	
6/26/2018							0.568	
11/19/2018	0.111		0.42		<0.1		0.645	
5/21/2019	0.108		0.487		0.132		0.365	
5/21/2020		<0.15		0.462		<0.15		0.642
11/10/2020		<0.15		0.336		<0.15		0.516



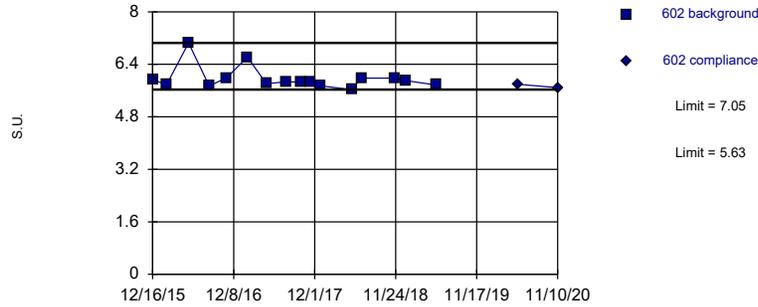
# Prediction Limit

Constituent: Fluoride, pH Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	604	604	605	605	506	506	601	601
12/16/2015	0.515				5.11		5.12	
12/17/2015			0.246					
2/16/2016	0.497		0.156		5.56		5.73	
5/23/2016	0.437		0.166		5.47		5.58	
8/22/2016	0.468		0.191		5.57		5.44	
11/7/2016	0.468		0.203					
11/8/2016					6.04		5.26	
2/7/2017	0.467		0.187		9.26		5.41	
5/1/2017					5.51			
5/2/2017	0.45		0.197				5.45	
7/31/2017	0.601		0.2		5.51		5.44	
10/2/2017	0.542		0.184		5.59		5.61	
11/15/2017					5.58		5.49	
5/14/2018	0.506		0.226		5.61		5.64	
6/26/2018							5.35	
11/19/2018	0.453		0.187		5.55		5.48	
5/21/2019	0.519		0.222		5.49		5.34	
7/15/2019							5.96	
8/19/2019							5.41	
5/21/2020		0.489		0.219		5.53		5.42
11/10/2020		0.409		0.182		5.44		5.66

Within Limits

Prediction Limit  
Intrawell Non-parametric

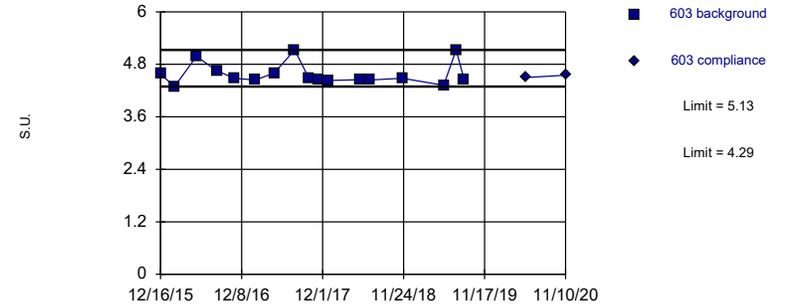


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 16 background values. Well-constituent pair annual alpha = 0.004102. Individual comparison alpha = 0.002052 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 3/10/2021 9:52 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limits

Prediction Limit  
Intrawell Non-parametric

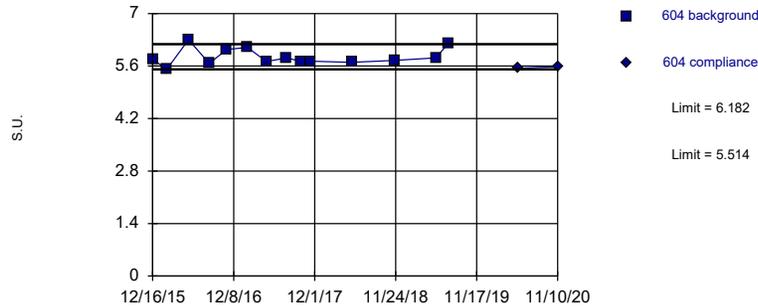


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 17 background values. Well-constituent pair annual alpha = 0.003639. Individual comparison alpha = 0.00182 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 3/10/2021 9:52 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limits

Prediction Limit  
Intrawell Parametric

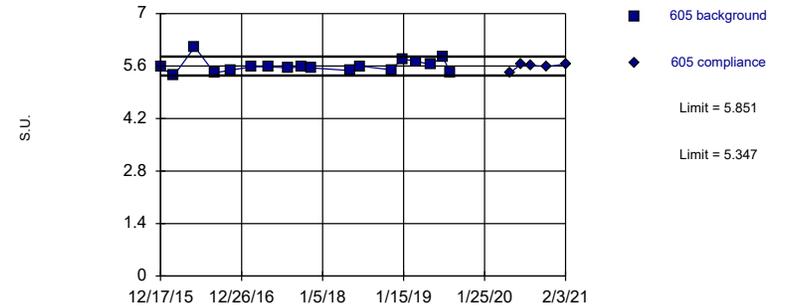


Background Data Summary: Mean=5.848, Std. Dev.=0.2249, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8937, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 3/10/2021 9:52 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limits

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=5.599, Std. Dev.=0.1804, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8888, critical = 0.858. Kappa = 1.396 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 3/10/2021 9:52 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

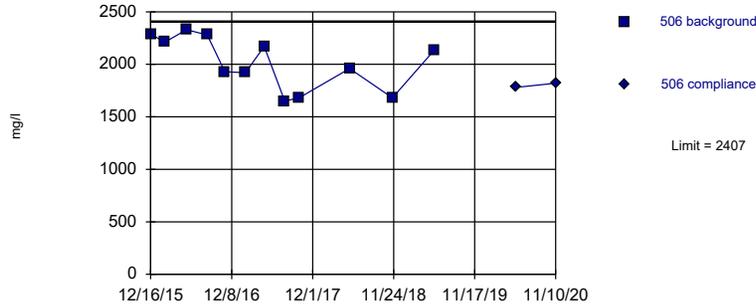
# Prediction Limit

Constituent: pH Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	602	602	603	603	604	604	605	605
12/16/2015	5.93		4.58		5.79			
12/17/2015							5.57	
2/16/2016	5.78		4.29		5.51		5.34	
5/23/2016	7.05		4.98		6.3		6.11	
8/22/2016	5.74		4.65		5.67		5.42	
11/7/2016	5.99		4.48		6.04		5.49	
2/7/2017	6.62		4.44		6.1		5.58	
5/2/2017	5.81		4.6		5.72		5.58	
7/31/2017	5.87		5.13		5.82		5.55	
10/2/2017	5.86		4.48		5.72		5.58	
11/15/2017	5.87		4.44		5.73		5.55	
12/29/2017	5.74		4.43					
5/14/2018	5.63		4.45		5.7		5.48	
6/26/2018	5.98		4.44				5.6	
11/19/2018	5.98		4.48		5.75		5.5	
1/10/2019	5.9						5.79	
3/13/2019							5.73	
5/21/2019	5.77		4.32		5.82		5.64	
7/15/2019			5.13		6.2		5.85	
8/19/2019			4.46				5.42	
5/21/2020		5.79		4.5		5.54		5.42
7/14/2020								5.66 Extra Sample
8/26/2020								5.62 Extra Sample
11/10/2020		5.69		4.55		5.58		5.58
2/3/2021								5.66 Extra Sample
								5.96 Extra Sample

Within Limit

### Prediction Limit Intrawell Parametric

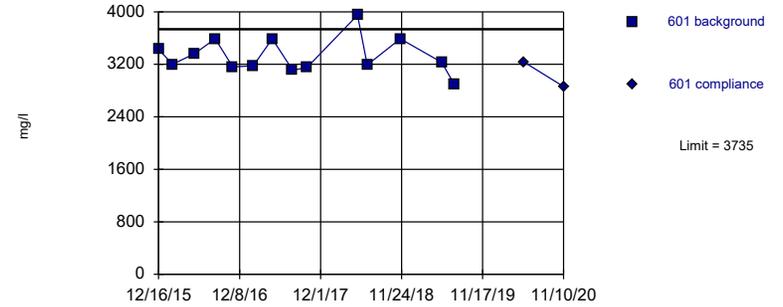


Background Data Summary: Mean=2019, Std. Dev.=251.7, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8935, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 3/10/2021 9:52 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

### Prediction Limit Intrawell Parametric

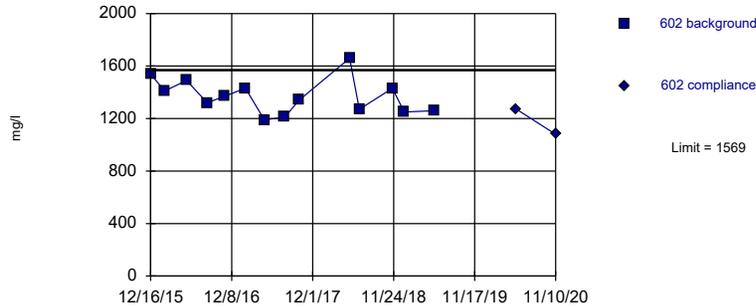


Background Data Summary: Mean=3331, Std. Dev.=272, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9196, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 3/10/2021 9:52 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

### Prediction Limit Intrawell Parametric

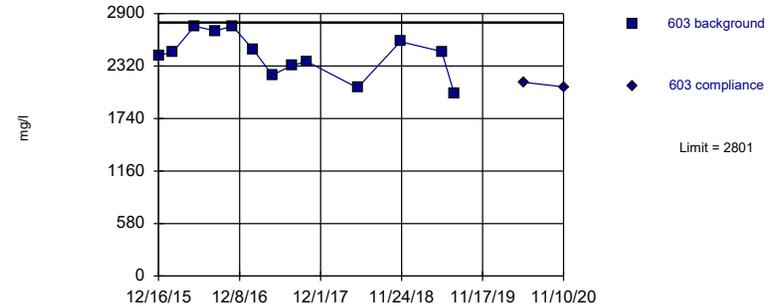


Background Data Summary: Mean=1369, Std. Dev.=134.2, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.956, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 3/10/2021 9:52 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

### Prediction Limit Intrawell Parametric



Background Data Summary: Mean=2441, Std. Dev.=237.6, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9483, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 3/10/2021 9:52 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

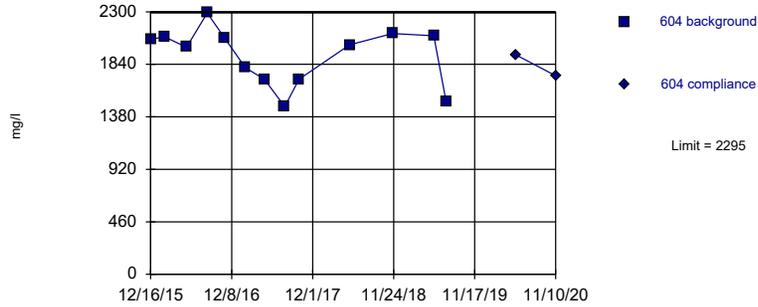
# Prediction Limit

Constituent: Sulfate Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	506	506	601	601	602	602	603	603
12/16/2015	2290		3430		1540		2440	
2/16/2016	2210		3200		1410		2470	
5/23/2016	2330		3360		1490		2760	
8/22/2016	2280		3590		1320		2710	
11/7/2016					1370		2760	
11/8/2016	1930		3160					
2/7/2017	1920		3180		1430		2500	
5/1/2017	2170							
5/2/2017			3590		1190		2220	
7/31/2017	1650		3110		1210		2330	
10/2/2017	1680		3150		1340		2370	
5/14/2018	1960		3950		1660		2080	
6/26/2018			3190		1270			
11/19/2018	1680		3590		1430		2590	
1/10/2019					1250			
5/21/2019	2130		3230		1260		2480	
7/15/2019			2900				2020	
5/21/2020		1780		3230		1270		2140
11/10/2020		1820		2860		1080		2090

Within Limit

Prediction Limit  
Intrawell Parametric



# Prediction Limit

Constituent: Sulfate Analysis Run 3/10/2021 9:55 AM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	604	604	605	605
12/16/2015	2060			
12/17/2015			2180	
2/16/2016	2080		1950	
5/23/2016	1990		1880	
8/22/2016	2290		2230	
11/7/2016	2070		2280	
2/7/2017	1810		2050	
5/2/2017	1710		1910	
7/31/2017	1470		1890	
10/2/2017	1710		1920	
5/14/2018	2010		2510	
6/26/2018			1960	
11/19/2018	2110		2260	
1/10/2019			1870	
5/21/2019	2090		1970	
7/15/2019	1510		1640	
5/21/2020		1920		1940
11/10/2020		1740		1790
3/1/2021			1720	Extra Sample

# Prediction Limit

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose Printed 3/10/2021, 9:55 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/l)	506	0.2	n/a	11/10/2020	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/l)	601	0.203	n/a	11/10/2020	0.1ND	No	12	91.67	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/l)	602	5.168	n/a	11/10/2020	4.18	No	12	0	No	0.00188	Param Intra 1 of 3
Boron (mg/l)	603	7.275	n/a	11/10/2020	5.69	No	13	0	No	0.00188	Param Intra 1 of 3
Boron (mg/l)	604	5.376	n/a	11/10/2020	4.82	No	12	0	No	0.00188	Param Intra 1 of 3
Boron (mg/l)	605	2.045	n/a	11/10/2020	1.47	No	12	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	506	442.8	n/a	11/10/2020	367	No	13	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	601	507.3	n/a	11/10/2020	479	No	14	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	602	379.5	n/a	11/10/2020	313	No	14	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	603	466	n/a	11/10/2020	410	No	15	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	604	478	n/a	11/10/2020	436	No	14	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	605	445.2	n/a	3/1/2021	407	No	15	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	506	91.58	n/a	11/10/2020	84.5	No	13	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	601	56.49	n/a	11/10/2020	33.4	No	15	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	602	5.212	n/a	11/10/2020	3.77	No	15	0	sqrt(x)	0.00188	Param Intra 1 of 3
Chloride (mg/l)	603	8.511	n/a	11/10/2020	6.27	No	15	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	604	15.28	n/a	11/10/2020	14.5	No	14	0	No	0.00188	Param Intra 1 of 3
<b>Chloride (mg/l)</b>	<b>605</b>	<b>55.57</b>	<b>n/a</b>	<b>3/1/2021</b>	<b>58.2</b>	<b>Yes</b>	<b>17</b>	<b>0</b>	<b>No</b>	<b>0.00188</b>	<b>Param Intra 1 of 3</b>
Dissolved Solids (mg/l)	506	3374	n/a	11/10/2020	2620	No	12	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	601	4871	n/a	11/10/2020	4280	No	12	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	602	4900	n/a	11/10/2020	1800	No	13	0	n/a	0.001886	NP Intra (normality) ...
Dissolved Solids (mg/l)	603	3310	n/a	11/10/2020	2850	No	12	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	604	3150	n/a	11/10/2020	2790	No	13	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	605	3020	n/a	11/10/2020	2730	No	12	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	506	0.12	n/a	11/10/2020	0.075ND	No	12	75	n/a	0.002173	NP Intra (NDs) 1 of 3
Fluoride (mg/l)	601	0.5348	n/a	11/10/2020	0.336	No	12	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	602	0.1691	n/a	11/10/2020	0.075ND	No	12	41.67	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	603	0.7176	n/a	11/10/2020	0.516	No	13	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	604	0.5655	n/a	11/10/2020	0.409	No	12	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	605	0.2359	n/a	11/10/2020	0.182	No	12	0	No	0.00188	Param Intra 1 of 3
pH (S.U.)	506	9.26	5.11	11/10/2020	5.44	No	13	0	n/a	0.003773	NP Intra (normality) ...
pH (S.U.)	601	5.762	5.202	11/10/2020	5.66	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	602	7.05	5.63	11/10/2020	5.69	No	16	0	n/a	0.002052	NP Intra (normality) ...
pH (S.U.)	603	5.13	4.29	11/10/2020	4.55	No	17	0	n/a	0.00182	NP Intra (normality) ...
pH (S.U.)	604	6.182	5.514	11/10/2020	5.58	No	14	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	605	5.851	5.347	2/3/2021	5.66	No	18	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/l)	506	2407	n/a	11/10/2020	1820	No	12	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	601	3735	n/a	11/10/2020	2860	No	14	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	602	1569	n/a	11/10/2020	1080	No	14	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	603	2801	n/a	11/10/2020	2090	No	13	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	604	2295	n/a	11/10/2020	1740	No	13	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	605	2352	n/a	3/1/2021	1720	No	15	0	No	0.00188	Param Intra 1 of 3

Montrose Generating Station  
Determination of Statistically Significant Increases  
CCR Landfill  
March 22, 2021

## **ATTACHMENT 2**

### **Sanitas™ Configuration Settings**

Exclude data flags:

Data Reading Options

- Individual Observations
- Mean of Each:  Month
- Median of Each:  Season

Automatically Process Resamples...

- Black and White Output
- Four Plots Per Page
  - Always Combine Data Pages...
  - Include Tick Marks on Data Page
  - Use Constituent Name for Graph Title
- Draw Border Around Text Reports and Data Pages
- Enlarge/Reduce Fonts (Graphs):
- Enlarge/Reduce Fonts (Data/Text Reports):
- Wide Margins (on reports without explicit setting)
- Use CAS# (Not Const. Name)
- Truncate File Names to  Characters
- Include Limit Lines when found in Database...
- Show Deselected Data on Time Series  ▾
- Show Deselected Data on all Data Pages  ▾

- Prompt to Overwrite/Append Summary Tables
- Round Limits to  Sig. Digits (when not set in data file)
- User-Set Scale
- Indicate Background Data
- Show Exact Dates
- Thick Plot Lines

Zoom Factor:  ▾

- Output Decimal Precision
- Less Precision
  - Normal Precision
  - More Precision

Store Print Jobs in Multiple Constituent Mode

Printer:  ▾

Use Modified Alpha...

Test Residuals For Normality (Parametric test only)  at Alpha = 0.01

Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

- Use Ladder of Powers
- Natural Log or No Transformation
- Never Transform
- Use Specific Transformation:

- Use Best W Statistic
- Plot Transformed Values

Use Non-Parametric Test (Sen's Slope/Mann-Kendall) when Non-Detects Percent >

Include  % Confidence Interval around Trend Line

Automatically Remove Outliers (Parametric test only)

Note: there is no "Always Use Non-Parametric" checkbox on this tab because, for consistency with prior versions, Sen's Slope / Mann-Kendall (the non-parametric alternative) is available as a report in its own right, under Analysis->Intrawell->Trend.

Test for Normality using Shapiro-Wilk/Francia at Alpha = 0.01

Use Non-Parametric Test when Non-Detects Percent > 50

Use Aitchison's Adjustment when Non-Detects Percent > 15

Optional Further Refinement: Use Aitchison's when NDs % > 50

Use Poisson Prediction Limit when Non-Detects Percent > 90

Transformation

Use Ladder of Powers

Natural Log or No Transformation

Never Transform

Use Specific Transformation: Natural Log

Use Best W Statistic

Plot Transformed Values

Deseasonalize (Intra- and InterWell)

If Seasonality Is Detected

If Seasonality Is Detected Or Insufficient to Test

Always (When Sufficient Data)  Never

Always Use Non-Parametric

Facility

Statistical Evaluations per Year:

Constituents Analyzed:

Downgradient (Compliance) Wells:

Sampling Plan

Comparing Individual Observations

1 of 1  1 of 2  1 of 3  1 of 4

2 of 4 ("Modified California")

IntraWell Other

Stop if Background Trend Detected at Alpha = 0.05

Plot Background Data

Override Standard Deviation:

Override DF:  Override Kappa:

Automatically Remove Background Outliers

2-Tailed Test Mode...

Show Deselected Data Lighter

Non-Parametric Limit = Highest Background Value

Non-Parametric Limit when 100% Non-Detects:

Highest/Second Highest Background Value

Most Recent PQL if available, or MDL

Most Recent Background Value (subst. method)

Rank Von Neumann, Wilcoxon Rank Sum / Mann-Whitney

- Use Modified Alpha...
- 2-Tailed Test Mode...
- Combine Background Wells on Mann-Whitney...

Outlier Tests

- EPA 1989 Outlier Screening (fixed alpha of 0.05)
- Dixon's at  $\alpha=$   or if  $n >$   Rosner's at  $\alpha=$    Use EPA Screening to establish Suspected Outliers
- Tukey's Outlier Screening, with IQR Multiplier =   Use Ladder of Powers to achieve Best W Stat
- Test For Normality using Shapiro-Wilk/Francia at Alpha = 
  - Stop if Non-Normal
  - Continue with Parametric Test if Non-Normal
  - Tukey's if Non-Normal, with IQR Multiplier =   Use Ladder of Powers to achieve Best W Stat
- No Outlier If Less Than  Times Median
- Apply Rules found in Ohio Guidance Document 0715
- Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

- Combine Wells  Label Constituents
- Combine Dates  Label Axes
- Use Default Constituent Names  Note Cation-Anion Balance (Piper only)
- Use Constituent Definition File

Jared Morrison  
December 20, 2022

**ATTACHMENT 2-2**  
**Spring 2021 Semiannual Detection Monitoring Statistical Analyses**

## MEMORANDUM

October 5, 2021

To: **Montrose Generating Station**  
**400 SW Highway P**  
**Clinton, MO 64735**  
**Evergy Metro, Inc.**



From: **SCS Engineers**

RE: **Determination of Statistically Significant Increases - CCR Landfill**  
**Spring 2021 Semiannual Detection Monitoring 40 CFR 257.94**

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill at the Montrose Generating Station has been completed in substantial compliance with the "Statistical Method Certification by A Qualified Professional Engineer" dated October 12, 2017. Detection monitoring groundwater samples were collected on May 17 and May 18, 2021. Review and validation of the results from the May 2021 Detection Monitoring Event was completed on July 27, 2021, which constitutes completion and finalization of detection monitoring laboratory analyses. A statistical analysis was then conducted to determine whether there was a statistically significant increase (SSI) over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring. One round of verification sampling was conducted for certain constituents on July 19, 2021.

**Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation did not identify any SSIs above background.**

Attached to this memorandum are the following backup information:

Attachment 1: Sanitas™ Output:

Statistical evaluation output from Sanitas™ for the prediction limit analysis. This includes prediction limit plots, prediction limit background data, detection sample results, 1<sup>st</sup> verification re-sample results (when applicable), 2<sup>nd</sup> verification re-sample results (when applicable), extra sample results for pH because pH is collected as part of the sampling procedure, and a Prediction Limit summary table. Output documentation includes the analytical data used for the statistical analyses.

Attachment 2: Sanitas™ Configuration Settings:

Screen shots of the applicable Sanitas™ configuration settings for the statistical prediction limit analysis. This includes data configuration, output configuration, prediction limit configuration and other tests configuration.



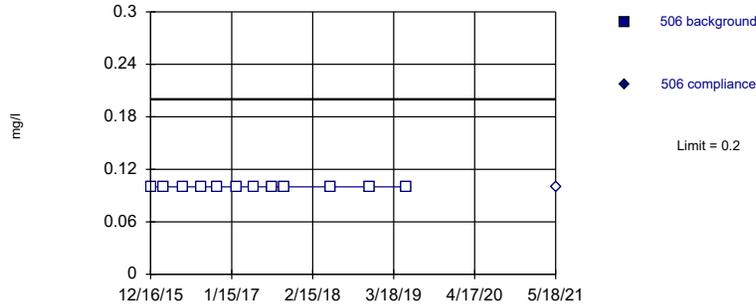
Montrose Generating Station  
Determination of Statistically Significant Increases  
CCR Landfill  
October 5, 2021

## **ATTACHMENT 1**

**Sanitas™ Output**

Within Limit

Prediction Limit  
Intrawell Non-parametric

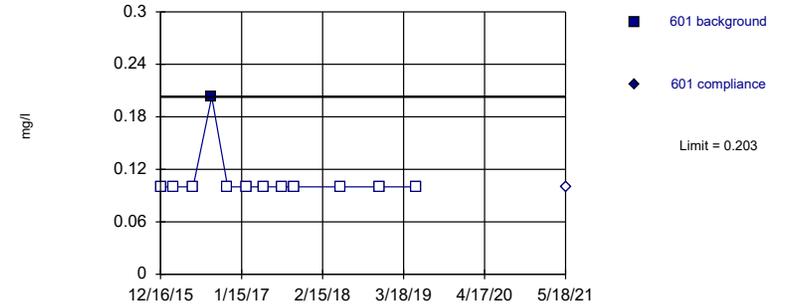


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/13/2021 2:04 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Non-parametric

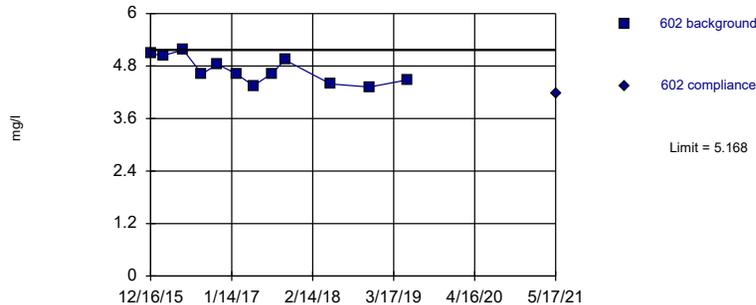


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 12 background values. 91.67% NDs. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/13/2021 2:04 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

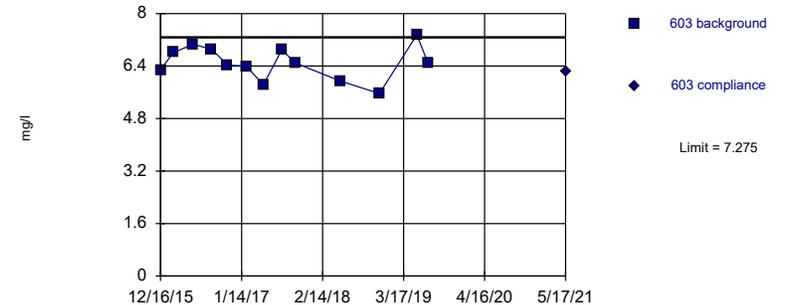


Background Data Summary: Mean=4.707, Std. Dev.=0.2995, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9228, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron Analysis Run 9/13/2021 2:04 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=6.496, Std. Dev.=0.5141, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9744, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron Analysis Run 9/13/2021 2:04 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

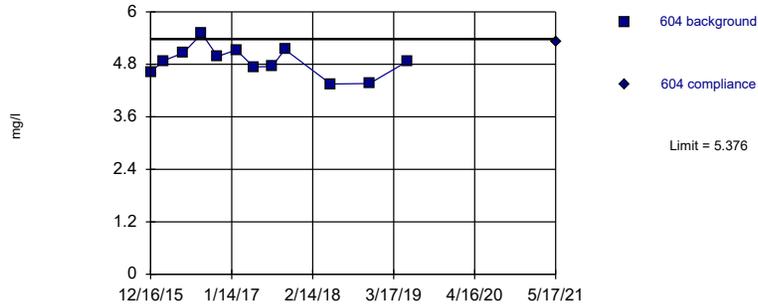
# Prediction Limit

Constituent: Boron Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	506	506	601	601	602	602	603	603
12/16/2015	<0.2		<0.2		5.08		6.28	
2/16/2016	<0.2		<0.2		5.04		6.81	
5/23/2016	<0.2		<0.2		5.17		7.06	
8/22/2016	<0.2		0.203		4.62		6.91	
11/7/2016					4.84		6.43	
11/8/2016	<0.2		<0.2					
2/7/2017	<0.2		<0.2		4.62		6.39	
5/1/2017	<0.2							
5/2/2017			<0.2		4.35		5.83	
7/31/2017	<0.2		<0.2		4.63		6.9	
10/2/2017	<0.2		<0.2		4.94		6.5	
5/14/2018	<0.2		<0.2		4.39		5.94	
11/19/2018	<0.2		<0.2		4.32		5.56	
5/21/2019	<0.2		<0.2		4.48		7.35	
7/15/2019							6.49	
5/17/2021						4.17		6.22
5/18/2021		<0.2		<0.2				

Within Limit

### Prediction Limit Intrawell Parametric

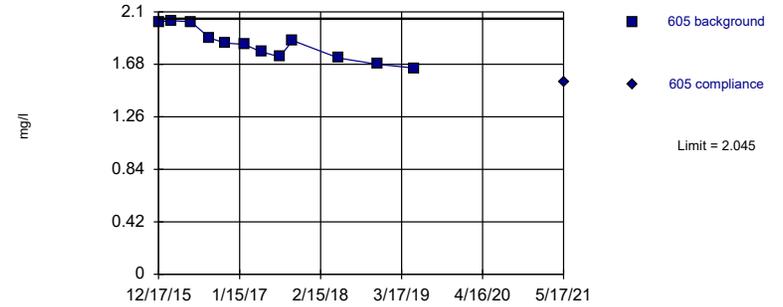


Background Data Summary: Mean=4.864, Std. Dev.=0.3316, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9664, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron Analysis Run 9/13/2021 2:04 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

### Prediction Limit Intrawell Parametric

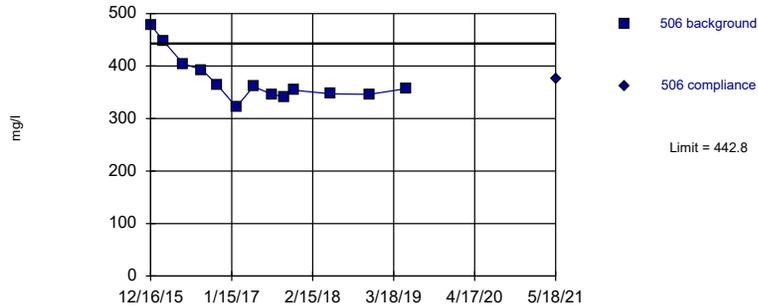


Background Data Summary: Mean=1.842, Std. Dev.=0.132, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9267, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron Analysis Run 9/13/2021 2:04 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

### Prediction Limit Intrawell Parametric

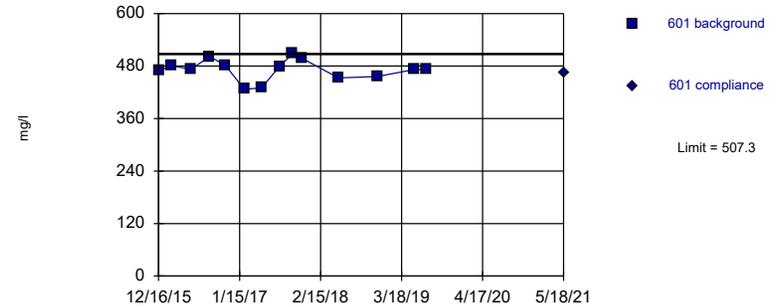


Background Data Summary: Mean=373.9, Std. Dev.=45.49, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8335, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 9/13/2021 2:04 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

### Prediction Limit Intrawell Parametric



Background Data Summary: Mean=471.6, Std. Dev.=24.04, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9414, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 9/13/2021 2:04 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

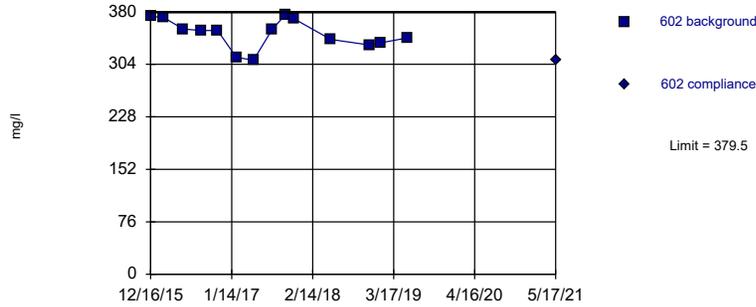
# Prediction Limit

Constituent: Boron, Calcium Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	604	604	605	605	506	506	601	601
12/16/2015	4.62				479		469	
12/17/2015			2.02					
2/16/2016	4.88		2.03		448		481	
5/23/2016	5.06		2.02		404		473	
8/22/2016	5.5		1.89		393		502	
11/7/2016	4.98		1.85					
11/8/2016					363		481	
2/7/2017	5.13		1.84		322		427	
5/1/2017					361			
5/2/2017	4.74		1.78				430	
7/31/2017	4.75		1.74		346		480	
10/2/2017	5.14		1.87		341		508	
11/15/2017					354		498	
5/14/2018	4.35		1.73		347		453	
11/19/2018	4.36		1.68		346		456	
5/21/2019	4.86		1.65		357		472	
7/15/2019							472	
5/17/2021		5.32		1.54				
5/18/2021						375		466

Within Limit

Prediction Limit  
Intrawell Parametric

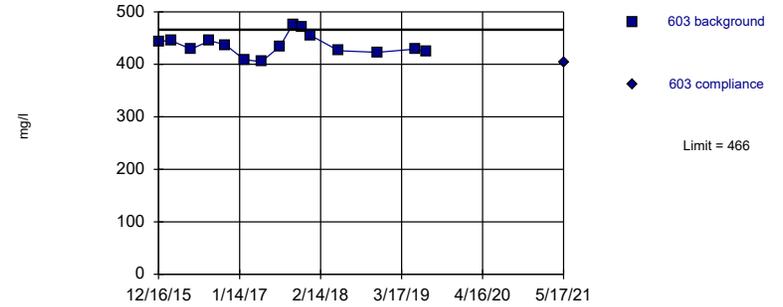


Background Data Summary: Mean=348.4, Std. Dev.=20.89, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.929, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

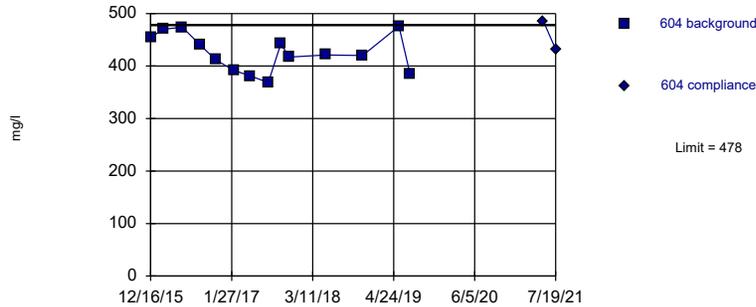


Background Data Summary: Mean=436.8, Std. Dev.=20.01, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9561, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

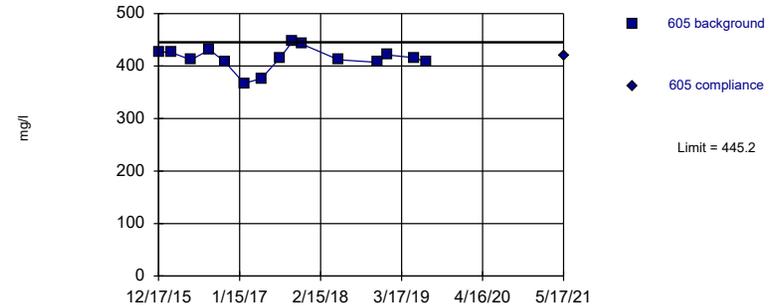


Background Data Summary: Mean=425.3, Std. Dev.=35.45, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9457, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=414.2, Std. Dev.=21.27, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9188, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

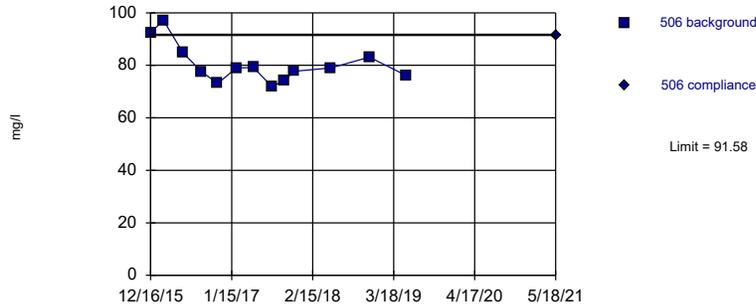
Constituent: Calcium Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

# Prediction Limit

Constituent: Calcium Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	602	602	603	603	604	604	605	605
12/16/2015	373		444		454			
12/17/2015							427	
2/16/2016	372		445		470		426	
5/23/2016	355		429		474		412	
8/22/2016	353		445		440		431	
11/7/2016	353		437		412		407	
2/7/2017	314		409		392		367	
5/2/2017	310		405		381		376	
7/31/2017	354		434		369		415	
10/2/2017	375		476		442		447	
11/15/2017	370		471		417		442	
12/29/2017			455					
5/14/2018	340		426		421		412	
11/19/2018	332		423		420		407	
1/10/2019	335						421	
5/21/2019	342		429		476		416	
7/15/2019			424		386		407	
5/17/2021		311		403		486		420
7/19/2021						432		

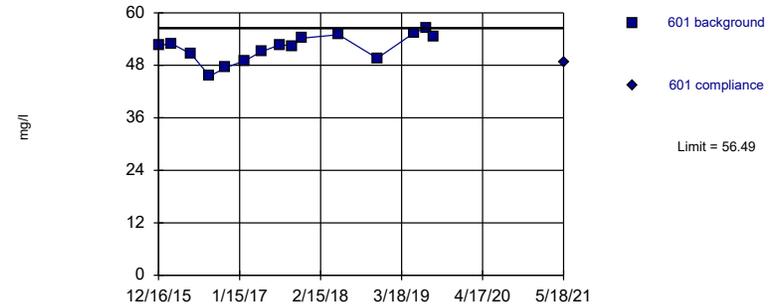
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=80.4, Std. Dev.=7.382, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8755, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

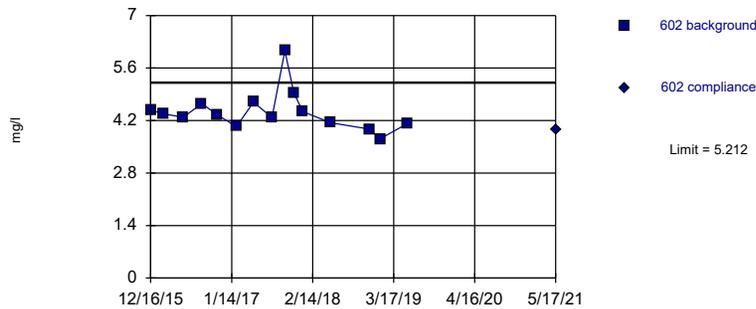
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=51.97, Std. Dev.=3.1, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9652, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

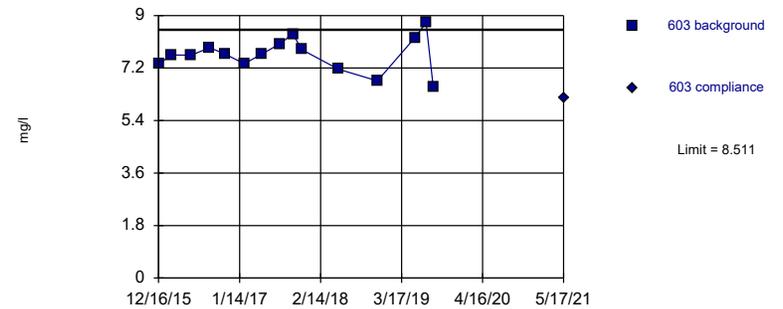
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=2.102, Std. Dev.=0.1238, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8603, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=7.659, Std. Dev.=0.5838, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9807, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

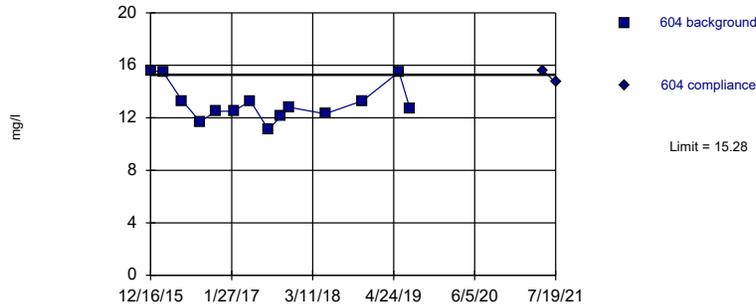
# Prediction Limit

Constituent: Chloride Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	506	506	601	601	602	602	603	603
12/16/2015	92.4		52.5		4.48		7.33	
2/16/2016	97.2		53		4.38		7.65	
5/23/2016	84.7		50.6		4.29		7.64	
8/22/2016	77.5		45.5		4.65		7.9	
11/7/2016					4.35		7.67	
11/8/2016	73.1		47.5					
2/7/2017	79		49		4.04		7.35	
5/1/2017	79.2							
5/2/2017			51.1		4.69		7.67	
7/31/2017	71.9		52.7		4.28		8.03	
10/2/2017	74.4		52.4		6.06		8.37	
11/15/2017	77.7		54.2		4.93		7.83	
12/29/2017					4.44			
5/14/2018	79		55		4.14		7.16	
11/19/2018	83.1		49.6		3.97		6.76	
1/10/2019					3.71			
5/21/2019	76		55.5		4.11		8.24	
7/15/2019			56.5				8.75	
8/19/2019			54.5				6.54	
5/17/2021						3.95		6.17
5/18/2021		91.3		48.6				

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=13.16, Std. Dev.=1.425, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8723, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

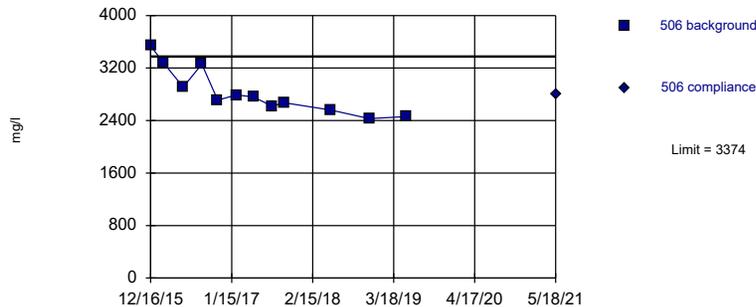


Background Data Summary: Mean=49.93, Std. Dev.=3.99, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.904, critical = 0.851. Kappa = 1.413 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

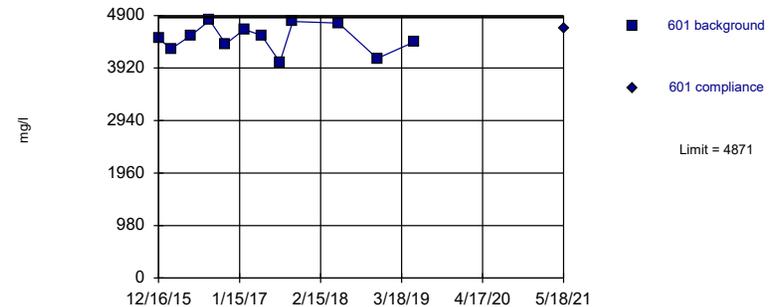


Background Data Summary: Mean=2833, Std. Dev.=351.4, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8961, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=4477, Std. Dev.=255.5, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9477, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

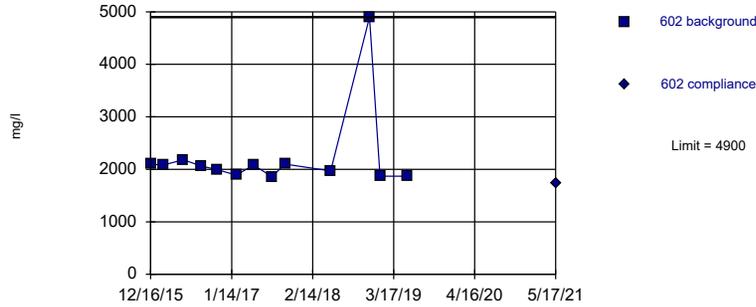
# Prediction Limit

Constituent: Chloride, Dissolved Solids Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	604	604	605	605	506	506	601	601
12/16/2015	15.6				3540		4470	
12/17/2015			43.9					
2/16/2016	15.5		45.7		3280		4280	
5/23/2016	13.3		47.3		2910		4530	
8/22/2016	11.7		46.5		3260		4810	
11/7/2016	12.5		48.2					
11/8/2016					2710		4370	
2/7/2017	12.5		48		2790		4640	
5/1/2017					2760			
5/2/2017	13.3		48.7				4530	
7/31/2017	11.1		49.1		2620		4030	
10/2/2017	12.1		48.7		2670		4790	
11/15/2017	12.8		48.8					
5/14/2018	12.3		47.8		2560		4760	
11/19/2018	13.3		51.7		2430		4100	
1/10/2019			50.9					
3/13/2019			52.4					
5/21/2019	15.5		55.4		2460		4410	
7/15/2019	12.7		57.8					
8/19/2019			57.9					
5/17/2021		15.6		52.5				
5/18/2021						2800		4650
7/19/2021		14.7						

Within Limit

Prediction Limit  
Intrawell Non-parametric

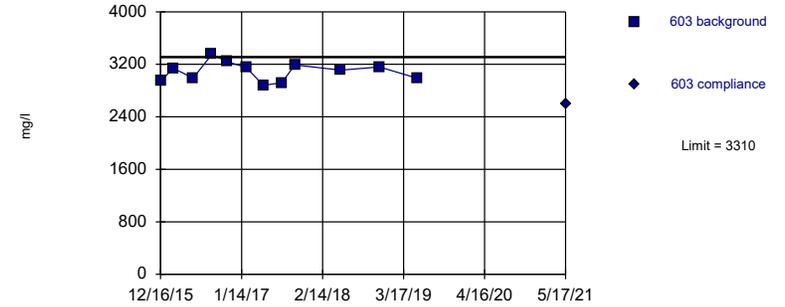


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 13 background values. Well-constituent pair annual alpha = 0.003769. Individual comparison alpha = 0.001886 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Dissolved Solids Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

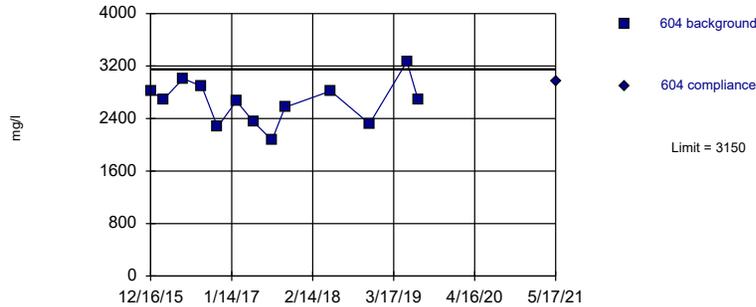


Background Data Summary: Mean=3088, Std. Dev.=143.6, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9528, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

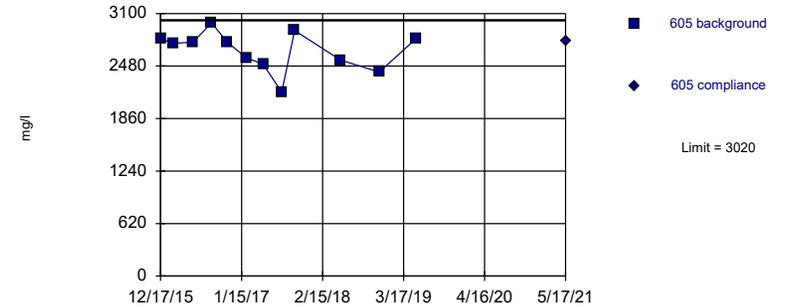


Background Data Summary: Mean=2648, Std. Dev.=331.5, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9778, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=2665, Std. Dev.=230.2, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9421, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

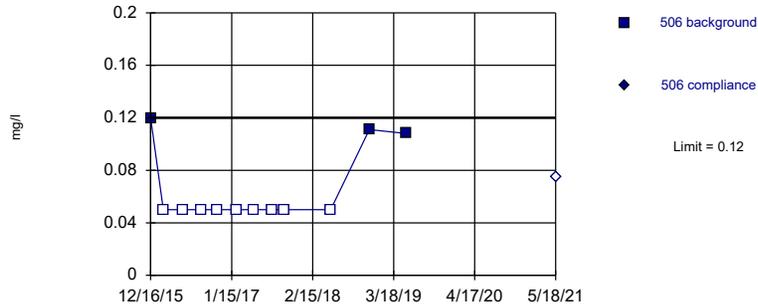
# Prediction Limit

Constituent: Dissolved Solids Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	602	602	603	603	604	604	605	605
12/16/2015	2100		2940		2820			
12/17/2015							2800	
2/16/2016	2080		3140		2690		2750	
5/23/2016	2180		2990		3010		2760	
8/22/2016	2060		3350		2890		2990	
11/7/2016	1990		3240		2270		2760	
2/7/2017	1890		3150		2670		2580	
5/2/2017	2080		2880		2350		2500	
7/31/2017	1860		2920		2070		2170	
10/2/2017	2100		3190		2570		2900	
5/14/2018	1970		3110		2820		2550	
11/19/2018	4900		3160		2320		2410	
1/10/2019	1870							
5/21/2019	1870		2990		3270		2810	
7/15/2019					2680			
5/17/2021		1730		2600		2960		2770

Within Limit

Prediction Limit  
Intrawell Non-parametric

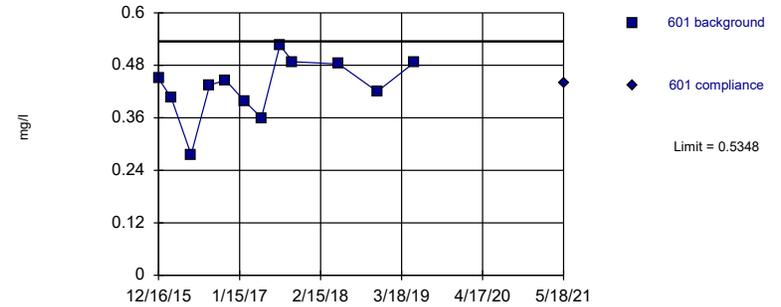


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 12 background values. 75% NDs. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Fluoride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

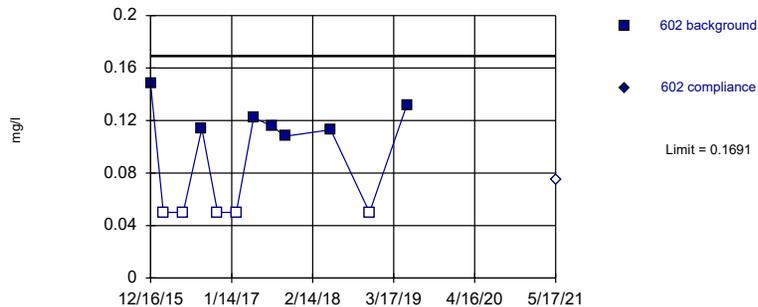


Background Data Summary: Mean=0.4313, Std. Dev.=0.06712, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9364, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

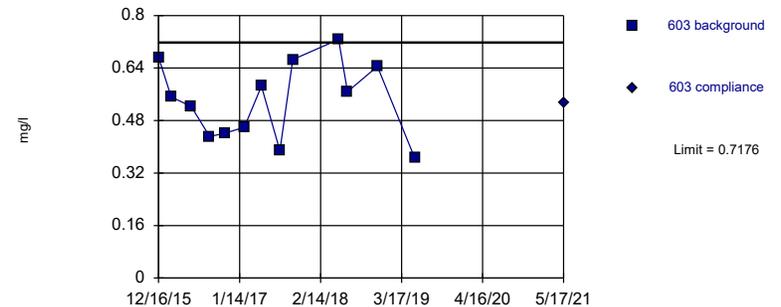


Background Data Summary (after Aitchison's Adjustment): Mean=0.07108, Std. Dev.=0.06358, n=12, 41.67% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8063, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.5403, Std. Dev.=0.1171, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9546, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

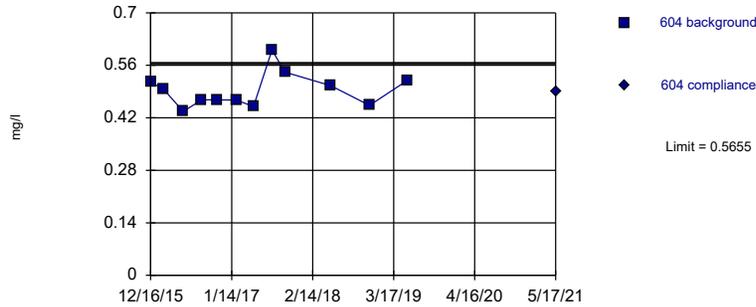
# Prediction Limit

Constituent: Fluoride Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	506	506	601	601	602	602	603	603
12/16/2015	0.12		0.45		0.148		0.673	
2/16/2016	<0.1		0.406		<0.1		0.552	
5/23/2016	<0.1		0.276		<0.1		0.523	
8/22/2016	<0.1		0.435		0.114		0.431	
11/7/2016					<0.1		0.442	
11/8/2016	<0.1		0.446					
2/7/2017	<0.1		0.399		<0.1		0.459	
5/1/2017	<0.1							
5/2/2017			0.36		0.122		0.585	
7/31/2017	<0.1		0.526		0.116		0.388	
10/2/2017	<0.1		0.488		0.108		0.666	
5/14/2018	<0.1		0.483		0.113		0.727	
6/26/2018							0.568	
11/19/2018	0.111		0.42		<0.1		0.645	
5/21/2019	0.108		0.487		0.132		0.365	
5/17/2021						<0.15		0.535
5/18/2021		<0.15		0.439				

Within Limit

Prediction Limit  
Intrawell Parametric

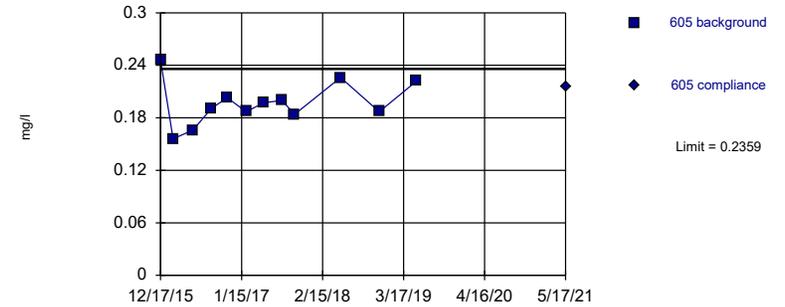


Background Data Summary: Mean=0.4936, Std. Dev.=0.04663, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9142, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

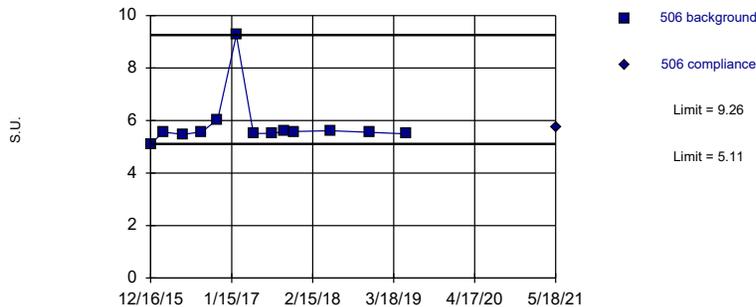


Background Data Summary: Mean=0.1971, Std. Dev.=0.02515, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9677, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limits

Prediction Limit  
Intrawell Non-parametric

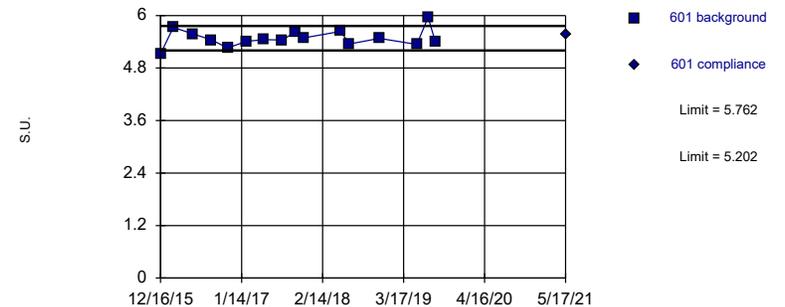


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 13 background values. Well-constituent pair annual alpha = 0.007539. Individual comparison alpha = 0.003773 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limits

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=5.482, Std. Dev.=0.1956, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9558, critical = 0.844. Kappa = 1.43 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

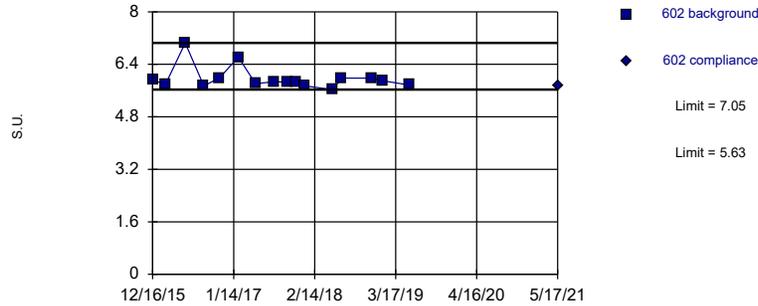
# Prediction Limit

Constituent: Fluoride, pH Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	604	604	605	605	506	506	601	601
12/16/2015	0.515				5.11		5.12	
12/17/2015			0.246					
2/16/2016	0.497		0.156		5.56		5.73	
5/23/2016	0.437		0.166		5.47		5.58	
8/22/2016	0.468		0.191		5.57		5.44	
11/7/2016	0.468		0.203					
11/8/2016					6.04		5.26	
2/7/2017	0.467		0.187		9.26		5.41	
5/1/2017					5.51			
5/2/2017	0.45		0.197				5.45	
7/31/2017	0.601		0.2		5.51		5.44	
10/2/2017	0.542		0.184		5.59		5.61	
11/15/2017					5.58		5.49	
5/14/2018	0.506		0.226		5.61		5.64	
6/26/2018							5.35	
11/19/2018	0.453		0.187		5.55		5.48	
5/21/2019	0.519		0.222		5.49		5.34	
7/15/2019							5.96	
8/19/2019							5.41	
5/17/2021		0.491		0.216				5.56
5/18/2021						5.73		

Within Limits

### Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 16 background values. Well-constituent pair annual alpha = 0.004102. Individual comparison alpha = 0.002052 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limits

### Prediction Limit Intrawell Non-parametric

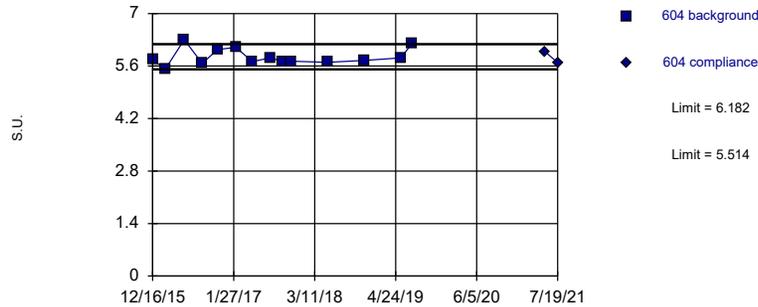


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 17 background values. Well-constituent pair annual alpha = 0.003639. Individual comparison alpha = 0.00182 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limits

### Prediction Limit Intrawell Parametric

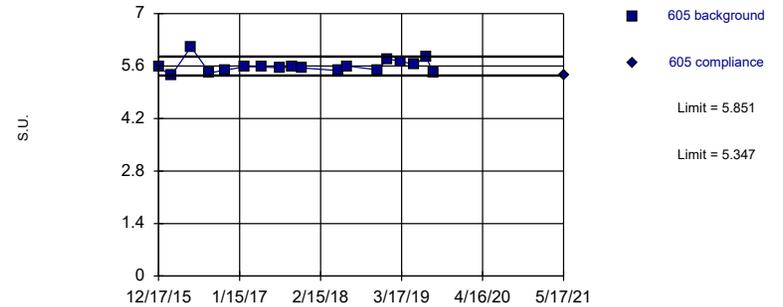


Background Data Summary: Mean=5.848, Std. Dev.=0.2249, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8937, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limits

### Prediction Limit Intrawell Parametric



Background Data Summary: Mean=5.599, Std. Dev.=0.1804, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8888, critical = 0.858. Kappa = 1.396 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

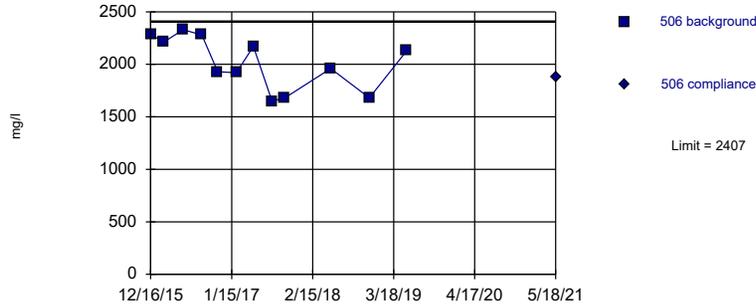
# Prediction Limit

Constituent: pH Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
 Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	602	602	603	603	604	604	605	605
12/16/2015	5.93		4.58		5.79			
12/17/2015							5.57	
2/16/2016	5.78		4.29		5.51		5.34	
5/23/2016	7.05		4.98		6.3		6.11	
8/22/2016	5.74		4.65		5.67		5.42	
11/7/2016	5.99		4.48		6.04		5.49	
2/7/2017	6.62		4.44		6.1		5.58	
5/2/2017	5.81		4.6		5.72		5.58	
7/31/2017	5.87		5.13		5.82		5.55	
10/2/2017	5.86		4.48		5.72		5.58	
11/15/2017	5.87		4.44		5.73		5.55	
12/29/2017	5.74		4.43					
5/14/2018	5.63		4.45		5.7		5.48	
6/26/2018	5.98		4.44				5.6	
11/19/2018	5.98		4.48		5.75		5.5	
1/10/2019	5.9						5.79	
3/13/2019							5.73	
5/21/2019	5.77		4.32		5.82		5.64	
7/15/2019			5.13		6.2		5.85	
8/19/2019			4.46				5.42	
5/17/2021		5.76		4.6		5.98		5.36
7/19/2021						5.69		

Within Limit

Prediction Limit  
Intrawell Parametric

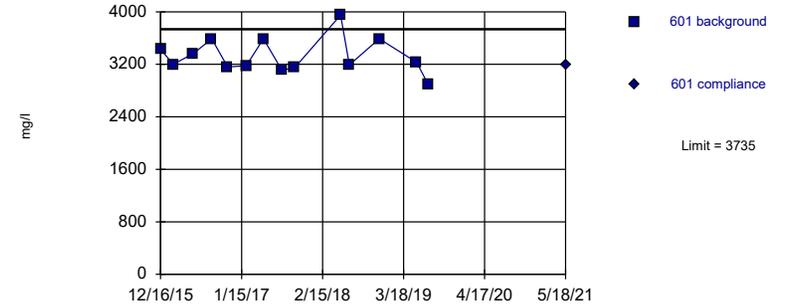


Background Data Summary: Mean=2019, Std. Dev.=251.7, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8935, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

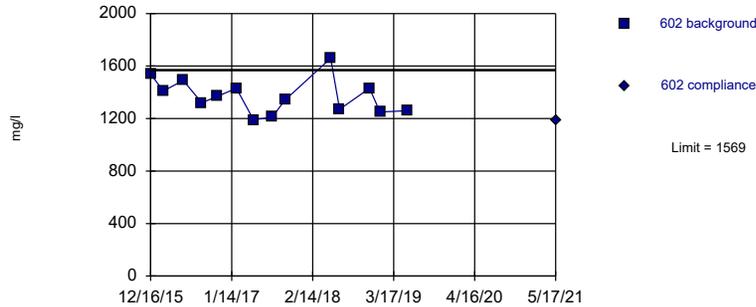


Background Data Summary: Mean=3331, Std. Dev.=272, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9196, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric

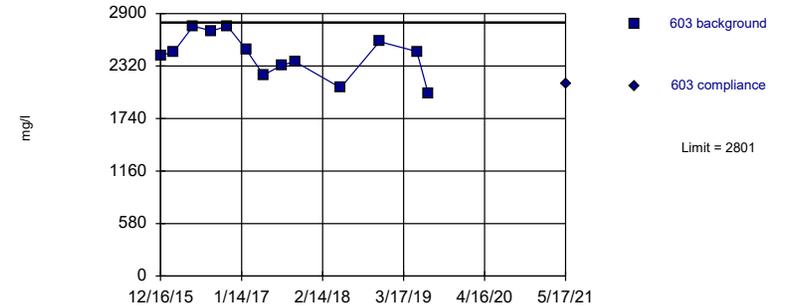


Background Data Summary: Mean=1369, Std. Dev.=134.2, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.956, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=2441, Std. Dev.=237.6, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9483, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 9/13/2021 2:05 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

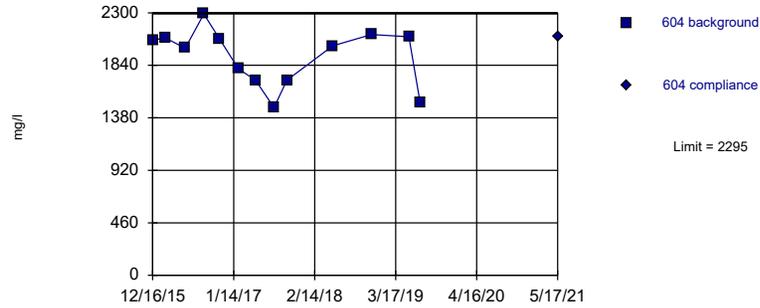
# Prediction Limit

Constituent: Sulfate Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	506	506	601	601	602	602	603	603
12/16/2015	2290		3430		1540		2440	
2/16/2016	2210		3200		1410		2470	
5/23/2016	2330		3360		1490		2760	
8/22/2016	2280		3590		1320		2710	
11/7/2016					1370		2760	
11/8/2016	1930		3160					
2/7/2017	1920		3180		1430		2500	
5/1/2017	2170							
5/2/2017			3590		1190		2220	
7/31/2017	1650		3110		1210		2330	
10/2/2017	1680		3150		1340		2370	
5/14/2018	1960		3950		1660		2080	
6/26/2018			3190		1270			
11/19/2018	1680		3590		1430		2590	
1/10/2019					1250			
5/21/2019	2130		3230		1260		2480	
7/15/2019			2900				2020	
5/17/2021						1190		2130
5/18/2021		1880		3200				

Within Limit

Prediction Limit  
Intrawell Parametric

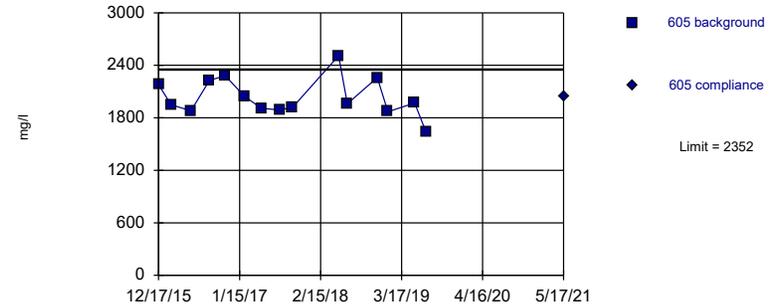


Background Data Summary: Mean=1916, Std. Dev.=250.6, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9059, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 9/13/2021 2:06 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=2033, Std. Dev.=218.7, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9344, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 9/13/2021 2:06 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

# Prediction Limit

Constituent: Sulfate Analysis Run 9/13/2021 2:40 PM View: LF CCR III  
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	604	604	605	605
12/16/2015	2060			
12/17/2015			2180	
2/16/2016	2080		1950	
5/23/2016	1990		1880	
8/22/2016	2290		2230	
11/7/2016	2070		2280	
2/7/2017	1810		2050	
5/2/2017	1710		1910	
7/31/2017	1470		1890	
10/2/2017	1710		1920	
5/14/2018	2010		2510	
6/26/2018			1960	
11/19/2018	2110		2260	
1/10/2019			1870	
5/21/2019	2090		1970	
7/15/2019	1510		1640	
5/17/2021		2090		2040

# Prediction Limit

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose Printed 9/13/2021, 2:40 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/l)	506	0.2	n/a	5/18/2021	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/l)	601	0.203	n/a	5/18/2021	0.1ND	No	12	91.67	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/l)	602	5.168	n/a	5/17/2021	4.17	No	12	0	No	0.00188	Param Intra 1 of 3
Boron (mg/l)	603	7.275	n/a	5/17/2021	6.22	No	13	0	No	0.00188	Param Intra 1 of 3
Boron (mg/l)	604	5.376	n/a	5/17/2021	5.32	No	12	0	No	0.00188	Param Intra 1 of 3
Boron (mg/l)	605	2.045	n/a	5/17/2021	1.54	No	12	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	506	442.8	n/a	5/18/2021	375	No	13	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	601	507.3	n/a	5/18/2021	466	No	14	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	602	379.5	n/a	5/17/2021	311	No	14	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	603	466	n/a	5/17/2021	403	No	15	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	604	478	n/a	7/19/2021	432	No	14	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	605	445.2	n/a	5/17/2021	420	No	15	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	506	91.58	n/a	5/18/2021	91.3	No	13	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	601	56.49	n/a	5/18/2021	48.6	No	15	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	602	5.212	n/a	5/17/2021	3.95	No	15	0	sqrt(x)	0.00188	Param Intra 1 of 3
Chloride (mg/l)	603	8.511	n/a	5/17/2021	6.17	No	15	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	604	15.28	n/a	7/19/2021	14.7	No	14	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	605	55.57	n/a	5/17/2021	52.5	No	17	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	506	3374	n/a	5/18/2021	2800	No	12	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	601	4871	n/a	5/18/2021	4650	No	12	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	602	4900	n/a	5/17/2021	1730	No	13	0	n/a	0.001886	NP Intra (normality) ...
Dissolved Solids (mg/l)	603	3310	n/a	5/17/2021	2600	No	12	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	604	3150	n/a	5/17/2021	2960	No	13	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	605	3020	n/a	5/17/2021	2770	No	12	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	506	0.12	n/a	5/18/2021	0.075ND	No	12	75	n/a	0.002173	NP Intra (NDs) 1 of 3
Fluoride (mg/l)	601	0.5348	n/a	5/18/2021	0.439	No	12	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	602	0.1691	n/a	5/17/2021	0.075ND	No	12	41.67	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	603	0.7176	n/a	5/17/2021	0.535	No	13	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	604	0.5655	n/a	5/17/2021	0.491	No	12	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	605	0.2359	n/a	5/17/2021	0.216	No	12	0	No	0.00188	Param Intra 1 of 3
pH (S.U.)	506	9.26	5.11	5/18/2021	5.73	No	13	0	n/a	0.003773	NP Intra (normality) ...
pH (S.U.)	601	5.762	5.202	5/17/2021	5.56	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	602	7.05	5.63	5/17/2021	5.76	No	16	0	n/a	0.002052	NP Intra (normality) ...
pH (S.U.)	603	5.13	4.29	5/17/2021	4.6	No	17	0	n/a	0.00182	NP Intra (normality) ...
pH (S.U.)	604	6.182	5.514	7/19/2021	5.69	No	14	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	605	5.851	5.347	5/17/2021	5.36	No	18	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/l)	506	2407	n/a	5/18/2021	1880	No	12	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	601	3735	n/a	5/18/2021	3200	No	14	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	602	1569	n/a	5/17/2021	1190	No	14	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	603	2801	n/a	5/17/2021	2130	No	13	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	604	2295	n/a	5/17/2021	2090	No	13	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	605	2352	n/a	5/17/2021	2040	No	15	0	No	0.00188	Param Intra 1 of 3

Montrose Generating Station  
Determination of Statistically Significant Increases  
CCR Landfill  
October 5, 2021

## **ATTACHMENT 2**

### **Sanitas™ Configuration Settings**

Exclude data flags:

Data Reading Options

- Individual Observations
- Mean of Each:  Month
- Median of Each:  Season

Automatically Process Resamples...

- Black and White Output
- Four Plots Per Page
  - Always Combine Data Pages...
  - Include Tick Marks on Data Page
  - Use Constituent Name for Graph Title
- Draw Border Around Text Reports and Data Pages
- Enlarge/Reduce Fonts (Graphs):
- Enlarge/Reduce Fonts (Data/Text Reports):
- Wide Margins (on reports without explicit setting)
- Use CAS# (Not Const. Name)
- Truncate File Names to  Characters
- Include Limit Lines when found in Database...
- Show Deselected Data on Time Series  ▾
- Show Deselected Data on all Data Pages  ▾

- Prompt to Overwrite/Append Summary Tables
- Round Limits to  Sig. Digits (when not set in data file)
- User-Set Scale
- Indicate Background Data
- Show Exact Dates
- Thick Plot Lines

Zoom Factor:  ▾

- Output Decimal Precision
- Less Precision
  - Normal Precision
  - More Precision

Store Print Jobs in Multiple Constituent Mode

Printer:  ▾

Use Modified Alpha...

Test Residuals For Normality (Parametric test only)  at Alpha = 0.01

Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

- Use Ladder of Powers
- Natural Log or No Transformation
- Never Transform
- Use Specific Transformation:

- Use Best W Statistic
- Plot Transformed Values

Use Non-Parametric Test (Sen's Slope/Mann-Kendall) when Non-Detects Percent >

Include  % Confidence Interval around Trend Line

Automatically Remove Outliers (Parametric test only)

Note: there is no "Always Use Non-Parametric" checkbox on this tab because, for consistency with prior versions, Sen's Slope / Mann-Kendall (the non-parametric alternative) is available as a report in its own right, under Analysis->Intrawell->Trend.

Test for Normality using Shapiro-Wilk/Francia at Alpha = 0.01

Use Non-Parametric Test when Non-Detects Percent > 50

Use Aitchison's Adjustment when Non-Detects Percent > 15

Optional Further Refinement: Use Aitchison's when NDs % > 50

Use Poisson Prediction Limit when Non-Detects Percent > 90

Transformation

Use Ladder of Powers

Natural Log or No Transformation

Never Transform

Use Specific Transformation: Natural Log

Use Best W Statistic

Plot Transformed Values

Deseasonalize (Intra- and InterWell)

If Seasonality Is Detected

If Seasonality Is Detected Or Insufficient to Test

Always (When Sufficient Data)  Never

Always Use Non-Parametric

Facility

Statistical Evaluations per Year:

Constituents Analyzed:

Downgradient (Compliance) Wells:

Sampling Plan

Comparing Individual Observations

1 of 1  1 of 2  1 of 3  1 of 4

2 of 4 ("Modified California")

IntraWell Other

Stop if Background Trend Detected at Alpha = 0.05

Plot Background Data

Override Standard Deviation:

Override DF:  Override Kappa:

Automatically Remove Background Outliers

2-Tailed Test Mode...

Show Deselected Data Lighter

Non-Parametric Limit = Highest Background Value

Non-Parametric Limit when 100% Non-Detects:

Highest/Second Highest Background Value

Most Recent PQL if available, or MDL

Most Recent Background Value (subst. method)

Rank Von Neumann, Wilcoxon Rank Sum / Mann-Whitney

- Use Modified Alpha...
- 2-Tailed Test Mode...
- Combine Background Wells on Mann-Whitney...

Outlier Tests

- EPA 1989 Outlier Screening (fixed alpha of 0.05)
- Dixon's at  $\alpha=$   or if  $n >$   Rosner's at  $\alpha=$    Use EPA Screening to establish Suspected Outliers
- Tukey's Outlier Screening, with IQR Multiplier =   Use Ladder of Powers to achieve Best W Stat
- Test For Normality  at Alpha = 
  - Stop if Non-Normal
  - Continue with Parametric Test if Non-Normal
  - Tukey's if Non-Normal, with IQR Multiplier =   Use Ladder of Powers to achieve Best W Stat
- No Outlier If Less Than  Times Median
- Apply Rules found in Ohio Guidance Document 0715
- Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

- Combine Wells  Label Constituents
- Combine Dates  Label Axes
- Use Default Constituent Names  Note Cation-Anion Balance (Piper only)
- Use Constituent Definition File

Jared Morrison  
December 20, 2022

**ATTACHMENT 3**  
**Groundwater Potentiometric Surface Maps**



**LEGEND:**

- CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
- MW-506 (747.77) CCR GROUNDWATER MONITORING WELL SYSTEM
- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FT/YR)

**NOTES:**

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. DRONE IMAGE BY EVERGY, DATED DECEMBER 3, 2021.
4. APPROXIMATE BOUNDARY LOCATIONS PROVIDED BY AECOM.
5. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 17 AND 18, 2021.



REV.	DATE	BY
1		
2		
3		
4		
5		

**SHEET TITLE**  
**POTENTIOMETRIC SURFACE MAP**  
**CCR LANDFILL (MAY 2021)**

**PROJECT TITLE**  
**2021 GROUNDWATER MONITORING AND**  
**CORRECTIVE ACTION REPORT ADDENDUM**

**CLIENT**  
**EVERGY METRO, INC.**  
**MONTROSE GENERATING STATION**  
**MONTROSE, MISSOURI**

**SCS ENGINEERS**  
 ENVIRONMENTAL CONSULTANTS AND CONTRACTORS  
 8575 W. 110th St. Ste. 100  
 Overland Park, KS 66210  
 PH: (913) 681-0030 FAX: (913) 681-0012

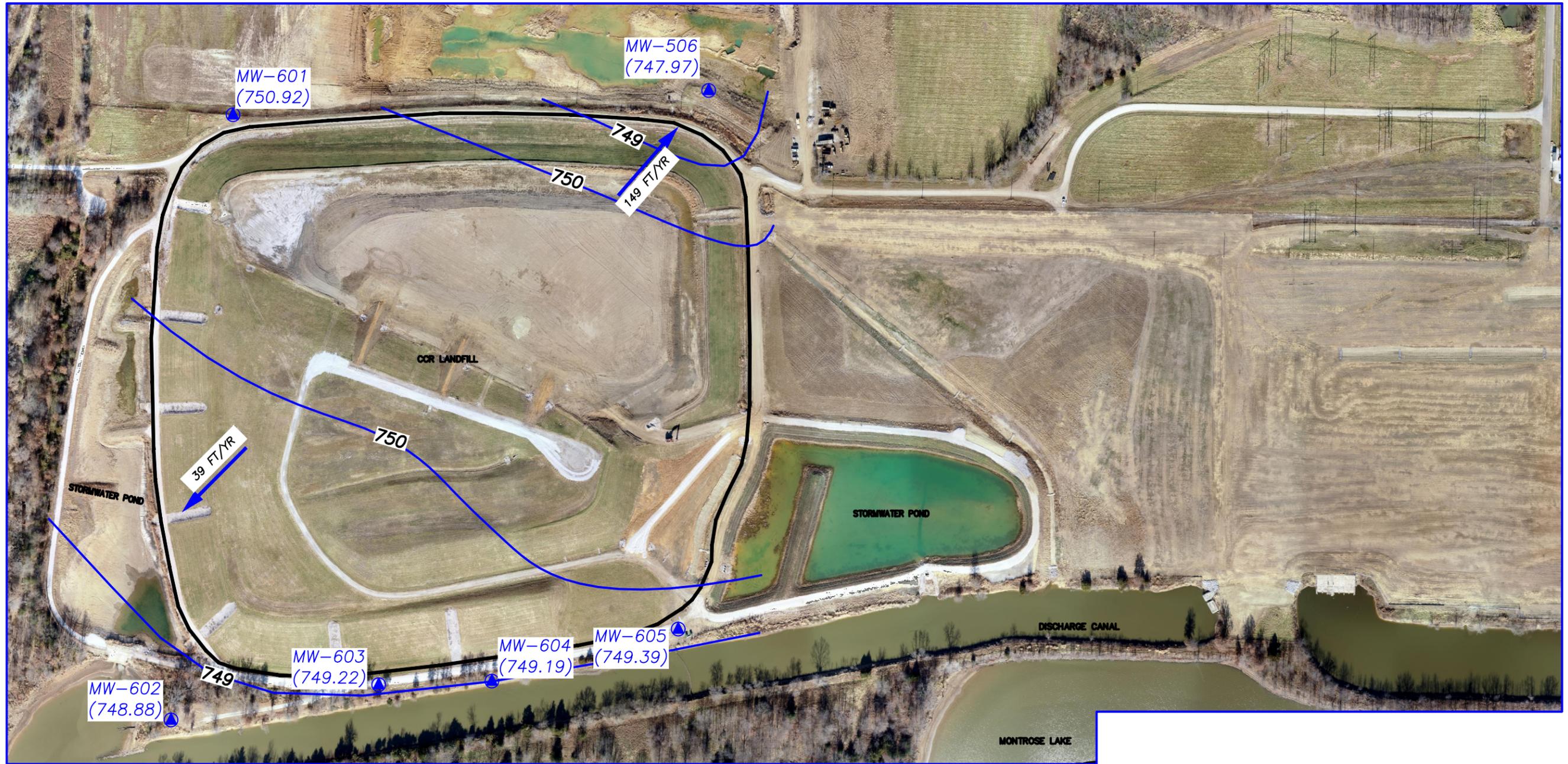
PROJ. NO.	27213168.20	DWN. BY:	ALR	Q/A R/W BY:	JRR
DSN. NO.	27213168.20	CHK. BY:	ALR	PROJ. MGR:	JRR

CADD FILE:  
 27213168.20\_P102\_MAY2021\_V2.DWG

DATE:  
 12/19/2022

FIGURE NO.  
**2**

N:\KCP\PROJECTS\GROUNDWATER\WG\MONTROSE\2021\ANNUAL\27213168.20\_FIG2\_MAY2021\_V2.DWG



**LEGEND:**

-  CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
-  CCR GROUNDWATER MONITORING WELL SYSTEM
-  GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
-  GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FT/YR)

**NOTES:**

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. DRONE IMAGE BY EVERGY, DATED DECEMBER 3, 2021.
4. APPROXIMATE BOUNDARY LOCATIONS PROVIDED BY AECOM.
5. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 16, 2021.



REV.	DATE	BY
1		
2		
3		
4		
5		

**SHEET TITLE**  
**POTENTIOMETRIC SURFACE MAP**  
**CCR LANDFILL (NOVEMBER 2021)**

**PROJECT TITLE**  
**2021 GROUNDWATER MONITORING AND**  
**CORRECTIVE ACTION REPORT ADDENDUM**

**CLIENT**

**EVERGY METRO, INC.**  
**MONTROSE GENERATING STATION**  
**MONTROSE, MISSOURI**

**SCS ENGINEERS**  
 ENVIRONMENTAL CONSULTANTS AND CONTRACTORS  
 8575 W. 110th St., Ste. 100  
 Overland Park, KS 66210  
 PH: (813) 681-0030 FAX: (813) 681-0012

PROJ. NO. 27213168.20	DWN. BY ALR	Q/A RWV BY JRR
DSN. BY ALR	CHK. BY JRR	PROJ. MGR JRF

CADD FILE:  
27213168.20\_NOVEMBER 2021\_V1.DWG

DATE:  
12/19/2022

FIGURE NO.  
**3**

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