2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CCR LANDFILL AND LOWER AQC IMPOUNDMENT
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

Presented To:
Evergy Metro, Inc.

SCS ENGINEERS

27217233.21 | January 2022, Revised October 2022

8575 W 110th Street, Suite 100
Overland Park, Kansas 66210
913-681-0030

CERTIFICATIONS

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

John R. Rockhold, P.G.

SCS Engineers

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

Douglas L. Doerr, P.E.

SCS Engineers

Revision Number	Revision Date	Revision Sections	Summary of Revisions
0	January 2022	NA	Original
1	October 2022	Section 2.0	Added Section 2.0 Background Added Section 2.1 Geologic and Hydrogeologic Setting Added Section 2.2 CCR Rule Monitoring System
		Addendum 1	Added Addendum 1

Table of Contents

Section **Page**

Appendices

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 and Lower AQC Impoundment at the La Cygne 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 and Lower AQC Impoundment were 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 and Lower AQC Impoundment were 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
Spring 2021	MW-14R	Chloride	Successful
Spring 2021	MW-803	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 BACKGROUND

To further characterize the on-site hydro-geological conditions, the following background information is provided in this section of the report:

- Geologic and hydrogeologic setting
- CCR Rule monitoring system

The site geology and hydrogeology was characterized by AECOM in the "*Detailed Hydrogeologic Site Characterization Report*" (DSI) prepared in October 2017 (AECOM, 2017). As described in the characterization report, the generalized geology underlying the CCR Landfill and Lower AQC Impoundment includes the following, from the surface down:

1. Native residual clay with some discrete sand beds or lenses (semi confining to confining unit)
2. Unsaturated or relatively low-yielding shale (semi-confining to confining unit)
3. Saturated unweathered to highly weathered shale (Holdenville Shale) with relatively higher permeability (uppermost aquifer)
4. Relatively unweathered lower permeability shale with sparse limestone and coal units interbedded (lower confining bedrock unit)

2.1 GEOLOGIC AND HYDROGEOLOGIC SETTING

2.1.1 Overlying Geologic Units

The material overlying the aquifer beneath the CCR Landfill and Lower AQC Impoundment is primarily unconsolidated clay materials and unsaturated heterogeneous shale bedrock. The uppermost aquifer consists of saturated relatively higher permeable zones within the heterogeneous shale bedrock.

2.1.1.1 Unconsolidated Materials

The unconsolidated overburden material is primarily stiff to very stiff, low to high plastic clay, silty clays, and some clayey sand or sandy clay. Some borings also encountered surficial fill material at several locations on site. The thickness of the clay ranges from approximately 10 to 35 ft., depending on the ground surface elevation and the thickness of the overlying fill. The vertical hydraulic conductivity of the clay unit was measured by conducting falling head permeability laboratory tests from representative samples collected from within the clay unit. The results of these tests indicated a calculated hydraulic conductivity range of 5.7×10^{-07} to 1.4×10^{-05} cm/sec, as summarized in the table below. The porosity of the clay unit is estimated to be 34 - 60%, and the effective porosity of the clay unit is estimated to be 1 - 20%, based on accepted literature values after Domenico and Schwartz, 1990.

2.1.1.2 Bedrock

As stated above, the uppermost aquifer consists of saturated, relatively higher permeable zones within the heterogeneous shale bedrock. Overlying the uppermost aquifer, there is unsaturated or relatively low yielding heterogeneous shale bedrock. The bedrock as a whole is predominantly heterogeneous shale with thin interbedded sandstone and/or limestone and/or coal at some locations. Lateral facies changes and vertical gradational changes are common and limit lateral

correlation between borings. Overall, the shale is described as moderate to highly plastic with calcareous and sandy zones varying from brown and weathered to gray and unweathered.

The thickness of the unsaturated or relatively low yielding heterogeneous shale bedrock overlying the uppermost aquifer ranges from approximately 5 to 25 ft., depending on the depth of the overlying clay or fill. The vertical hydraulic conductivity of the shale bedrock was not directly measured. However, based on it being unsaturated or relatively low yielding, the vertical hydraulic conductivity is estimated to be as low as or lower than that of the overlying clay. Therefore, it is likely less than the clay range of 5.7×10^{-07} to 1.4×10^{-05} cm/sec and possibly as low as the range identified for shale within the literature, 1×10^{-11} to 2×10^{-07} cm/sec. The porosity of the shale is estimated to be 1 - 10%, and the effective porosity is estimated to be 0.5 - 5%, based on accepted literature values after Domenico and Schwartz, 1990.

2.1.2 Aquifer Characterization

Based on the site characterization activities, the uppermost aquifer beneath the CCR Landfill and Lower AQC Impoundment consists of select saturated zones within the heterogeneous shale bedrock that have relatively higher permeability than the shale above and below it. It is probable that the relatively higher permeability zones are the calcareous and sandy zones or undifferentiated limestone or sandstone interbeds. It is believed that these zones are the primary groundwater-bearing strata and the uppermost aquifer. These zones were identified through drilling observations and installation and testing of piezometer clusters at multiple locations. Although all the piezometers were low-yielding, the piezometers that intercepted the higher-yielding productive zones were selected as most closely satisfying the definition of the uppermost aquifer below the CCR unit.

The uppermost aquifer is a confined and/or locally semi-confined aquifer believed to be roughly 5- to 10-ft thick. The hydraulic conductivity of the aquifer was measured by conducting hydraulic slug tests, which indicated an estimated hydraulic conductivity range of 6.3×10^{-05} cm/sec to 1.0×10^{-04} cm/sec. However, these values are higher than would be expected based on the overall low-yield nature of the aquifer and the hydraulic conductivity could be less than reported. The porosity and effective porosity of the aquifer has been estimated, and evidence indicates it is greater than the overlying and underlying shale and likely greater than the overlying clay. The estimated seepage velocity of the aquifer based on the above hydraulic conductivity and an estimated effective porosity of 5 percent ranges from about 6.3×10^{-06} to 1.0×10^{-05} cm/sec.

Based on the water level measurements in temporary piezometers and monitoring wells, the groundwater flow direction is predominantly west-southwest toward La Cygne Lake. However, flow under the northern portion of the CCR Landfill appears to be to the southeast prior to turning and flowing to the southwest. Flow beneath the central eastern portion of the CCR Landfill has northwest, west and southwest components to the overall west-southwest flow direction.

2.1.3 Lower Boundary Confining Geologic Unit

The lower boundary confining geologic unit is the relatively lower permeability shale bedrock below the uppermost aquifer as defined above. Based on boring logs, shale is present below the uppermost aquifer at the CCR Landfill and Lower AQC Impoundment. The thickness of the shale unit is at least 15 to 20 feet, based on several boring logs and piezometer installations. The hydraulic conductivity is estimated to range from 1×10^{-11} to 2×10^{-07} cm/sec and the porosity and effective porosity are estimated to range from 1 10% and 0.5 – 5%, respectively, based on accepted literature values for shale after Walton, 1970 and 1988, and Domenico and Schwartz, 1990.

2.1.4 Characteristics of Geologic Units

A summary table of the geologic units including the estimated or calculated hydraulic conductivities, porosities, and effective porosities for each geologic unit encountered at the CCR Landfill and Lower AQC Impoundment is provided below.

Unit	Classification / Lithology	Hydraulic Conductivity(1)	Porosity(2)	Effective Porosity(2)
Overlying Unconsolidated Geologic Unit	Low to High Plastic Clay	5.7 x 10^{-07} to 1.4 x 10^{-05} cm/s(1	34 – 60%	1 – 20%(2)
Unsaturated or Relatively Low-Yielding Bedrock Upper Confining or Semi-Confining Unit	Unweathered to Weathered Heterogeneous Shale	1 x 10^{-11} to 2 x 10^{-07} cm/s)	1 – 10%	0.5 – 5
Saturated Relatively High-Yielding Bedrock Aquifer	Unweathered to Weathered Heterogeneous Shale	6.3 x 10^{-05} to 1.0 x 10^{-04} cm/s	Greater than overlying and underlying units	Greater than overlying and underlying units
Bedrock Lower Confining Unit	Unweathered Heterogeneous Shale	1 x 10^{-11} to 2 x 10^{-07} cm/s	1 – 10%(2)	0.5 – 5

Notes: (1) Hydraulic Conductivities of the clay are from laboratory permeability tests; hydraulic conductivities of the aquifer are from slug tests; hydraulic conductivities of the upper and lower confining unit shale were chosen based on literature values after Domenico and Schwartz, 1990.

(2) Porosities and effective porosities chosen based on literature values after Walton, 1970 and 1988, and Domenico and Schwartz, 1990.

In summary, based on the site characterization, the CCR Landfill and Lower AQC Impoundment is underlain by low permeability unconsolidated materials and heterogeneous shale bedrock with relatively higher permeability zones believed to be calcareous and sandy zones or undifferentiated limestone or sandstone interbeds. The uppermost aquifer is identified as the relatively higher permeability saturated zone within the heterogeneous shale bedrock, which is relatively higher yielding. The aquifer appears to be approximately 5- to 10-ft thick and locally semi-confined to confined by relatively lower permeability residual clay and shale bedrock acting as the upper confining unit, and a relatively lower permeability primarily shale bedrock on the bottom. The difference in the hydraulic conductivity between the aquifer and the confining units is estimated to be approximately two to seven orders of magnitude.

2.2 CCR RULE MONITORING SYSTEM

A multiunit, eleven well groundwater monitoring system is used to monitor the CCR Landfill and Lower AQC Impoundment. The groundwater monitoring system consists of four upgradient wells and seven downgradient wells. A site map with an aerial image showing the CCR Landfill and Lower AQC Impoundment and compliance monitoring wells with identification numbers for the CCR Landfill and Lower AQC Impoundment groundwater monitoring program is provided as **Figure 1** in **Appendix A.** The CCR Landfill and Lower AQC Impoundment are two separate CCR units that are monitored with one monitoring system due to their close proximity and configuration relative to groundwater flow. The CCR Landfill and the Lower AQC Impoundment are separated by a narrow surface water run-on/off control berm that runs nearly perpendicular to groundwater flow. Groundwater passing the boundary of the CCR Landfill flows beneath the Lower AQC

Impoundment. The multiunit system was designed to detect monitored constituents at the downgradient waste boundary of the combined area of the CCR Landfill and Lower AQC Impoundment.

Potentiometric surface maps for the uppermost aquifer indicating the groundwater flow direction beneath the CCR Landfill and Lower AQC Impoundment for May 2021 and November 2021 are provided as **Figure 2** and **Figure 3,** respectively**,** in **Appendix A**.. It should be noted that because of the semi-confined to confined aquifer conditions, the potentiometric surface map is not representative of the top of groundwater in the aquifer. The top of groundwater in the aquifer is the same as the contact between the top of the aquifer material and the bottom of the upper confining unit.

Although groundwater levels measured in the wells may extend up and into the low permeability shale and clay, the measured groundwater level is believed to be representative of the potentiometric head and not the water table elevation. None of the boring logs from the AECOM site characterization noted encountering groundwater during drilling. However, several boring logs from previous investigations by Woodward-Clyde and URS in 1978, 1979, 1981, 2005, and 2010 noted encountering groundwater at greater depths (or lower elevations) during drilling and then the groundwater rising in the borehole, piezometer, or well to higher elevations. For one of the wells, groundwater was even noted as rising above ground surface within the PVC well casing. This rise of groundwater in the well above the elevations where it was encountered during drilling and above the screen interval to elevations within the low permeability shale and clay, indicates semi-confining to confining conditions and represents the potentiometric head of the aquifer and not the water table.

Based on review of the historic topographic map of the area prior to the station being constructed, the base of the impoundment ranges from approximately 850 feet MSL to the east and 830 feet MSL to the west. A review of hydrostratigraphic cross sections in the AECOM characterization report indicate the maximum uppermost aquifer elevation beneath the impoundment is approximately 840 feet MSL to the east and approximately 813 feet MSL to the west. Based on this review, the base of the CCR Landfill and Lower AQC Impoundment appears to be approximately 10 feet above the upper limit of the uppermost aquifer, therefore the base of the CCR Landfill and Lower AQC Impoundment was constructed no less than five feet above the upper limit of the uppermost aquifer.

3 § 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:*

3.1 § 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 Lower AQC Impoundment and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR Landfill and Lower AQC Impoundment groundwater monitoring program is provided as **Figure 1** in **Appendix A**.

3.2 § 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 and Lower AQC Impoundment in 2021.

3.3 § 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 Fall 2020 semiannual detection monitoring event verification sample data collected and analyzed in 2021; Spring 2021 semiannual detection monitoring data, verification sample data; and, the initial Fall 2021 semiannual detection monitoring data. The

dates of sample collection and the monitoring program requiring the sample are also provided in these tables.

3.4 § 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 2021. Only detection monitoring was conducted in 2021.

3.5 § 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.

3.5.1 § 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 the Spring 2021 semiannual detection monitoring sampling and analysis event with subsequent verification sampling per the certified statistical method,

e. completion of the statistical evaluation of the Spring 2021 semiannual detection monitoring sampling and analysis event per the certified statistical method,

f. initiation of the Fall 2021 semiannual detection monitoring sampling and analysis event, and

g. completion of a successful alternative source demonstration for the Spring 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).

3.5.2 § 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.

3.5.3 § 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 report is included as **Appendix C:**

C.1 Groundwater Monitoring Alternative Source Demonstration Report May 2021 Groundwater Monitoring Event, CCR Landfill and Lower AQC Impoundment, La Cygne Generating Station (January 2022).

3.5.4 § 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.

3.5.5 § 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.

3.5.6 § 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.

3.5.7 § 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.

3.6 § 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.

4 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 La Cygne 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 La Cygne Generating Station CCR Landfill and Lower AQC Impoundment. 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)

LEGEND

CCR UNIT BOUNDARY
(APPROXIMATE LIMITS OF LOWER AQC IMPOUNDMENT)

MW-703 CCR GROUNDWATER MONITORING SYSTEM WELLS

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. DRONE IMAGE DATED JANUARY 2021. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.

800 0 800 1600

SCALE FEET

REV.	DATE	CK. BY
0	-	-
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SHEET TITLE
SITE MAP
CCR LANDFILL & LOWER AQC IMPOUNDMENT
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE
2021 CCR GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT
EVERGY METRO, INC
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO. 27217233.20
DSN. BY: ALR
DWN. BY: ALR
CHK. BY: JF
O/A RVW BY: JRR
PROJ. MGR: JRR

CADD FILE:
LA CYGNE FIG 1_NOVEMBER 2020 LOWER.DWG

DATE:
1/19/22

FIGURE NO.
1

LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UNIT)
- MW–703 (877.00) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- –875— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. DRONE IMAGE DATED JANUARY 2021. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.

800 0 800 1600

SCALE FEET

REV.	DATE	CK. BY
0	-	-
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (MAY 2021)

PROJECT TITLE
2021 CCR GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT
EVERGY METRO, INC
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

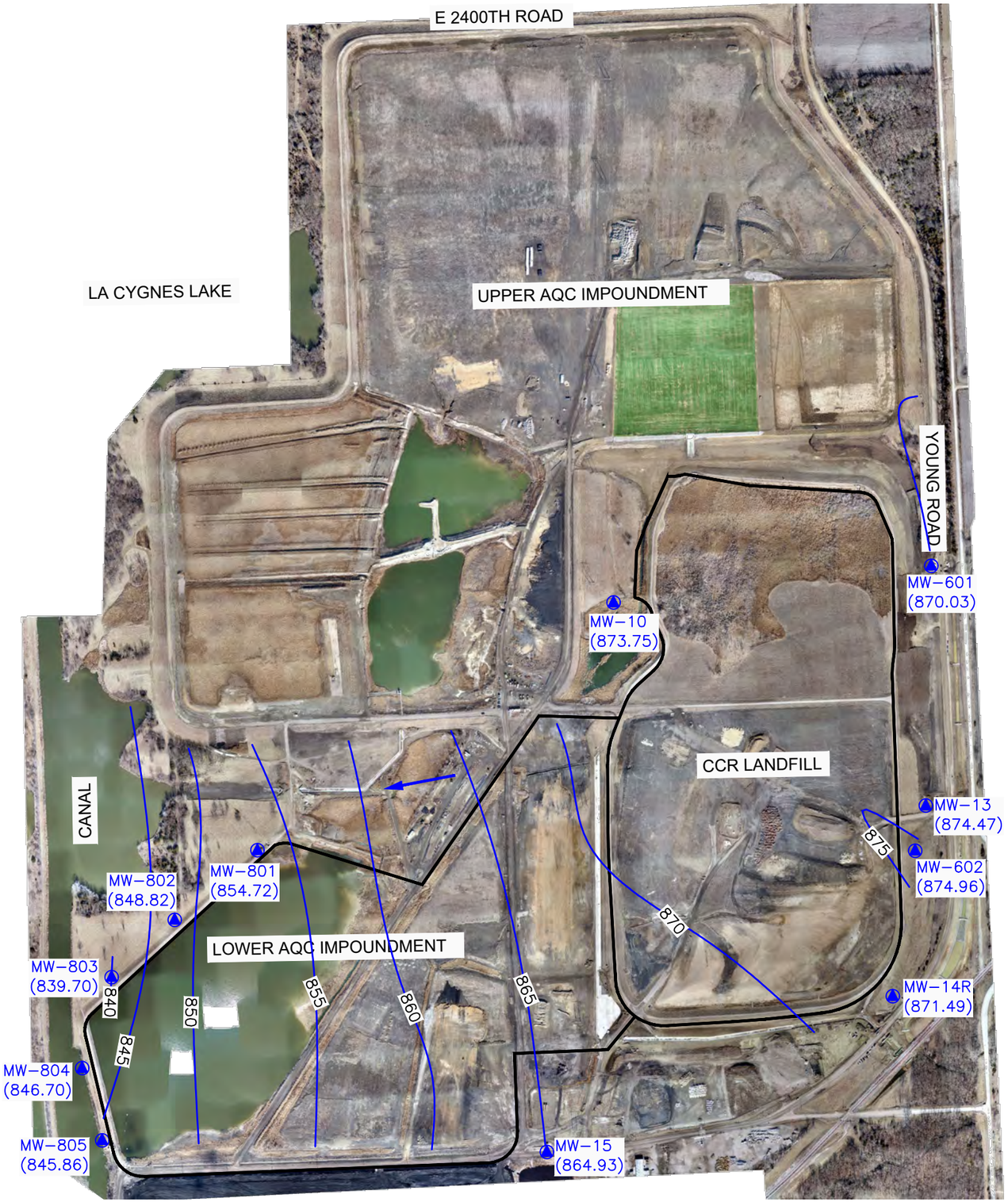
PROJ. NO.	DSN. BY:	O/A RVW BY:
27217233.21	MBJ	JRR
DSN. BY:	CHK. BY:	PROJ. MGR
DAW	JF	JRR

CADD FILE:
LA CYGNE LF LAQC IMP & UAQC FIG 1_MAY2021 V.3.DWG

DATE:
1/19/22

FIGURE NO.
2

N:\KCPL\Projects\Groundwater\DWG\La Cygne\2021\Alternative Source Demonstration\La Cygne LF LAQC Imp & UAQC Fig 1_MAY2021 v.3.dwg Jan 19, 2022 - 1:34pm Layout Name: Fig 1 Lower By: 4415alr



LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UPPER AQC IMPOUNDMENT)
- MW-703 (877.00) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- −875— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. DRONE IMAGE DATED JANUARY 2021. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 18, 2021.

800 0 800 1600

SCALE FEET

REV.	DATE	CK. BY
0	-	-
1	-	-
2	-	-
3	-	-
4	-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP (NOVEMBER 2021)
LAQC

PROJECT TITLE
2021 CCR GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT
EVERGY METRO, INC
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO.	DWN. BY:	C/A RVW BY:
27217233.20	MBJ	JRR
DSN. BY:	CHK. BY:	PROJ. MGR
DAW	JF	JRR

CADD FILE:
LA_CYGNE LF LAQC IMP & UAQC FIG 1_NOV_2021 - V2.DWG

DATE:
1/19/22

FIGURE NO.
3

N:\KCPL\Projects\Groundwater\DWG\La Cygne\2021\November 2021\La Cygne LF LAQC Imp & UAQC Fig 1_NOV_2021 - v2.dwg Jan 19, 2022 - 1:52pm Layout Name: Fig 1 Lower By: 4415alr

APPENDIX B

TABLES

Table 1: Appendix III Detection Monitoring Results

Table 2: Detection Monitoring Field Measurements

Table 1
CCR Landfill and Lower AQC Impoundment
Appendix III Detection Monitoring Results
Evergy La Cygne Generating Station

Well Number	Sample Date	Appendix III Constituents						
		Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	pH (S.U.)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-10	5/18/2021	0.839	51.0	50.6	0.419	7.34	14.7	559
MW-10	11/18/2021	0.781	48.6	50.3	0.327	7.22	7.03	542
MW-13	5/18/2021	0.345	385	19.0	<1.50	6.70	1810	2640
MW-13	11/18/2021	0.348	403	16.1	0.132 (J)	6.90	1710	2480
MW-14R	2/4/2021	---	---	*6.56	*0.291	*7.09	---	---
MW-14R	3/3/2021	---	---	*5.95	---	**7.78	---	---
MW-14R	5/18/2021	0.746	54.7	6.47	0.330	7.42	60.8	543
MW-14R	7/21/2021	---	---	*6.15	*0.302	**7.36	---	---
MW-14R	8/30/2021	---	---	*6.35	---	**7.69	---	---
MW-14R	11/18/2021	0.810	52.2	7.04	0.294	7.39	63.1	535
MW-15	5/18/2021	0.237	102	12.6	0.285	7.32	203	740
MW-15	11/18/2021	0.245	104	11.7	0.220	7.25	193	740
MW-601	2/4/2021	---	---	---	---	*8.14	*9.76	---
MW-601	3/3/2021	---	---	---	---	**7.88	*6.73	---
MW-601	5/18/2021	1.83	16.7	169	1.73	7.66	7.04	952
MW-601	7/21/2021	---	---	---	---	**7.73	*7.71	---
MW-601	8/30/2021	---	---	---	---	**7.96	*4.98 (J)	---
MW-601	11/18/2021	1.83	17.2	166	1.61	7.50	6.77	890
MW-602	2/4/2021	---	---	---	---	**7.87	*26.7	---
MW-602	5/18/2021	2.27	23.5	16.8	1.23	7.66	26.2	578
MW-602	11/18/2021	2.29	23.2	17.1	1.14	7.27	25.9	592
MW-801	5/18/2021	2.21	24.8	98.7	1.09	7.66	2.36 (J)	843
MW-801	11/18/2021	2.21	25.6	96.2	0.997	7.51	2.82 (J)	805
MW-802	5/18/2021	2.44	28.0	37.7	1.12	7.64	<5.00	684
MW-802	7/21/2021	---	---	---	*1.04	**7.35	---	---
MW-802	11/18/2021	2.46	28.0	39.6	0.904	7.42	<5.00	652
MW-803	5/18/2021	2.00	37.9	50.2	0.614	7.78	25.2	571
MW-803	7/21/2021	---	---	*51.1	---	**7.44	---	---
MW-803	8/30/2021	---	---	*50.1	---	**7.41	---	---
MW-803	11/18/2021	2.07	40.0	51.0	0.531	7.42	27.2	594
MW-804	5/18/2021	1.57	65.1	28.8	0.465	7.39	25.9	537
MW-804	7/21/2021	---	---	---	---	**7.35	*26.0	---
MW-804	8/30/2021	---	---	---	---	**7.14	*24.4	---
MW-804	11/18/2021	1.56	66.8	29.3	0.465	7.19	24.6	539
MW-805	5/18/2021	0.550	443	509	0.197	6.58	724	2020
MW-805	11/18/2021	0.546	452	472	0.175	6.44	702	2010

* 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 - miligrams per liter
pCi/L - picocuries per liter
S.U. - Standard Units
(J) - Reported concentration is below the laboratory reporting limit - concentration is estimated.
--- Not Sampled

Table 2
CCR Landfill and Lower AQC Impoundment
Detection Monitoring Field Measurements
Evergy La Cygne 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-10	5/18/2021	7.34	1060	15.85	0.00	-146	0.00	2.21	872.74
MW-10	11/18/2021	7.22	1030	14.33	0.00	-147	0.00	1.20	873.75
MW-13	5/18/2021	6.70	2970	15.55	0.00	129	0.29	2.47	874.75
MW-13	11/18/2021	6.90	2940	14.95	0.00	95	2.10	2.75	874.47
MW-14R	2/4/2021	*7.09	943	8.72	3.70	109	9.63	9.34	869.49
MW-14R	3/3/2021	**7.78	943	14.79	3.10	73	3.68	10.05	868.78
MW-14R	5/18/2021	7.42	1020	16.64	0.00	43	0.98	7.94	870.89
MW-14R	7/21/2021	**7.36	971	17.95	0.00	-10	0.00	6.59	872.24
MW-14R	8/30/2021	**7.69	902	19.78	0.00	-62	0.00	7.17	871.66
MW-14R	11/18/2021	7.39	991	13.84	0.00	-89	0.00	7.34	871.49
MW-15	5/18/2021	7.32	1240	17.71	0.00	99	2.15	8.10	865.78
MW-15	11/18/2021	7.25	1200	13.73	0.00	93	0.00	8.95	864.93
MW-601	2/4/2021	*8.14	1540	7.83	13.70	80	6.45	11.65	867.53
MW-601	3/3/2021	**7.88	1620	15.05	7.10	62	0.74	11.65	867.53
MW-601	5/18/2021	7.66	1760	16.33	0.00	14	1.61	11.41	867.77
MW-601	7/21/2021	**7.73	1710	19.32	0.00	-59	1.22	10.70	868.48
MW-601	8/30/2021	**7.96	1410	22.35	14.10	-27	0.00	10.01	869.17
MW-601	11/18/2021	7.50	1700	15.68	5.10	-83	0.00	9.15	870.03
MW-602	2/4/2021	**7.87	942	8.89	21.90	164	1.60	4.77	875.12
MW-602	5/18/2021	7.66	1070	16.81	0.00	50	1.76	4.60	875.29
MW-602	11/18/2021	7.27	1030	15.25	19.40	-81	0.00	4.93	874.96
MW-801	5/18/2021	7.66	1450	19.24	4.60	-109	3.44	1.60	856.05
MW-801	11/18/2021	7.51	1420	14.31	0.00	-82	0.00	2.93	854.72
MW-802	5/18/2021	7.64	1170	16.19	0.00	-110	3.12	3.30	850.17
MW-802	7/21/2021	**7.35	1130	20.84	0.00	-88	0.00	4.06	849.41
MW-802	11/18/2021	7.42	1170	15.64	0.00	-93	0.00	4.65	848.82
MW-803	5/18/2021	7.78	1030	17.40	2.00	210	6.57	10.95	844.05
MW-803	7/21/2021	**7.44	1030	19.27	0.00	18	2.77	12.05	842.95
MW-803	8/30/2021	**7.41	1040	21.05	2.90	84	0.91	15.60	839.40
MW-803	11/18/2021	7.42	1090	15.35	0.00	42	0.00	15.30	839.70
MW-804	5/18/2021	7.39	950	18.76	0.00	285	6.14	10.02	845.18
MW-804	7/21/2021	**7.35	970	20.99	0.00	-51	0.95	10.39	844.81
MW-804	8/30/2021	**7.14	933	20.73	4.80	-28	0.83	9.96	845.24
MW-804	11/18/2021	7.19	995	15.70	0.00	4	0.00	8.50	846.70
MW-805	5/18/2021	6.58	2930	20.08	8.60	510	4.55	6.29	848.34
MW-805	11/18/2021	6.44	3240	16.22	3.30	200	0.00	8.77	845.86

* 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
***Depth to water measured in all monitoring wells within 24 hour period prior to the sampling event
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 Demonstration

Groundwater Monitoring Alternative Source Demonstration Report May 2021 Groundwater Monitoring Event, CCR Landfill and Lower AQC Impoundment, La Cygne Generating Station (January 2022)

CCR GROUNDWATER MONITORING ALTERNATIVE SOURCE DEMONSTRATION REPORT MAY 2021 GROUNDWATER MONITORING EVENT

CCR LANDFILL AND LOWER AQC IMPOUNDMENT

La Cygne Generating Station
Evergy Metro, Inc
Ly Cygne, Kansas

SCS ENGINEERS

January 2022
File No. 21217233.21

SCS Engineers
8575 W 110th St, Suite 100
Overland Park, Kansas 66210
913-681-0030

CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and licensed Professional Geologist in the State of Kansas, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill and Lower AQC Impoundment at the La Cygne 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.

John R. Rockhold, P.G.
SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Kansas, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill and Lower AQC Impoundment at the La Cygne 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.

Douglas L. Doerr, P.E.
SCS Engineers

Table of Contents

Section **Page**

Appendices

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 and Lower AQC Impoundment at the La Cygne 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 18, 2021. Review and validation of the results from the May 2021 Detection Monitoring Event was completed on July 8, 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. Two rounds of verification sampling were conducted for certain constituents on July 21, 2021 and August 30, 2021.

The completed statistical evaluation identified two Appendix III constituents above their respective prediction limits established for monitoring wells MW-14R and MW-803.

Constituent/Monitoring Well	*UPL	Observation May 18, 2021	1st Verification July 21, 2021	2nd Verification August 30, 2021
MW-14R				
Chloride	6.113	6.47	6.15	6.35
MW-803				
Chloride	49.94	50.2	51.1	50.1

*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 two SSIs above the background prediction limit for chloride at MW-14R and MW-803.

3 ALTERNATIVE SOURCE DEMONSTRATION

An Alternative Source Demonstration 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 SSIs for the CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station, there are multiple lines of supporting evidence to indicate they are not caused by a release from the CCR Landfill and Lower AQC Impoundment. Select multiple lines of supporting evidence are described as follows.

3.1 UPGRADIENT WELL LOCATION

Figure 1 in Appendix A shows a potentiometric surface contour map indicating the direction of groundwater flow at and near the CCR Landfill and Lower AQC Impoundment at the time of sampling. The groundwater flow directions indicated are for the May 2021 groundwater monitoring event and are typical flow directions for this unit. As seen in the map, monitoring well MW-14R is located upgradient/cross-gradient from the CCR Landfill and Lower AQC Impoundment indicating the SSI for chloride in MW-14R is not caused by a release from the CCR Landfill and Lower AQC Impoundment. This demonstrates that a source other than the CCR Landfill and Lower AQC Impoundment caused the SSI above the background level for chloride, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

3.2 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, 25th and 75th 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.

Box and whiskers plots were prepared for chloride for upgradient wells MW-602, MW-10, and MW-13, up/cross-gradient well MW-14R and downgradient well MW-803. The chloride concentrations in the upgradient wells are greater than the chloride concentration in monitoring well MW-14R. The chloride concentrations in upgradient well MW-10 is greater than the chloride concentration in monitoring well MW-803. The comparison indicates the chloride concentrations in MW-14R and MW-803 are not caused by the CCR Landfill or the Lower AQC Impoundment. This demonstrates that a source other than the CCR Landfill and Lower AQC Impoundment caused the SSIs above background levels for chloride, or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Box and whiskers plots are provided in Appendix B.

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 chloride were prepared for the CCR monitoring system for upgradient wells MW-602, MW-10, and MW-13, up/cross-gradient well MW-14R and downgradient well MW-803. The chloride concentrations in the upgradient wells are greater than the chloride concentration in monitoring well MW-14R. The chloride concentrations in upgradient well MW-10 is greater than the chloride concentration in monitoring well MW-803. The comparison indicates the chloride concentrations in MW-14R and MW-803 are not caused by the CCR Landfill or the Lower AQC Impoundment. This demonstrates that a source other than the CCR Landfill and Lower AQC Impoundment caused the SSIs above background levels for chloride, or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or 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 and Lower AQC Impoundment caused the SSIs for chloride, or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Based on the successful ASD, the owner or operator of the CCR Landfill and Lower AQC Impoundment 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 La Cygne 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 signature. 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

Figure 1

LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UNIT)
- MW–703 (877.00) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- –875– GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. DRONE IMAGE DATED JANUARY 2021. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.

800 0 800 1600

SCALE FEET

REV.	DATE	CK. BY
1	–	–
2	–	–
3	–	–
4	–	–
5	–	–
6	–	–

SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (MAY 2021)

PROJECT TITLE
LA CYGNE CCR LANDFILL - LAQC IMPOUNDMENT ALTERNATIVE SOURCE DEMONSTRATION

CLIENT
EVERGY METRO, INC
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO.	DWN. BY:	Q/A RVW BY:
27217233.21	MBJ	JRR
DSN. BY:	CHK. BY:	PROJ. MGR
DAW	JF	JRR

CADD FILE:
LA CYGNE LF LAQC IMP & UAQC FIG 1_MAY2021 V.3.DWG

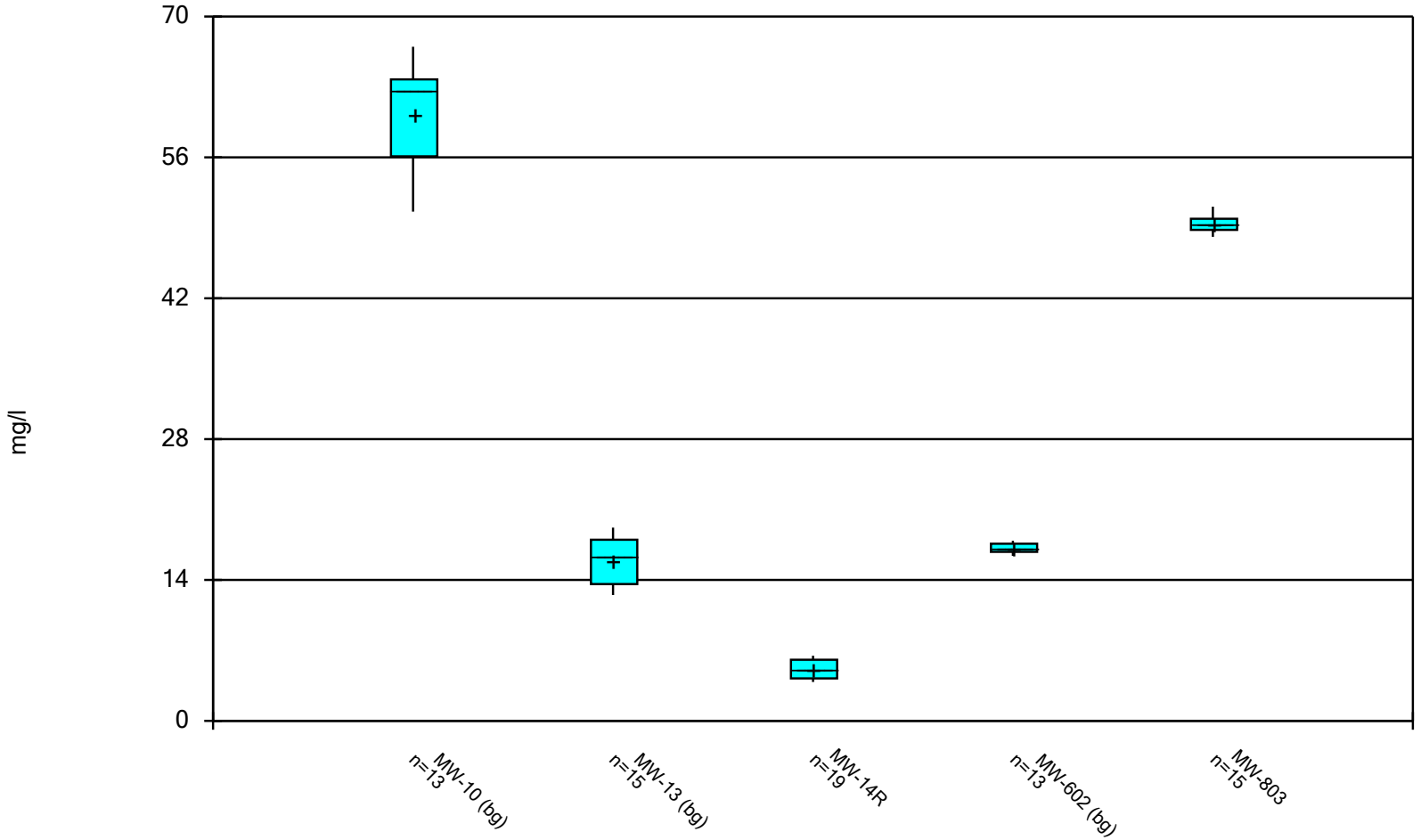
DATE: 12/30/21

FIGURE NO.
1

Appendix B

Box and Whiskers Plots

Box & Whiskers Plot



Constituent: CHLORIDE Analysis Run 12/29/2021 5:16 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Box & Whiskers Plot

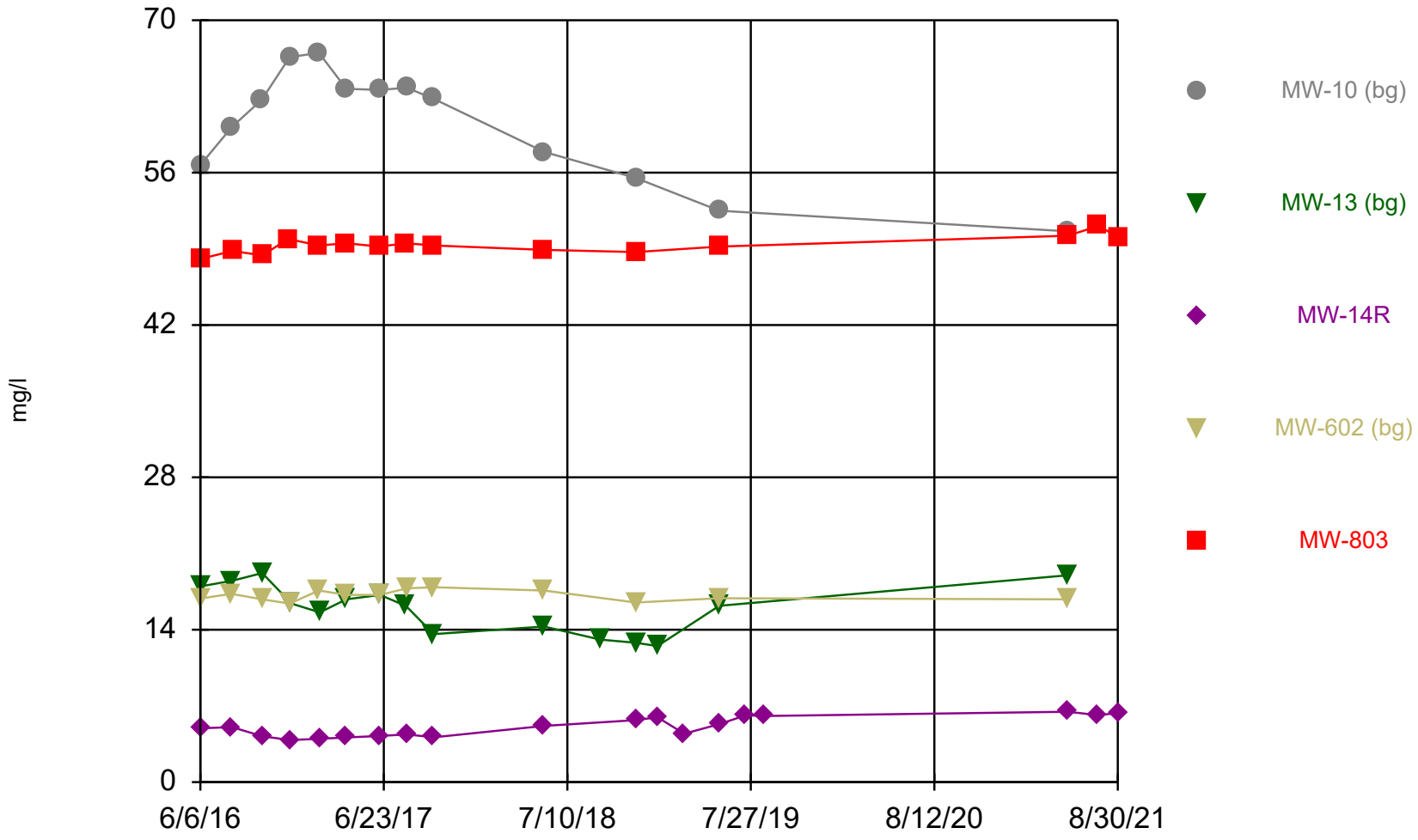
LaCygne Client: SCS Engineers Data: LaC GW Data Printed 12/29/2021, 5:18 PM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
CHLORIDE (mg/l)	MW-10 (bg)	13	60.28	5.228	1.45	62.7	50.6	67	0
CHLORIDE (mg/l)	MW-13 (bg)	15	15.96	2.26	0.5835	16.2	12.5	19.2	0
CHLORIDE (mg/l)	MW-14R	19	5.089	0.9109	0.209	5.05	3.86	6.47	0
CHLORIDE (mg/l)	MW-602 (bg)	13	17.15	0.4807	0.1333	17.2	16.4	17.9	0
CHLORIDE (mg/l)	MW-803	15	49.35	0.7624	0.1968	49.3	48.1	51.1	0

Appendix C

Time Series Plots

Time Series



Constituent: CHLORIDE Analysis Run 12/29/2021 5:14 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Time Series

Constituent: CHLORIDE (mg/l) Analysis Run 12/29/2021 5:16 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-10 (bg)	MW-13 (bg)	MW-14R	MW-602 (bg)	MW-803
6/6/2016	56.7				
6/9/2016		18	4.95		48.1
6/10/2016				16.9	
8/9/2016				17.3	
8/11/2016	60.2	18.5	5.05		
8/12/2016					48.8
10/12/2016	62.7				
10/13/2016		19.2	4.22	16.8	48.4
12/6/2016					49.9
12/9/2016	66.6		3.86	16.4	
12/13/2016		16.4			
2/8/2017	67			17.6	49.3
2/9/2017			3.98		
2/10/2017		15.6			
4/6/2017	63.7	16.8			
4/7/2017			4.11	17.2	49.5
6/13/2017					49.2
6/15/2017	63.6	17.2	4.25	17.2	
8/8/2017		16.2			
8/9/2017					49.5
8/10/2017	63.8		4.38	17.8	
10/4/2017	62.8				49.3
10/5/2017		13.6	4.12	17.9	
5/23/2018	57.9	14.3	5.17	17.6	48.9
9/17/2018		13.1			
11/30/2018	55.5	12.8	5.69	16.5	48.7
1/14/2019		12.5	5.96		
3/11/2019			4.44		
5/23/2019	52.5	16.2	5.33	16.9	49.2
7/17/2019			6.14		
8/23/2019			6.08		
5/18/2021	50.6	19	6.47	16.8	50.2
7/21/2021			6.15		51.1
8/30/2021			6.35		50.1

ADDENDUM 1

2021 Annual Groundwater Monitoring and Corrective Action Report Addendum 1

October 31, 2022
File No. 27217233.22

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 and Lower AQC Impoundment
La Cygne Generating Station - La Cygne, Kansas

The CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station are 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 and Lower AQC Impoundment 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 sampling event.
  - March 2021 – Second verification sampling for the Fall 2020 detection monitoring sampling event.
  - May 2021 - Spring 2021 semiannual detection monitoring sampling event.
  - July 2021 – First verification sampling for the Spring 2021 detection monitoring sampling event.
  - August 2021 - Second 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 - Revised 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
October 31, 2022

ATTACHMENT 1

Laboratory Analytical Reports

Jared Morrison
October 31, 2022

ATTACHMENT 1-1

February 2021 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

February 15, 2021

SCS Engineers - KS

Sample Delivery Group:	L1314799
Samples Received:	02/06/2021
Project Number:	27217233.21
Description:	Evergy - LaCygne Generating Station

Report To:

Jason Franks
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

MW-14R L1314799-01 GW

Collected by: G. Penaflor
Collected date/time: 02/04/21 11:00
Received date/time: 02/06/21 13:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1619204	1	02/11/21 21:25	02/11/21 21:25	MCG	Mt. Juliet, TN

DUPLICATE 3 L1314799-02 GW

Collected by: G. Penaflor
Collected date/time: 02/04/21 11:05
Received date/time: 02/06/21 13:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1619204	1	02/11/21 22:04	02/11/21 22:04	MCG	Mt. Juliet, TN

MW-601 L1314799-03 GW

Collected by: G. Penaflor
Collected date/time: 02/04/21 11:35
Received date/time: 02/06/21 13:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1620537	1	02/12/21 16:10	02/12/21 16:10	MCG	Mt. Juliet, TN

MW-602 L1314799-04 GW

Collected by: G. Penaflor
Collected date/time: 02/04/21 10:35
Received date/time: 02/06/21 13:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1620537	1	02/12/21 16:48	02/12/21 16:48	MCG	Mt. Juliet, TN

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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6560		379	1000	1	02/11/2021 21:25	WG1619204
Fluoride	291		64.0	150	1	02/11/2021 21:25	WG1619204

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6580		379	1000	1	02/11/2021 22:04	WG1619204
Fluoride	291		64.0	150	1	02/11/2021 22:04	WG1619204

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	9760		594	5000	1	02/12/2021 16:10	WG1620537

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	26700		594	5000	1	02/12/2021 16:48	WG1620537

Method Blank (MB)

(MB) R3621967-1 02/11/21 10:07

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

L1314568-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1314568-01 02/11/21 15:33 • (DUP) R3621967-3 02/11/21 15:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	2580	2430	1	6.12		15

L1314797-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1314797-04 02/11/21 19:02 • (DUP) R3621967-6 02/11/21 19:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	90800	91000	5	0.217		15
Fluoride	866	862	5	0.521		15

Laboratory Control Sample (LCS)

(LCS) R3621967-2 02/11/21 10:20

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	40600	102	80.0-120	
Fluoride	8000	8400	105	80.0-120	

L1314568-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314568-03 02/11/21 16:12 • (MS) R3621967-4 02/11/21 16:25 • (MSD) R3621967-5 02/11/21 16:38

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	%	%		%			%	%
Chloride	50000	3060	53200	54000	100	102	1	80.0-120			1.50	15
Fluoride	5000	3220	8120	8210	97.9	99.8	1	80.0-120			1.17	15

L1314797-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314797-05 02/11/21 19:28 • (MS) R3621967-7 02/11/21 19:41 • (MSD) R3621967-8 02/11/21 20:20

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	234000	279000	280000	90.4	92.5	1	80.0-120	E	E	0.364	15
Fluoride	5000	1040	6280	6310	105	105	1	80.0-120			0.577	15

L1314799-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314799-01 02/11/21 21:25 • (MS) R3621967-9 02/11/21 21:38 • (MSD) R3621967-10 02/11/21 21:51

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	6560	56200	57300	99.3	102	1	80.0-120			1.99	15
Fluoride	5000	291	5280	5390	99.9	102	1	80.0-120			1.96	15

Method Blank (MB)

(MB) R3622246-1 02/12/21 09:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		594	5000

L1314797-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1314797-08 02/12/21 15:45 • (DUP) R3622246-3 02/12/21 15:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	9540	9480	1	0.591		15

L1316685-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1316685-08 02/12/21 20:51 • (DUP) R3622246-6 02/12/21 21:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	4450	4480	1	0.795	J	15

Laboratory Control Sample (LCS)

(LCS) R3622246-2 02/12/21 09:20

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Sulfate	40000	40800	102	80.0-120	

L1314799-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314799-03 02/12/21 16:10 • (MS) R3622246-4 02/12/21 16:23 • (MSD) R3622246-5 02/12/21 16:36

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	%	%		%			%	%
Sulfate	50000	9760	60000	60300	100	101	1	80.0-120			0.498	15

L1316685-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L1316685-09 02/12/21 21:16 • (MS) R3622246-7 02/12/21 21:29

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	5200	56800	103	1	80.0-120	

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.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.

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 [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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 [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	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 [5]	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

Pace Analytical National 1606 E. Brazos Street Suite D Victoria, TX, 77901

Texas	T104704328-20-18

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

Company Name/Address:
SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park. KS 66210

Billing Information:
Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - LaCygne Generating Station

City/State Collected: **LaCygne, KS**

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
C Penaflor

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**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride, Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-14R	GRAB	GW		2/4/21	1100	1	X			-01
DUPLICATE 3		GW			1105	1	X			-02
MW-14R MS/MSD		GW			1110	1	X			-01
MW-601		GW			1135	1		X		-03
MW-602		GW			1035	1		X		-04

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

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: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1314799

Table F231

Acctnum: **AQUAOPKS**
Template: **T136276**
Prelogin: **P825430**
PM: **206 - Jeff Carr**
PB:

Shipped Via:

* 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 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:	Time:	Received by: (Signature)	Trip Blank Received: (Yes) / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	2-5-21	1012			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.4-.1=2.5 °C Bottles Received: KO A3 5	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2/6/21 CC Time: 1340 CC	Hold: / Condition: NCF / (OK)

Jared Morrison
October 31, 2022

ATTACHMENT 1-2

March 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

March 11, 2021

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

SCS Engineers - KS

Sample Delivery Group:	L1322864
Samples Received:	03/04/2021
Project Number:	27217233.21
Description:	Evergy - LaCygne Generating Station

Report To:

Jason Franks
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

SAMPLE SUMMARY

MW-14R L1322864-01 GW

Collected by: Jason R Franks
Collected date/time: 03/03/21 10:48
Received date/time: 03/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1631608	1	03/09/21 17:21	03/09/21 17:21	MCG	Mt. Juliet, TN

DUPLICATE 2 L1322864-02 GW

Collected by: Jason R Franks
Collected date/time: 03/03/21 10:48
Received date/time: 03/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1631608	1	03/09/21 18:27	03/09/21 18:27	MCG	Mt. Juliet, TN

MW-601 L1322864-03 GW

Collected by: Jason R Franks
Collected date/time: 03/03/21 11:50
Received date/time: 03/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1631608	1	03/10/21 11:59	03/10/21 11:59	MCG	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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	5950		379	1000	1	03/09/2021 17:21	WG1631608

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	5940		379	1000	1	03/09/2021 18:27	WG1631608

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	6730		594	5000	1	03/10/2021 11:59	WG1631608

QUALITY CONTROL SUMMARY

L1322864-01,02,03

Method Blank (MB)

(MB) R3629421-1 03/09/21 10:42

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	400	J	379	1000
Sulfate	U		594	5000

L1323094-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1323094-07 03/10/21 14:30 • (DUP) R3629421-7 03/10/21 14:43

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	14100	14200	1	0.263		15
Sulfate	655000	647000	1	1.28	E	15

Laboratory Control Sample (LCS)

(LCS) R3629421-2 03/09/21 10:55

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39800	99.6	80.0-120	
Sulfate	40000	40200	101	80.0-120	

L1322864-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1322864-01 03/09/21 17:21 • (MS) R3629421-3 03/09/21 18:00 • (MSD) R3629421-4 03/09/21 18:14

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	5950	55400	57000	99.0	102	1	80.0-120			2.85	15
Sulfate	50000	63500	112000	114000	97.0	101	1	80.0-120	E	E	1.93	15

L1323120-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1323120-03 03/10/21 14:56 • (MS) R3629421-8 03/10/21 15:09

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	6290	55500	98.4	1	80.0-120	
Sulfate	50000	238000	278000	78.8	1	80.0-120	E V

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.
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).
J	The identification of the analyte is acceptable; the reported value is an estimate.
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 [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	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 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] 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 West 110th Street
Suite 100
Overland Park. KS 66210

Billing Information:
Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - LaCygne Generating Station

City/State Collected: LaCygne, KS

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print): JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (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: 5 D

Immediately Packed on Ice N ___ Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-14R	Grab	GW	-	03/03/21	1048	1	X			-01
DUPLICATE 2		GW	-		1048	1	X			-02
MW-14R MS/MSD		GW	-		1048	1	X			-01
MW-601		GW	-		1150	1		X		-03

* 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)	Date:	Time:	Received by: (Signature)
	03/03/21	1350	3/3/21 1350
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / (No) HCL / MeoH TBR

Temp: °C Bottles Received: 4

Date: 3/4/21 Time: 1300

If preservation required by Login: Date/Time

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 Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

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: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1322864

Table G198

Acctnum: **AQUAOPKS**
Template: **T136276**
Prelogin: **P830746**
PM: **206 - Jeff Carr**
PB:
Shipped Via:

Jared Morrison
October 31, 2022

ATTACHMENT 1-3

May 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

June 09, 2021

SCS Engineers - KS

Sample Delivery Group:	L1355994
Samples Received:	05/20/2021
Project Number:	27217233.21-B
Description:	Evergy - LaCygne Generating Station

Report To:

Jason Franks
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

MW-10 L1355994-01 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 13:50 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677358	1	05/25/21 18:41	05/25/21 19:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	1	05/30/21 05:21	05/30/21 05:21	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 06:41	EL	Mt. Juliet, TN

MW-13 L1355994-02 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 15:30 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677358	1	05/25/21 18:41	05/25/21 19:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	10	05/30/21 05:54	05/30/21 05:54	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	100	05/30/21 06:10	05/30/21 06:10	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 06:44	EL	Mt. Juliet, TN

MW-14R L1355994-03 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 14:20 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677358	1	05/25/21 18:41	05/25/21 19:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	1	05/30/21 06:26	05/30/21 06:26	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 06:47	EL	Mt. Juliet, TN

MW-15 L1355994-04 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 16:50 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677358	1	05/25/21 18:41	05/25/21 19:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	1	05/30/21 07:32	05/30/21 07:32	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	5	05/30/21 07:48	05/30/21 07:48	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 06:50	EL	Mt. Juliet, TN

MW-601 L1355994-05 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 16:10 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677358	1	05/25/21 18:41	05/25/21 19:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	1	05/30/21 08:05	05/30/21 08:05	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	5	05/30/21 08:21	05/30/21 08:21	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 06:53	EL	Mt. Juliet, TN

MW-602 L1355994-06 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 14:50 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677358	1	05/25/21 18:41	05/25/21 19:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	1	05/30/21 08:38	05/30/21 08:38	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 06:59	EL	Mt. Juliet, TN

MW-801 L1355994-07 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 16:30 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677358	1	05/25/21 18:41	05/25/21 19:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679013	1	05/30/21 09:10	05/30/21 09:10	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 06:00	EL	Mt. Juliet, TN

MW-802 L1355994-08 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 16:00 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677358	1	05/25/21 18:41	05/25/21 19:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1681783	1	06/03/21 11:27	06/03/21 11:27	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 05:36	EL	Mt. Juliet, TN

MW-803 L1355994-09 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 15:15 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677358	1	05/25/21 18:41	05/25/21 19:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1681783	1	06/03/21 03:22	06/03/21 03:22	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1683367	1	06/07/21 00:20	06/07/21 19:48	EL	Mt. Juliet, TN

MW-804 L1355994-10 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 14:40 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677321	1	05/25/21 16:56	05/25/21 18:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1681783	1	06/03/21 03:33	06/03/21 03:33	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 05:39	EL	Mt. Juliet, TN

MW-805 L1355994-11 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 13:35 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677321	1	05/25/21 16:56	05/25/21 18:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1681783	1	06/03/21 03:56	06/03/21 03:56	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1681783	10	06/03/21 04:08	06/03/21 04:08	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 05:42	EL	Mt. Juliet, TN

DUPLICATE L1355994-12 GW

Collected by: G. Penaflor | Collected date/time: 05/18/21 16:30 | Received date/time: 05/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1677321	1	05/25/21 16:56	05/25/21 18:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1681783	1	06/03/21 04:42	06/03/21 04:42	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1682043	1	06/04/21 14:14	06/09/21 05:45	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	559000		10000	1	05/25/2021 19:39	WG1677358

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	50600		379	1000	1	05/30/2021 05:21	WG1679013
Fluoride	419		64.0	150	1	05/30/2021 05:21	WG1679013
Sulfate	14700		594	5000	1	05/30/2021 05:21	WG1679013

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	839		20.0	200	1	06/09/2021 06:41	WG1682043
Calcium	51000		79.3	1000	1	06/09/2021 06:41	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2640000		40000	1	05/25/2021 19:39	WG1677358

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	19000		3790	10000	10	05/30/2021 05:54	WG1679013
Fluoride	U		640	1500	10	05/30/2021 05:54	WG1679013
Sulfate	1810000		59400	500000	100	05/30/2021 06:10	WG1679013

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	345		20.0	200	1	06/09/2021 06:44	WG1682043
Calcium	385000		79.3	1000	1	06/09/2021 06:44	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	543000		10000	1	05/25/2021 19:39	WG1677358

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6470		379	1000	1	05/30/2021 06:26	WG1679013
Fluoride	330		64.0	150	1	05/30/2021 06:26	WG1679013
Sulfate	60800		594	5000	1	05/30/2021 06:26	WG1679013

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	746		20.0	200	1	06/09/2021 06:47	WG1682043
Calcium	54700		79.3	1000	1	06/09/2021 06:47	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	740000		10000	1	05/25/2021 19:39	WG1677358

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	12600		379	1000	1	05/30/2021 07:32	WG1679013
Fluoride	285		64.0	150	1	05/30/2021 07:32	WG1679013
Sulfate	203000		2970	25000	5	05/30/2021 07:48	WG1679013

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	237		20.0	200	1	06/09/2021 06:50	WG1682043
Calcium	102000		79.3	1000	1	06/09/2021 06:50	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	952000		13300	1	05/25/2021 19:39	WG1677358

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	169000		1900	5000	5	05/30/2021 08:21	WG1679013
Fluoride	1730		64.0	150	1	05/30/2021 08:05	WG1679013
Sulfate	7040		594	5000	1	05/30/2021 08:05	WG1679013

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	1830		20.0	200	1	06/09/2021 06:53	WG1682043
Calcium	16700		79.3	1000	1	06/09/2021 06:53	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	578000		10000	1	05/25/2021 19:39	WG1677358

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	16800		379	1000	1	05/30/2021 08:38	WG1679013
Fluoride	1230		64.0	150	1	05/30/2021 08:38	WG1679013
Sulfate	26200		594	5000	1	05/30/2021 08:38	WG1679013

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	2270		20.0	200	1	06/09/2021 06:59	WG1682043
Calcium	23500		79.3	1000	1	06/09/2021 06:59	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	843000		13300	1	05/25/2021 19:39	WG1677358

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	98700		379	1000	1	05/30/2021 09:10	WG1679013
Fluoride	1090		64.0	150	1	05/30/2021 09:10	WG1679013
Sulfate	2360	J	594	5000	1	05/30/2021 09:10	WG1679013

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	2210		20.0	200	1	06/09/2021 06:00	WG1682043
Calcium	24800	O1	79.3	1000	1	06/09/2021 06:00	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	684000		10000	1	05/25/2021 19:39	WG1677358

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	37700		379	1000	1	06/03/2021 11:27	WG1681783
Fluoride	1120		64.0	150	1	06/03/2021 11:27	WG1681783
Sulfate	U		594	5000	1	06/03/2021 11:27	WG1681783

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	2440		20.0	200	1	06/09/2021 05:36	WG1682043
Calcium	28000		79.3	1000	1	06/09/2021 05:36	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	571000		10000	1	05/25/2021 19:39	WG1677358

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	50200		379	1000	1	06/03/2021 03:22	WG1681783
Fluoride	614		64.0	150	1	06/03/2021 03:22	WG1681783
Sulfate	25200		594	5000	1	06/03/2021 03:22	WG1681783

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	2000		20.0	200	1	06/07/2021 19:48	WG1683367
Calcium	37900		79.3	1000	1	06/07/2021 19:48	WG1683367

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	537000		10000	1	05/25/2021 18:00	WG1677321

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	28800		379	1000	1	06/03/2021 03:33	WG1681783
Fluoride	465		64.0	150	1	06/03/2021 03:33	WG1681783
Sulfate	25900		594	5000	1	06/03/2021 03:33	WG1681783

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1570		20.0	200	1	06/09/2021 05:39	WG1682043
Calcium	65100		79.3	1000	1	06/09/2021 05:39	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2020000		50000	1	05/25/2021 18:00	WG1677321

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	509000		3790	10000	10	06/03/2021 04:08	WG1681783
Fluoride	197		64.0	150	1	06/03/2021 03:56	WG1681783
Sulfate	724000		5940	50000	10	06/03/2021 04:08	WG1681783

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	550		20.0	200	1	06/09/2021 05:42	WG1682043
Calcium	443000		79.3	1000	1	06/09/2021 05:42	WG1682043

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	856000		13300	1	05/25/2021 18:00	WG1677321

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	97200		379	1000	1	06/03/2021 04:42	WG1681783
Fluoride	1130		64.0	150	1	06/03/2021 04:42	WG1681783
Sulfate	2540	J	594	5000	1	06/03/2021 04:42	WG1681783

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	2260		20.0	200	1	06/09/2021 05:45	WG1682043
Calcium	25900		79.3	1000	1	06/09/2021 05:45	WG1682043

Method Blank (MB)

(MB) R3659982-1 05/25/21 18:00

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

Laboratory Control Sample (LCS)

(LCS) R3659982-2 05/25/21 18:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8670000	98.5	77.4-123	

Method Blank (MB)

(MB) R3659630-1 05/25/21 19:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1355765-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1355765-01 05/25/21 19:39 • (DUP) R3659630-3 05/25/21 19:39

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	5920000	610000	1	163	J3	5

L1355994-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1355994-07 05/25/21 19:39 • (DUP) R3659630-4 05/25/21 19:39

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	843000	823000	1	2.40		5

Laboratory Control Sample (LCS)

(LCS) R3659630-2 05/25/21 19:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8530000	96.9	77.4-123	

Method Blank (MB)

(MB) R3661110-1 05/29/21 18:10

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

L1352645-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1352645-20 05/30/21 02:04 • (DUP) R3661110-3 05/30/21 02:20

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4030	4030	1	0.149		15
Fluoride	204	202	1	1.08		15
Sulfate	24400	24400	1	0.0525		15

L1355994-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1355994-03 05/30/21 06:26 • (DUP) R3661110-5 05/30/21 06:43

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6470	6450	1	0.353		15
Fluoride	330	333	1	0.875		15
Sulfate	60800	60800	1	0.0189		15

Laboratory Control Sample (LCS)

(LCS) R3661110-2 05/29/21 18:26

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39700	99.2	80.0-120	
Fluoride	8000	8120	102	80.0-120	
Sulfate	40000	39900	99.6	80.0-120	

L1352645-23 Original Sample (OS) • Matrix Spike (MS)

(OS) L1352645-23 05/30/21 02:53 • (MS) R3661110-4 05/30/21 03:10

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5000	562	5340	95.5	1	80.0-120	
Sulfate	50000	83700	129000	91.3	1	80.0-120	E

L1355994-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355994-07 05/30/21 09:10 • (MS) R3661110-6 05/30/21 09:27 • (MSD) R3661110-7 05/30/21 09:43

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	98700	145000	145000	92.1	93.3	1	80.0-120	E	E	0.400	15
Fluoride	5000	1090	6260	6340	103	105	1	80.0-120			1.29	15
Sulfate	50000	2360	52400	53100	100	101	1	80.0-120			1.36	15

Method Blank (MB)

(MB) R3662663-1 06/02/21 21:49

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

L1355950-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1355950-01 06/02/21 22:58 • (DUP) R3662663-3 06/02/21 23:09

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	540	537	1	0.575	J	15
Fluoride	U	U	1	0.000		15
Sulfate	4050	4050	1	0.0667	J	15

L1355994-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1355994-08 06/03/21 11:27 • (DUP) R3662663-6 06/03/21 02:59

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	37700	37700	1	0.165		15
Fluoride	1120	1010	1	9.73		15
Sulfate	U	U	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3662663-2 06/02/21 22:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40200	100	80.0-120	
Fluoride	8000	8030	100	80.0-120	
Sulfate	40000	39500	98.7	80.0-120	

L1355950-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355950-01 06/02/21 22:58 • (MS) R3662663-4 06/02/21 23:21 • (MSD) R3662663-5 06/02/21 23:32

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	540	51900	52500	103	104	1	80.0-120			1.06	15
Fluoride	5000	U	5160	5280	103	106	1	80.0-120			2.24	15
Sulfate	50000	4050	54400	55000	101	102	1	80.0-120			1.20	15

L1355994-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L1355994-08 06/03/21 11:27 • (MS) R3662663-7 06/03/21 03:10

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	37700	86800	98.0	1	80.0-120	
Fluoride	5000	1120	6180	101	1	80.0-120	
Sulfate	50000	U	48500	97.1	1	80.0-120	

Method Blank (MB)

(MB) R3664964-1 06/09/21 05:54

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) R3664964-2 06/09/21 05:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	977	97.7	80.0-120	
Calcium	10000	9770	97.7	80.0-120	

L1355994-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1355994-07 06/09/21 06:00 • (MS) R3664964-4 06/09/21 06:06 • (MSD) R3664964-5 06/09/21 06:08

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 %
Boron	1000	2210	3160	3150	94.3	93.7	1	75.0-125			0.194	20
Calcium	10000	24800	34700	34600	99.2	97.7	1	75.0-125			0.430	20

Method Blank (MB)

(MB) R3664294-1 06/07/21 19:22

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) R3664294-2 06/07/21 19:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	941	94.1	80.0-120	
Calcium	10000	9780	97.8	80.0-120	

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.
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).
J	The identification of the analyte is acceptable; the reported value is an estimate.
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.

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 [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	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 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] 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 West 110th Street
Suite 100
Overland Park. KS 66210

Billing Information:
Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - LaCygne Generating Station

City/State Collected:

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27217233.21-B

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
G. Penaflor

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

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-10	GRAB	GW		5/18/21	1350	3	X	X	X		-01
MW-13		GW			1530	3	X	X	X		-02
MW-14R		GW			1420	3	X	X	X		-03
MW-15		GW			1650	3	X	X	X		-04
MW-601		GW			1610	3	X	X	X		-05
MW-602		GW			1450	3	X	X	X		-06
MW-801		GW			1630	3	X	X	X		-07
MW-802		GW			1600	3	X	X	X		-08
MW-803		GW			1515	3	X	X	X		-09
MW-804		GW			1440	3	X	X	X		-10

Chain of Custody Page 1 of 2

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: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1355994

A102

Acctnum: AQUAOPKS
Template: T157983
Prelogin: P846711
PM: 206 - Jeff Carr
PB: DN 5/11/21
Shipped Via: FedEX Ground

* 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 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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
a Romero	5/18/21	1830			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.2 °C Bottles Received: 7.5+1.1=7.4 39	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5-20-21 Time: 0930	Hold: / Condition: NCF / OK

Company Name/Address:
SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park. KS 66210

Billing Information:
Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - LaCygne Generating Station

City/State Collected:

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27217233.21-B

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N____ Y____

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

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres								Remarks	Sample # (lab only)
MW-805	Grab	GW		5/18/21	1335	3	X	X	X									-11
DUPLICATE		GW			1630	3	X	X	X									-12
MD/MSD		GW			1635	3	X	X	X									-07

Chain of Custody Page 2 of 2

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: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1355994

Table #

Acctnum: **AQUAOPKS**

Template: **T157983**

Prelogin: **P846711**

PM: **206 - Jeff Carr**

PB: DN 5/11/21

Shipped Via: **FedEX Ground**

* 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 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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
a Ronyer	5/18/21	1830			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp 7.5 °C +0.1=7.6 Bottles Received: 39	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5-20-21 Time: 0930	Hold: Condition: NCF / OK

L1355994 AQUAOPKS NCF HM

R5

Time estimate: oh **Time spent:** oh

Members

HM Hailey Melson (responsible) JAC Jeffrey A. Carr

- [x] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Hailey Melson *21 May 2021 8:42 AM*

Which sample is the MS/MSD supposed to go with. The time does not match any of the samples.

Jeffrey A. Carr *21 May 2021 8:56 AM*

MW-801

Jared Morrison
October 31, 2022

ATTACHMENT 1-4

July 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

August 13, 2021

Revised Report

SCS Engineers - KS

Sample Delivery Group:	L1381858
Samples Received:	07/22/2021
Project Number:	27217233.21 - J
Description:	Evergy - LaCygne Generating Station

Report To:

Jason Franks
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

TABLE OF CONTENTS

MW-14R L1381858-01 GW

Collected by: Whit Martin | Collected date/time: 07/21/21 12:30 | Received date/time: 07/22/21 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1712048	1	07/29/21 15:46	07/29/21 15:46	MSP	Mt. Juliet, TN

DUPLICATE 1 L1381858-02 GW

Collected by: Whit Martin | Collected date/time: 07/21/21 12:30 | Received date/time: 07/22/21 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1712048	1	07/29/21 00:38	07/29/21 00:38	MSP	Mt. Juliet, TN

MW-601 L1381858-03 GW

Collected by: Whit Martin | Collected date/time: 07/21/21 12:00 | Received date/time: 07/22/21 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1712048	1	07/29/21 00:51	07/29/21 00:51	MSP	Mt. Juliet, TN

MW-802 L1381858-04 GW

Collected by: Whit Martin | Collected date/time: 07/21/21 12:25 | Received date/time: 07/22/21 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1712048	1	07/29/21 01:05	07/29/21 01:05	MSP	Mt. Juliet, TN

MW-803 L1381858-05 GW

Collected by: Whit Martin | Collected date/time: 07/21/21 13:05 | Received date/time: 07/22/21 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1712048	1	07/29/21 01:18	07/29/21 01:18	MSP	Mt. Juliet, TN

MW-804 L1381858-06 GW

Collected by: Whit Martin | Collected date/time: 07/21/21 13:05 | Received date/time: 07/22/21 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1712048	1	07/29/21 01:57	07/29/21 01:57	MSP	Mt. Juliet, TN

DUPLICATE 2 L1381858-07 GW

Collected by: Whit Martin | Collected date/time: 07/21/21 13:05 | Received date/time: 07/22/21 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1712048	1	07/29/21 02:37	07/29/21 02:37	MSP	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

Report Revision History

Level II Report - Version 1: 07/31/21 08:13

Project Narrative

This report has been revised by removing chloride from sample L1381858-04.

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6150		379	1000	1	07/29/2021 15:46	WG1712048
Fluoride	302		64.0	150	1	07/29/2021 15:46	WG1712048

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6580		379	1000	1	07/29/2021 00:38	WG1712048
Fluoride	366		64.0	150	1	07/29/2021 00:38	WG1712048

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	7710		594	5000	1	07/29/2021 00:51	WG1712048

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Fluoride	1040		64.0	150	1	07/29/2021 01:05	WG1712048

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	51100		379	1000	1	07/29/2021 01:18	WG1712048

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	26000		594	5000	1	07/29/2021 01:57	WG1712048

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	26200		594	5000	1	07/29/2021 02:37	WG1712048

Method Blank (MB)

(MB) R3686080-1 07/28/21 14:55

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

L1381859-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1381859-05 07/29/21 04:36 • (DUP) R3686080-7 07/29/21 04:49

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	41400	41200	1	0.472		15
Fluoride	403	393	1	2.64		15

L1381859-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1381859-05 07/29/21 12:54 • (DUP) R3686080-10 07/29/21 13:07

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	68500	68400	1	0.185		15

L1381858-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1381858-01 07/29/21 15:46 • (DUP) R3686080-13 07/29/21 16:00

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6150	6130	1	0.297		15
Fluoride	302	303	1	0.165		15
Sulfate	59300	58600	1	1.21		15

Laboratory Control Sample (LCS)

(LCS) R3686080-2 07/28/21 15:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	38700	96.8	80.0-120	
Fluoride	8000	7970	99.7	80.0-120	
Sulfate	40000	38700	96.7	80.0-120	

L1381858-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1381858-06 07/29/21 01:57 • (MS) R3686080-3 07/29/21 02:11 • (MSD) R3686080-4 07/29/21 02:24

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	30000	79000	78800	98.1	97.8	1	80.0-120			0.209	15
Fluoride	5000	480	5580	5560	102	102	1	80.0-120			0.424	15
Sulfate	50000	26000	75900	75900	99.7	99.7	1	80.0-120			0.0428	15

L1381859-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1381859-01 07/29/21 02:50 • (MS) R3686080-5 07/29/21 03:04 • (MSD) R3686080-6 07/29/21 03:17

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	91900	143000	139000	103	94.6	1	80.0-120	E	E	2.81	15
Fluoride	5000	874	6310	6090	109	104	1	80.0-120			3.54	15
Sulfate	50000	158000	211000	203000	107	90.8	1	80.0-120	E	E	3.85	15

L1381859-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1381859-05 07/29/21 04:36 • (MS) R3686080-8 07/29/21 05:03 • (MSD) R3686080-9 07/29/21 05:16

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	41400	90200	90400	97.5	97.9	1	80.0-120			0.195	15
Fluoride	5000	403	5350	5360	98.9	99.1	1	80.0-120			0.157	15

L1381859-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1381859-05 07/29/21 12:54 • (MS) R3686080-11 07/29/21 13:21 • (MSD) R3686080-12 07/29/21 13:34

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 %
Sulfate	50000	68500	117000	117000	96.8	96.3	1	80.0-120	E	E	0.190	15

L1381858-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1381858-01 07/29/21 15:46 • (MS) R3686080-14 07/29/21 16:13 • (MSD) R3686080-15 07/29/21 16:26

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	6150	56200	56500	100	101	1	80.0-120			0.418	15
Fluoride	5000	302	5140	5160	96.7	97.1	1	80.0-120			0.373	15
Sulfate	50000	59300	107000	108000	96.1	97.7	1	80.0-120	E	E	0.715	15

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.
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).

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 [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	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 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] 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 West 110th Street
Suite 100
Overland Park. KS 66210

Billing Information:
Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - LaCygne Generating Station

City/State Collected: LaCygne, KS

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27217233.21 - J

Lab Project #
AQUAOPKS-LACYGNE

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride 125mlHDPE-NoPres	Chloride, Fluoride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-14R	Grab	GW		7/21/21	1230	1		X				-01
MW-14R MS/MSD	Grab	GW		7/21/21	1230	1		X				
DUPLICATE 1	Grab	GW		7/21/21	1230	1		X				-02
MW-601	Grab	GW		7/21/21	1200	1				X		-03
MW-802	Grab	GW		7/21/21	1225	1			X			-04
MW-803	Grab	GW		7/21/21	1305	1	X					-05
MW-804	Grab	GW		7/21/21	1305	1				X		-06
MW-804 MS/MSD	Grab	GW		7/21/21	1305	1				X		
DUPLICATE 2	Grab	GW		7/21/21	1305	1				X		-07

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

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: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1381858

D078

Acctnum: AQUAOPKS

Template: T136276

Prelogin: P861448

PM: 206 - Jeff Carr

PB:

Shipped Via:

* 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 # 5117 4431 1196

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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
Whit Martin	7/21/21	1445		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp °C: 2.3+0.2=2.3 Bottles Received: 9	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Heather Kems	Date: 7/22/21 Time: 0840	Hold: / Condition: NCF / OK

Jared Morrison
October 31, 2022

ATTACHMENT 1-5

August 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

September 04, 2021

SCS Engineers - KS

Sample Delivery Group:	L1397264
Samples Received:	08/31/2021
Project Number:	27217233.21 - J
Description:	Evergy - LaCygne Generating Station

Report To:

Jason Franks
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

TABLE OF CONTENTS

MW-14R L1397264-01 GW

Collected by: Jason R. Franks | Collected date/time: 08/30/21 14:25 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1733452	1	09/02/21 04:05	09/02/21 04:05	ELN	Mt. Juliet, TN

DUPLICATE 1 L1397264-02 GW

Collected by: Jason R. Franks | Collected date/time: 08/30/21 14:25 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1733452	1	09/02/21 04:45	09/02/21 04:45	ELN	Mt. Juliet, TN

MW-601 L1397264-03 GW

Collected by: Jason R. Franks | Collected date/time: 08/30/21 13:25 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1733452	1	09/02/21 10:41	09/02/21 10:41	ELN	Mt. Juliet, TN

MW-803 L1397264-04 GW

Collected by: Jason R. Franks | Collected date/time: 08/30/21 13:15 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1733452	1	09/02/21 05:25	09/02/21 05:25	ELN	Mt. Juliet, TN

MW-804 L1397264-05 GW

Collected by: Jason R. Franks | Collected date/time: 08/30/21 13:55 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1733452	1	09/02/21 05:38	09/02/21 05:38	ELN	Mt. Juliet, TN

DUPLICATE 2 L1397264-06 GW

Collected by: Jason R. Franks | Collected date/time: 08/30/21 13:55 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1733452	1	09/02/21 10:54	09/02/21 10:54	ELN	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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6350		379	1000	1	09/02/2021 04:05	WG1733452

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6200		379	1000	1	09/02/2021 04:45	WG1733452

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	4980	J	594	5000	1	09/02/2021 10:41	WG1733452

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	50100		379	1000	1	09/02/2021 05:25	WG1733452

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	24400		594	5000	1	09/02/2021 05:38	WG1733452

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	24700		594	5000	1	09/02/2021 10:54	WG1733452

Method Blank (MB)

(MB) R3699524-1 09/01/21 22:22

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

L1397235-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1397235-04 09/01/21 23:28 • (DUP) R3699524-3 09/01/21 23:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	41000	41000	1	0.216		15
Sulfate	68600	69000	1	0.676		15

L1397264-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1397264-02 09/02/21 04:45 • (DUP) R3699524-10 09/02/21 04:58

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6200	6040	1	2.61		15
Sulfate	58900	57100	1	3.01		15

Laboratory Control Sample (LCS)

(LCS) R3699524-2 09/01/21 22:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39000	97.6	80.0-120	
Sulfate	40000	38800	96.9	80.0-120	

L1397261-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397261-01 09/02/21 01:27 • (MS) R3699524-4 09/02/21 01:40 • (MSD) R3699524-5 09/02/21 01:53

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	90400	135000	135000	88.9	88.7	1	80.0-120	E	E	0.0690	15

L1397261-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397261-04 09/02/21 02:33 • (MS) R3699524-6 09/02/21 02:46 • (MSD) R3699524-7 09/02/21 02:59

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	41700	88800	88900	94.2	94.3	1	80.0-120			0.0857	15
Sulfate	50000	70800	115000	115000	87.6	87.8	1	80.0-120	E	E	0.0973	15

L1397264-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397264-01 09/02/21 04:05 • (MS) R3699524-8 09/02/21 04:19 • (MSD) R3699524-9 09/02/21 04:32

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	6350	54100	54200	95.5	95.7	1	80.0-120			0.229	15
Sulfate	50000	61800	104000	104000	84.6	84.7	1	80.0-120	E	E	0.0645	15

L1397264-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397264-05 09/02/21 05:38 • (MS) R3699524-11 09/02/21 06:18 • (MSD) R3699524-12 09/02/21 06:31

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	30000	78100	77600	96.2	95.4	1	80.0-120			0.537	15
Sulfate	50000	24400	72200	71900	95.6	95.1	1	80.0-120			0.305	15

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.
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).
J	The identification of the analyte is acceptable; the reported value is an estimate.

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 [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	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 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] 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 West 110th Street
Suite 100
Overland Park. KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Suite 100
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - LaCygne Generating Station

City/State Collected: LaCygne, KS

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27217233.21 - J

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

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

No. of Cntrs

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

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: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1397264

L-172

Acctnum: **AQUAOPKS**
Template: **T136276**
Prelogin: **P870715**
PM: **206 - Jeff Carr**
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-14R	GRAB	GW	—	8/30/21	1425	1	X			-01
MW-14R MS/MSD		GW	—		1425	1	X			
DUPLICATE 1		GW	—		1425	1	X			-02
MW-601		GW	—		1325	1		X		-03
MW-803		GW	—		1315	1	X			-04
MW-804		GW	—		1355	1		X		-05
MW-804 MS/MSD		GW	—		1355	1		X		
DUPLICATE 2		GW	—		1355	1		X		-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 # 5217 3305 0258

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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	8/30/21	1600		NA	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.3-1=3.2 °C Bottles Received: 8	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8/31/21 Time: 1000	Hold: Condition: NCF OK

ANALYTICAL REPORT

September 08, 2021

SCS Engineers - KS

Sample Delivery Group:	L1397235
Samples Received:	08/31/2021
Project Number:	27217233.21
Description:	Evergy - LaCygne Generating Station

Report To:

Jason Franks
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

TABLE OF CONTENTS

MW-704 L1397235-01 GW

Collected by: Jason R Franks | Collected date/time: 08/30/21 11:55 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1734747	1	09/04/21 12:28	09/04/21 12:28	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1733452	5	09/01/21 22:48	09/01/21 22:48	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1733697	1	09/04/21 11:54	09/07/21 13:13	EL	Mt. Juliet, TN

MW-14R L1397235-02 GW

Collected by: Jason R Franks | Collected date/time: 08/30/21 14:25 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1734747	1	09/04/21 12:49	09/04/21 12:49	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1733452	5	09/01/21 23:01	09/01/21 23:01	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1733697	1	09/04/21 11:54	09/07/21 13:16	EL	Mt. Juliet, TN

MW-706 L1397235-03 GW

Collected by: Jason R Franks | Collected date/time: 08/30/21 11:45 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1734747	1	09/04/21 12:52	09/04/21 12:52	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1733452	10	09/01/21 23:15	09/01/21 23:15	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1733697	1	09/04/21 11:54	09/07/21 13:19	EL	Mt. Juliet, TN

TW-1 L1397235-04 GW

Collected by: Jason R Franks | Collected date/time: 08/30/21 12:30 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1734747	1	09/04/21 12:56	09/04/21 12:56	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1733452	1	09/01/21 23:28	09/01/21 23:28	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1733697	1	09/04/21 11:54	09/07/21 13:21	EL	Mt. Juliet, TN

MW-601 L1397235-05 GW

Collected by: Jason R Franks | Collected date/time: 08/30/21 13:25 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1734749	1	09/04/21 13:40	09/04/21 13:40	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1733452	10	09/01/21 23:54	09/01/21 23:54	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1733697	1	09/04/21 11:54	09/07/21 13:24	EL	Mt. Juliet, TN

MW-803 L1397235-06 GW

Collected by: Jason R Franks | Collected date/time: 08/30/21 13:15 | Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1734749	1	09/04/21 13:44	09/04/21 13:44	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1733452	1	09/02/21 07:10	09/02/21 07:10	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1733697	1	09/04/21 11:54	09/07/21 13:27	EL	Mt. Juliet, TN

MW-804 L1397235-07 GW

Collected by: Jason R Franks
Collected date/time: 08/30/21 13:55
Received date/time: 08/31/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1734749	1	09/04/21 13:48	09/04/21 13:48	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1733452	1	09/02/21 00:21	09/02/21 00:21	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1733697	1	09/04/21 11:54	09/07/21 13:29	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

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity,Bicarbonate	816000		8450	20000	1	09/04/2021 12:28	WG1734747
Alkalinity,Carbonate	U		8450	20000	1	09/04/2021 12:28	WG1734747

Sample Narrative:

L1397235-01 WG1734747: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	154000		2970	25000	5	09/01/2021 22:48	WG1733452

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	20800		79.3	1000	1	09/07/2021 13:13	WG1733697
Magnesium	15400		85.3	1000	1	09/07/2021 13:13	WG1733697
Potassium	5390		261	2000	1	09/07/2021 13:13	WG1733697
Sodium	432000		504	3000	1	09/07/2021 13:13	WG1733697

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity,Bicarbonate	492000		8450	20000	1	09/04/2021 12:49	WG1734747
Alkalinity,Carbonate	U		8450	20000	1	09/04/2021 12:49	WG1734747

Sample Narrative:

L1397235-02 WG1734747: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	53700		2970	25000	5	09/01/2021 23:01	WG1733452

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	52600		79.3	1000	1	09/07/2021 13:16	WG1733697
Magnesium	39000		85.3	1000	1	09/07/2021 13:16	WG1733697
Potassium	4270		261	2000	1	09/07/2021 13:16	WG1733697
Sodium	112000		504	3000	1	09/07/2021 13:16	WG1733697

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity,Bicarbonate	780000		8450	20000	1	09/04/2021 12:52	WG1734747
Alkalinity,Carbonate	U		8450	20000	1	09/04/2021 12:52	WG1734747

Sample Narrative:

L1397235-03 WG1734747: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	236000		3790	10000	10	09/01/2021 23:15	WG1733452

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	23800		79.3	1000	1	09/07/2021 13:19	WG1733697
Magnesium	19400		85.3	1000	1	09/07/2021 13:19	WG1733697
Potassium	6290		261	2000	1	09/07/2021 13:19	WG1733697
Sodium	428000		504	3000	1	09/07/2021 13:19	WG1733697

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity,Bicarbonate	878000		8450	20000	1	09/04/2021 12:56	WG1734747
Alkalinity,Carbonate	U		8450	20000	1	09/04/2021 12:56	WG1734747

Sample Narrative:

L1397235-04 WG1734747: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	41000		379	1000	1	09/01/2021 23:28	WG1733452

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	24200		79.3	1000	1	09/07/2021 13:21	WG1733697
Magnesium	57000		85.3	1000	1	09/07/2021 13:21	WG1733697
Potassium	7740		261	2000	1	09/07/2021 13:21	WG1733697
Sodium	299000		504	3000	1	09/07/2021 13:21	WG1733697

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity,Bicarbonate	683000		8450	20000	1	09/04/2021 13:40	WG1734749
Alkalinity,Carbonate	U		8450	20000	1	09/04/2021 13:40	WG1734749

Sample Narrative:

L1397235-05 WG1734749: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	163000		3790	10000	10	09/01/2021 23:54	WG1733452

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	16800		79.3	1000	1	09/07/2021 13:24	WG1733697
Magnesium	10900		85.3	1000	1	09/07/2021 13:24	WG1733697
Potassium	4570		261	2000	1	09/07/2021 13:24	WG1733697
Sodium	351000		504	3000	1	09/07/2021 13:24	WG1733697

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity,Bicarbonate	483000		8450	20000	1	09/04/2021 13:44	WG1734749
Alkalinity,Carbonate	U		8450	20000	1	09/04/2021 13:44	WG1734749

Sample Narrative:

L1397235-06 WG1734749: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfate	25400		594	5000	1	09/02/2021 07:10	WG1733452

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	39000		79.3	1000	1	09/07/2021 13:27	WG1733697
Magnesium	30800		85.3	1000	1	09/07/2021 13:27	WG1733697
Potassium	4920		261	2000	1	09/07/2021 13:27	WG1733697
Sodium	156000		504	3000	1	09/07/2021 13:27	WG1733697

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity,Bicarbonate	468000		8450	20000	1	09/04/2021 13:48	WG1734749
Alkalinity,Carbonate	U		8450	20000	1	09/04/2021 13:48	WG1734749

Sample Narrative:

L1397235-07 WG1734749: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	30200		379	1000	1	09/02/2021 00:21	WG1733452

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	64400		79.3	1000	1	09/07/2021 13:29	WG1733697
Magnesium	21700		85.3	1000	1	09/07/2021 13:29	WG1733697
Potassium	2710		261	2000	1	09/07/2021 13:29	WG1733697
Sodium	123000		504	3000	1	09/07/2021 13:29	WG1733697

Method Blank (MB)

(MB) R3700463-2 09/04/21 11:08

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

L1397163-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1397163-01 09/04/21 11:41 • (DUP) R3700463-3 09/04/21 11:44

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	73500	73800	1	0.528		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1397235-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1397235-01 09/04/21 12:28 • (DUP) R3700463-4 09/04/21 12:32

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	816000	818000	1	0.313		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3700478-2 09/04/21 13:32

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

L1397363-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1397363-01 09/04/21 14:00 • (DUP) R3700478-3 09/04/21 14:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	132000	135000	1	2.06		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1397455-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1397455-01 09/04/21 14:37 • (DUP) R3700478-4 09/04/21 14:40

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	260000	261000	1	0.381		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3699524-1 09/01/21 22:22

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

L1397235-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1397235-04 09/01/21 23:28 • (DUP) R3699524-3 09/01/21 23:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	41000	41000	1	0.216		15
Sulfate	68600	69000	1	0.676		15

L1397264-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1397264-02 09/02/21 04:45 • (DUP) R3699524-10 09/02/21 04:58

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6200	6040	1	2.61		15
Sulfate	58900	57100	1	3.01		15

Laboratory Control Sample (LCS)

(LCS) R3699524-2 09/01/21 22:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39000	97.6	80.0-120	
Sulfate	40000	38800	96.9	80.0-120	

L1397261-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397261-01 09/02/21 01:27 • (MS) R3699524-4 09/02/21 01:40 • (MSD) R3699524-5 09/02/21 01:53

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	90400	135000	135000	88.9	88.7	1	80.0-120	E	E	0.0690	15

L1397261-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397261-04 09/02/21 02:33 • (MS) R3699524-6 09/02/21 02:46 • (MSD) R3699524-7 09/02/21 02:59

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	41700	88800	88900	94.2	94.3	1	80.0-120			0.0857	15
Sulfate	50000	70800	115000	115000	87.6	87.8	1	80.0-120	E	E	0.0973	15

L1397264-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397264-01 09/02/21 04:05 • (MS) R3699524-8 09/02/21 04:19 • (MSD) R3699524-9 09/02/21 04:32

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	6350	54100	54200	95.5	95.7	1	80.0-120			0.229	15
Sulfate	50000	61800	104000	104000	84.6	84.7	1	80.0-120	E	E	0.0645	15

L1397264-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397264-05 09/02/21 05:38 • (MS) R3699524-11 09/02/21 06:18 • (MSD) R3699524-12 09/02/21 06:31

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	30000	78100	77600	96.2	95.4	1	80.0-120			0.537	15
Sulfate	50000	24400	72200	71900	95.6	95.1	1	80.0-120			0.305	15

Method Blank (MB)

(MB) R3701317-1 09/07/21 12:33

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	91.5	J	79.3	1000
Magnesium	U		85.3	1000
Potassium	U		261	2000
Sodium	U		504	3000

Laboratory Control Sample (LCS)

(LCS) R3701317-2 09/07/21 12:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9700	97.0	80.0-120	
Magnesium	10000	9830	98.3	80.0-120	
Potassium	10000	9750	97.5	80.0-120	
Sodium	10000	10000	100	80.0-120	

L1397157-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397157-02 09/07/21 12:38 • (MS) R3701317-4 09/07/21 12:43 • (MSD) R3701317-5 09/07/21 12:45

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	43500	53100	53500	95.3	99.4	1	75.0-125			0.777	20
Magnesium	10000	16800	26400	26500	96.6	97.6	1	75.0-125			0.360	20
Potassium	10000	3560	11800	12200	82.6	86.3	1	75.0-125			3.09	20
Sodium	10000	5230	14700	15000	94.7	97.3	1	75.0-125			1.79	20

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.
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).
J	The identification of the analyte is acceptable; the reported value is an estimate.

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 [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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 [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	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 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] 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 West 110th Street
Suite 100
Overland Park. KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Suite 100
Overland Park, KS 66210

Pres Chk

Report to: **Jason Franks**

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

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

City/State Collected: La Cygne KS

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project # **27217233.21**

Lab Project # **AQUAOPKS-LACYGNE**

Collected by (print): JASON R FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

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

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKBI, ALKCA 125mlHDPE-NoPres	Ca, K, Mg, Na - 6010 250mlHDPE-HNO3	Chloride - 9056 125mlHDPE-NoPres	SO4 - 9056 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-704	GRAB	GW	—	8/30/21	1155	3	X	X		X		-01
MW-14R		GW	—		1425	3	X	X		X		-02
MW-706		GW	—		1145	3	X	X	X			-03
TW-1		GW	—		1230	3	X	X	X			-04
MW-601		GW	—		1325	3	X	X	X			-05
MW-803		GW	—		1315	3	X	X		X		-06
MW-804		GW	—		1355	3	X	X	X			-07

* 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 # 5217 3305 0258

Relinquished by : (Signature) — Date: 8/30/21 — Time: 1600 — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received for lab by: (Signature) Madelle Thies — Date: 8/31/21 — Time: 1000

Trip Blank Received: Yes / No — HCL / MeoH — TBR

Temp: 33-1/3.2 °C Bottles Received: 21

Hold:

Condition: NCF / OK

If preservation required by Login: Date/Time

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

Chain of Custody Page 1 of 1

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: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

7235

SDG # L1397325-NC 8/31/21

L-174

Acctnum: **AQUAOPKS**
Template: **T152974**
Prelogin: **P870720**
PM: **206 - Jeff Carr**
PB:
Shipped Via:

Jared Morrison
October 31, 2022

ATTACHMENT 1-6

November 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

December 31, 2021

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

SCS Engineers - KS

Sample Delivery Group:	L1434174
Samples Received:	11/20/2021
Project Number:	27217233.21-B
Description:	Evergy - LaCygne Generating Station

Report To:

Jason Franks
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

TABLE OF CONTENTS

MW-10 L1434174-01 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 15:35 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	1	12/15/21 16:54	12/15/21 16:54	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793356	1	12/23/21 12:50	12/23/21 19:44	CCE	Mt. Juliet, TN

MW-13 L1434174-02 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 14:15 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	1	12/15/21 17:19	12/15/21 17:19	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	20	12/15/21 17:57	12/15/21 17:57	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 19:53	CCE	Mt. Juliet, TN

MW-14R L1434174-03 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 15:40 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	1	12/15/21 18:10	12/15/21 18:10	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 20:00	CCE	Mt. Juliet, TN

MW-15 L1434174-04 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 10:55 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	1	12/15/21 18:36	12/15/21 18:36	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	5	12/15/21 18:48	12/15/21 18:48	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 20:03	CCE	Mt. Juliet, TN

MW-601 L1434174-05 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 13:35 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	1	12/15/21 19:01	12/15/21 19:01	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	5	12/15/21 19:14	12/15/21 19:14	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 20:06	CCE	Mt. Juliet, TN

MW-602 L1434174-06 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 14:55 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	1	12/15/21 19:27	12/15/21 19:27	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 20:09	CCE	Mt. Juliet, TN

MW-801 L1434174-07 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 14:15 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	1	12/15/21 19:52	12/15/21 19:52	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 19:34	CCE	Mt. Juliet, TN

MW-802 L1434174-08 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 13:40 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	1	12/15/21 21:35	12/15/21 21:35	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 20:12	CCE	Mt. Juliet, TN

MW-803 L1434174-09 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 13:00 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788369	1	12/15/21 22:00	12/15/21 22:00	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 20:14	CCE	Mt. Juliet, TN

MW-804 L1434174-10 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 12:15 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788925	1	12/14/21 17:57	12/14/21 17:57	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 20:17	CCE	Mt. Juliet, TN

MW-805 L1434174-11 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 11:35 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788925	10	12/14/21 23:09	12/14/21 23:09	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1789844	1	12/15/21 17:15	12/15/21 17:15	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 20:20	CCE	Mt. Juliet, TN

DUPLICATE L1434174-12 GW

Collected by: Whit Martin | Collected date/time: 11/18/21 14:15 | Received date/time: 11/20/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1780004	1	11/24/21 17:41	11/24/21 18:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1788925	1	12/14/21 19:03	12/14/21 19:03	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1793361	1	12/22/21 15:47	12/28/21 20:23	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	542000		10000	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	50300		379	1000	1	12/15/2021 16:54	WG1788369
Fluoride	327		64.0	150	1	12/15/2021 16:54	WG1788369
Sulfate	7030		594	5000	1	12/15/2021 16:54	WG1788369

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	781		20.0	200	1	12/23/2021 19:44	WG1793356
Calcium	48600		79.3	1000	1	12/23/2021 19:44	WG1793356

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2480000		25000	1	11/24/2021 18:41	WG1780004

Sample Narrative:

L1434174-02 WG1780004: Redo matches 1st run.

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	16100		379	1000	1	12/15/2021 17:19	WG1788369
Fluoride	132	J	64.0	150	1	12/15/2021 17:19	WG1788369
Sulfate	1710000		11900	100000	20	12/15/2021 17:57	WG1788369

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	348		20.0	200	1	12/28/2021 19:53	WG1793361
Calcium	403000		79.3	1000	1	12/28/2021 19:53	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	535000		10000	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	7040		379	1000	1	12/15/2021 18:10	WG1788369
Fluoride	294		64.0	150	1	12/15/2021 18:10	WG1788369
Sulfate	63100		594	5000	1	12/15/2021 18:10	WG1788369

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	810		20.0	200	1	12/28/2021 20:00	WG1793361
Calcium	52200		79.3	1000	1	12/28/2021 20:00	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	740000		10000	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	11700		379	1000	1	12/15/2021 18:36	WG1788369
Fluoride	220		64.0	150	1	12/15/2021 18:36	WG1788369
Sulfate	193000		2970	25000	5	12/15/2021 18:48	WG1788369

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	245		20.0	200	1	12/28/2021 20:03	WG1793361
Calcium	104000		79.3	1000	1	12/28/2021 20:03	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	890000		20000	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	166000		1900	5000	5	12/15/2021 19:14	WG1788369
Fluoride	1610		64.0	150	1	12/15/2021 19:01	WG1788369
Sulfate	6770		594	5000	1	12/15/2021 19:01	WG1788369

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1830		20.0	200	1	12/28/2021 20:06	WG1793361
Calcium	17200		79.3	1000	1	12/28/2021 20:06	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	592000		10000	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	17100		379	1000	1	12/15/2021 19:27	WG1788369
Fluoride	1140		64.0	150	1	12/15/2021 19:27	WG1788369
Sulfate	25900		594	5000	1	12/15/2021 19:27	WG1788369

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	2290		20.0	200	1	12/28/2021 20:09	WG1793361
Calcium	23200		79.3	1000	1	12/28/2021 20:09	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	805000		13300	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	96200		379	1000	1	12/15/2021 19:52	WG1788369
Fluoride	997		64.0	150	1	12/15/2021 19:52	WG1788369
Sulfate	2820	B J	594	5000	1	12/15/2021 19:52	WG1788369

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	2210		20.0	200	1	12/28/2021 19:34	WG1793361
Calcium	25600		79.3	1000	1	12/28/2021 19:34	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	652000		13300	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	39600		379	1000	1	12/15/2021 21:35	WG1788369
Fluoride	904		64.0	150	1	12/15/2021 21:35	WG1788369
Sulfate	U		594	5000	1	12/15/2021 21:35	WG1788369

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	2460		20.0	200	1	12/28/2021 20:12	WG1793361
Calcium	28000		79.3	1000	1	12/28/2021 20:12	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	594000		10000	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	51000		379	1000	1	12/15/2021 22:00	WG1788369
Fluoride	531		64.0	150	1	12/15/2021 22:00	WG1788369
Sulfate	27200		594	5000	1	12/15/2021 22:00	WG1788369

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	2070		20.0	200	1	12/28/2021 20:14	WG1793361
Calcium	40000		79.3	1000	1	12/28/2021 20:14	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	539000		10000	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	29300		379	1000	1	12/14/2021 17:57	WG1788925
Fluoride	465		64.0	150	1	12/14/2021 17:57	WG1788925
Sulfate	24600		594	5000	1	12/14/2021 17:57	WG1788925

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1560		20.0	200	1	12/28/2021 20:17	WG1793361
Calcium	66800		79.3	1000	1	12/28/2021 20:17	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2010000		25000	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	472000		3790	10000	10	12/14/2021 23:09	WG1788925
Fluoride	175		64.0	150	1	12/15/2021 17:15	WG1789844
Sulfate	702000		5940	50000	10	12/14/2021 23:09	WG1788925

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	546		20.0	200	1	12/28/2021 20:20	WG1793361
Calcium	452000		79.3	1000	1	12/28/2021 20:20	WG1793361

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	756000		13300	1	11/24/2021 18:41	WG1780004

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	94400		379	1000	1	12/14/2021 19:03	WG1788925
Fluoride	981		64.0	150	1	12/14/2021 19:03	WG1788925
Sulfate	2920	J	594	5000	1	12/14/2021 19:03	WG1788925

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	2180		20.0	200	1	12/28/2021 20:23	WG1793361
Calcium	26500		79.3	1000	1	12/28/2021 20:23	WG1793361

Method Blank (MB)

(MB) R3734918-1 11/24/21 18:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1433582-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1433582-05 11/24/21 18:41 • (DUP) R3734918-3 11/24/21 18:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2650000	2930000	1	10.0	J3	5

Sample Narrative:

OS: Redo confirmed 1st run.

L1433890-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1433890-02 11/24/21 18:41 • (DUP) R3734918-4 11/24/21 18:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	839000	864000	1	2.98		5

Laboratory Control Sample (LCS)

(LCS) R3734918-2 11/24/21 18:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8410000	95.6	77.4-123	

Method Blank (MB)

(MB) R3741355-1 12/15/21 12:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	628	J	594	5000

L1433757-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1433757-02 12/15/21 14:20 • (DUP) R3741355-3 12/15/21 14:33

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	7000	6990	1	0.196		15
Fluoride	88.6	90.0	1	1.57	J	15
Sulfate	19000	18900	1	0.536		15

L1434174-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1434174-07 12/15/21 19:52 • (DUP) R3741355-6 12/15/21 20:31

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	96200	96600	1	0.480		15
Fluoride	997	1000	1	0.430		15
Sulfate	2820	2760	1	2.00	J	15

Laboratory Control Sample (LCS)

(LCS) R3741355-2 12/15/21 12:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40100	100	80.0-120	
Fluoride	8000	8240	103	80.0-120	
Sulfate	40000	40500	101	80.0-120	

L1433757-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1433757-03 12/15/21 14:46 • (MS) R3741355-4 12/15/21 15:24 • (MSD) R3741355-5 12/15/21 15:37

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	7700	60300	60200	105	105	1	80.0-120			0.151	15
Fluoride	5000	98.3	5210	5190	102	102	1	80.0-120			0.367	15
Sulfate	50000	11800	62900	62800	102	102	1	80.0-120			0.260	15

L1434174-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434174-07 12/15/21 19:52 • (MS) R3741355-8 12/15/21 21:09 • (MSD) R3741355-9 12/15/21 21:22

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	96200	144000	145000	96.4	97.0	1	80.0-120	E	E	0.213	15
Fluoride	5000	997	6300	6300	106	106	1	80.0-120			0.00793	15
Sulfate	50000	2820	53400	53600	101	102	1	80.0-120			0.295	15

QUALITY CONTROL SUMMARY

L1434174-10,11,12

Method Blank (MB)

(MB) R3740961-1 12/14/21 10:37

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	405	J	379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1434081-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1434081-01 12/14/21 14:08 • (DUP) R3740961-3 12/14/21 14:24

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	29600	29400	1	0.508		15
Sulfate	326000	326000	1	0.0639	E	15

L1437950-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1437950-02 12/14/21 22:20 • (DUP) R3740961-7 12/14/21 22:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	68800	68800	1	0.0169		15
Fluoride	195	192	1	1.50		15
Sulfate	912	899	1	1.38	J	15

Laboratory Control Sample (LCS)

(LCS) R3740961-2 12/14/21 10:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39000	97.5	80.0-120	
Fluoride	8000	7950	99.4	80.0-120	
Sulfate	40000	39300	98.3	80.0-120	

L1434081-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434081-01 12/14/21 14:08 • (MS) R3740961-5 12/14/21 14:41 • (MSD) R3740961-6 12/14/21 15:30

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	29600	77700	78300	96.2	97.5	1	80.0-120			0.791	15
Sulfate	50000	326000	328000	328000	3.73	3.80	1	80.0-120	E V	E V	0.0111	15

L1437950-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1437950-02 12/14/21 22:20 • (MS) R3740961-8 12/14/21 22:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	68800	116000	93.7	1	80.0-120	E
Fluoride	5000	195	5080	97.7	1	80.0-120	
Sulfate	50000	912	49300	96.7	1	80.0-120	

Method Blank (MB)

(MB) R3741671-1 12/15/21 11:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Fluoride	U		64.0	150

L1442381-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1442381-04 12/15/21 14:04 • (DUP) R3741671-3 12/15/21 14:20

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

L1442421-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1442421-05 12/15/21 19:55 • (DUP) R3741671-6 12/15/21 20:11

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

Laboratory Control Sample (LCS)

(LCS) R3741671-2 12/15/21 12:10

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluoride	8000	8270	103	80.0-120	

L1442381-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1442381-04 12/15/21 14:04 • (MS) R3741671-4 12/15/21 14:36 • (MSD) R3741671-5 12/15/21 14:52

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 %
Fluoride	5000	U	5020	5130	100	103	1	80.0-120			2.20	15

L1442421-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1442421-05 12/15/21 19:55 • (MS) R3741671-7 12/15/21 20:27

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5000	U	4960	99.2	1	80.0-120	

Method Blank (MB)

(MB) R3744586-1 12/23/21 18:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		20.0	200
Calcium	86.5	J	79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3744586-2 12/23/21 18:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	942	94.2	80.0-120	
Calcium	10000	9600	96.0	80.0-120	

L1434147-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434147-07 12/23/21 18:30 • (MS) R3744586-4 12/23/21 18:35 • (MSD) R3744586-5 12/23/21 18:38

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 %
Boron	1000	39.3	958	941	91.9	90.2	1	75.0-125			1.83	20
Calcium	10000	16300	26300	27300	101	110	1	75.0-125			3.64	20

Method Blank (MB)

(MB) R3745857-1 12/28/21 19:28

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) R3745857-2 12/28/21 19:31

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	972	97.2	80.0-120	
Calcium	10000	9800	98.0	80.0-120	

L1434174-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434174-07 12/28/21 19:34 • (MS) R3745857-4 12/28/21 19:39 • (MSD) R3745857-5 12/28/21 19:41

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	2210	3110	3140	90.1	93.3	1	75.0-125			1.03	20
Calcium	10000	25600	35100	35400	94.8	97.8	1	75.0-125			0.859	20

L1434175-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434175-05 12/28/21 19:44 • (MS) R3745857-6 12/28/21 19:47 • (MSD) R3745857-7 12/28/21 19:50

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	1530	2470	2460	94.1	93.1	1	75.0-125			0.420	20
Calcium	10000	4610	14100	14000	94.8	94.2	1	75.0-125			0.480	20

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.
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
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
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 [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	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 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] 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 West 110th Street
Suite 100
Overland Park. KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Suite 100
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - LaCygne Generating Station

City/State Collected: **LaCygne, KS**

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27217233.21-B

Lab Project #
AQUAOPKS-LACYGNE

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**

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres								Remarks	Sample # (lab only)
								L2										
MW-10	Grab	GW		11/18/21	1535	3	X	X	X									-01
MW-13	Grab	GW		11/18/21	1415	3	X	X	X									-02
MW-14R	Grab	GW		11/18/21	1540	3	X	X	X									-03
MW-15	Grab	GW		11/18/21	1055	3	X	X	X									-04
MW-601	Grab	GW		11/18/21	1335	3	X	X	X									-05
MW-602	Grab	GW		11/18/21	1455	3	X	X	X									-06
MW-801	Grab	GW		11/18/21	1415	3	X	X	X									-07
MW-802	Grab	GW		11/18/21	1340	3	X	X	X									-08
MW-803	Grab	GW		11/18/21	1300	3	X	X	X									-09
MW-804	Grab	GW		11/18/21	1215	3	X	X	X									-10

* 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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Whit Martin	11/19/21	1045	11-19-21 1300	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 3.2 3.2 3
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11/20/21 Time: 930

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

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Chain of Custody Page 1 of 2

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: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 14-34174
H233

Acctnum: **AQUAOPKS**
Template: **T157983**
Prelogin: **P885825**
PM: **206 - Jeff Carr**
PB:

Shipped Via: **FedEX Ground**

Company Name/Address:
SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park. KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Suite 100
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - LaCygne Generating Station

City/State Collected: La Cygne, KS

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27217233.21-B

Lab Project #
AQUAOPKS-LACYGNE

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

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-805	Grab	GW		11/18/21	1135	3	X	X	X		-11
DUPLICATE L	Grab	GW		11/18/21	1415	3	X	X	X		-12
801 MD/MSD	Grab	GW		11/18/21	1415	3	X	X	X		

Chain of Custody Page 2 of 2

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: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1434174

Table #

Acctnum: **AQUAOPKS**
Template: **T157983**
Prelogin: **P885825**
PM: **206 - Jeff Carr**
PB:

Shipped Via: **FedEX Ground**

* 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 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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	11/19/21	1045	11-19-21 1300	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 3.2+0=3.2 39
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11/20/21 Time: 930

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
October 31, 2022

ATTACHMENT 2

Statistical Analyses

Jared Morrison
October 31, 2022

ATTACHMENT 2-1

Fall 2020 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

March 24, 2021

To: La Cygne Generating Station
25166 East 2200 Road
La Cygne, Kansas 66040
Evergy Metro, Inc.

From: SCS Engineers

RE: Determination of Statistically Significant Increases –
CCR Landfill and Lower AQC Impoundment
Fall 2020 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill and Lower AQC Impoundment at the La Cygne 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 12, 2020. Review and validation of the results from the November 2020 Detection Monitoring Event was completed on December 24, 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 4, 2021 and March 3, 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, 1st verification re-sample results (when applicable), 2nd 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.

Revision Number	Revision Date	Attachment Revised	Summary of Revisions

La Cygne Generating Station
Determination of Statistically Significant Increases
CCR Landfill and Lower AQC Impoundment
March 24, 2021

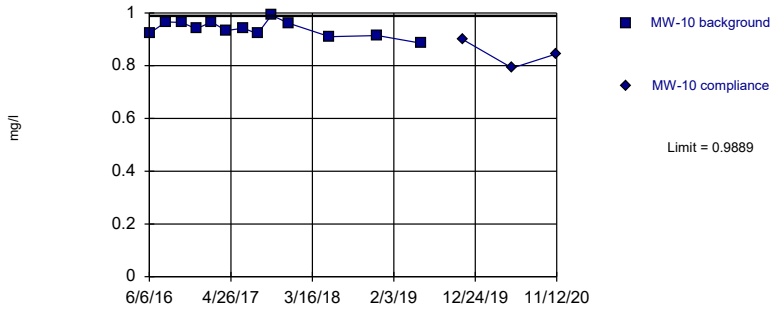
ATTACHMENT 1

Sanitas™ Output

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.9397, Std. Dev.=0.02926, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9728, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

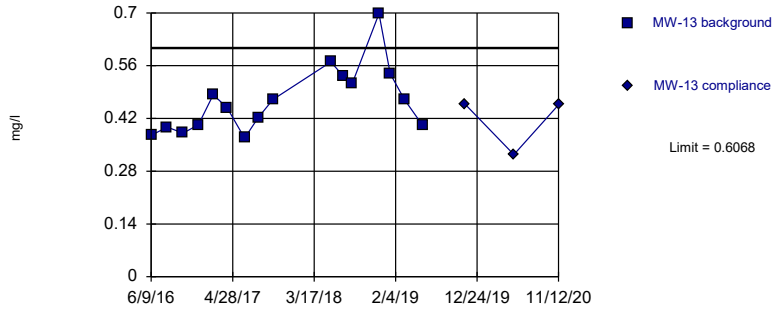
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.467, Std. Dev.=0.08842, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8992, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

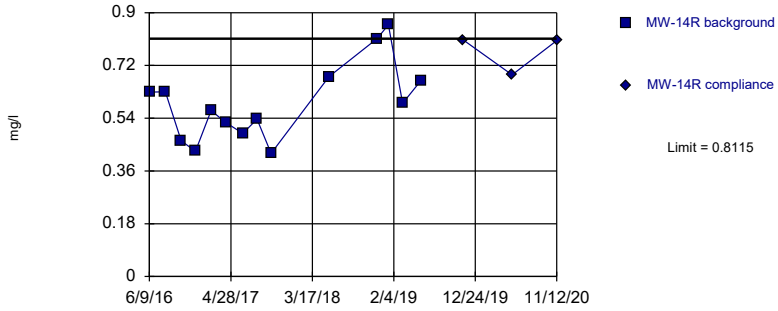
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5928, Std. Dev.=0.1327, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9446, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

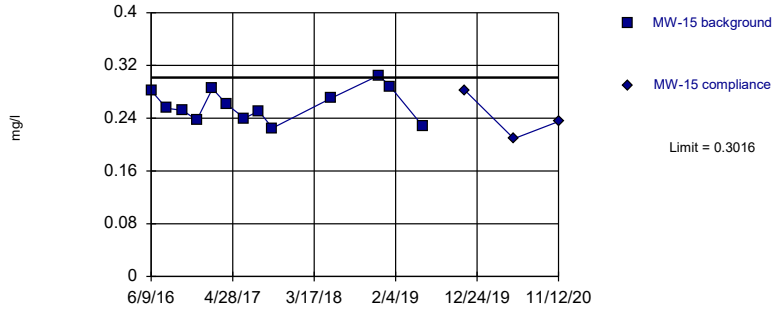
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2599, Std. Dev.=0.02478, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.961, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

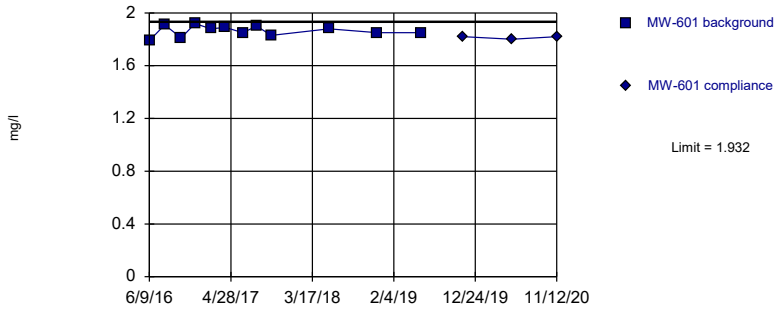
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15
6/6/2016	0.923							
6/9/2016			0.375		0.629		0.282	
8/9/2016							0.255	
8/11/2016	0.966		0.397		0.63			
10/12/2016	0.964						0.252	
10/13/2016			0.381		0.463			
12/7/2016							0.237	
12/9/2016	0.94				0.427			
12/13/2016			0.403					
2/7/2017							0.285	
2/8/2017	0.966							
2/9/2017					0.566			
2/10/2017			0.483					
4/5/2017							0.261	
4/6/2017	0.933		0.449					
4/7/2017					0.526			
6/14/2017							0.24	
6/15/2017	0.942		0.368		0.488			
8/8/2017			0.422					
8/10/2017	0.921				0.537		0.251	
10/3/2017							0.225	
10/4/2017	0.991							
10/5/2017			0.47		0.42			
12/12/2017	0.961							
5/23/2018	0.91		0.57		0.682		0.27	
7/11/2018			0.533					
8/16/2018			0.513					
11/30/2018	0.914		0.698		0.812		0.305	
1/14/2019			0.539		0.859		0.288	
3/11/2019			0.47		0.591			
5/23/2019	0.885		0.401		0.669		0.228	
11/7/2019		0.898		0.458		0.807		0.282
5/19/2020		0.791		0.324		0.688		0.209
11/12/2020		0.845		0.456		0.805		0.235

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.863, Std. Dev.=0.0403, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9586, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

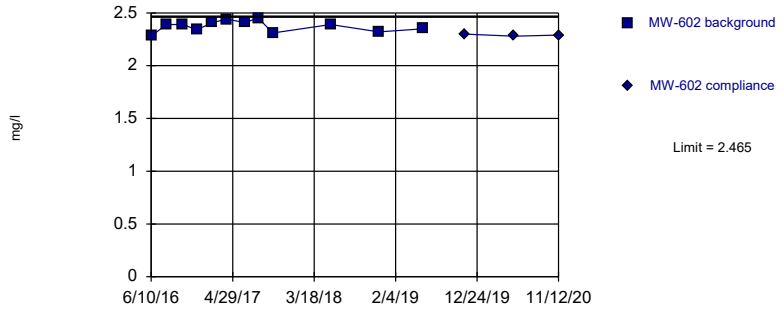
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.373, Std. Dev.=0.05314, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9546, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

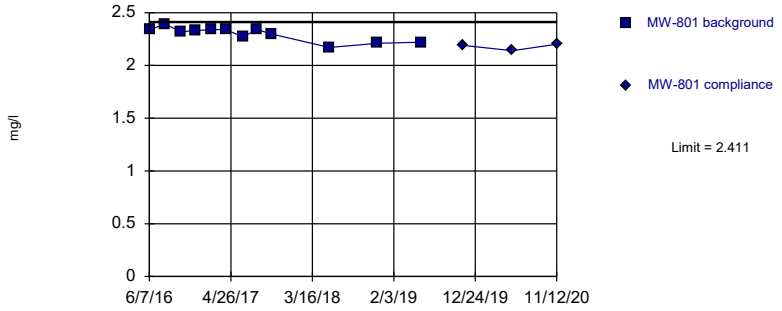
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.298, Std. Dev.=0.06608, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8916, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

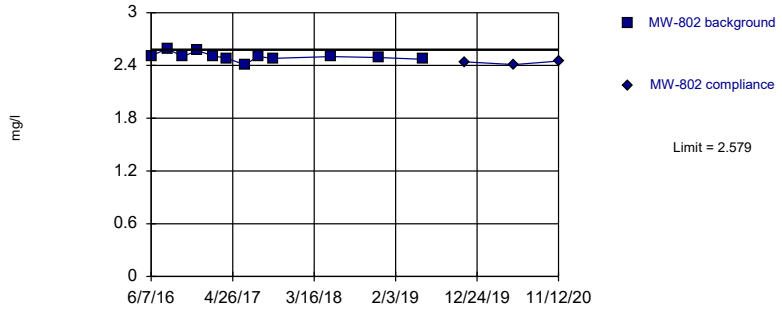
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.501, Std. Dev.=0.04582, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9045, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

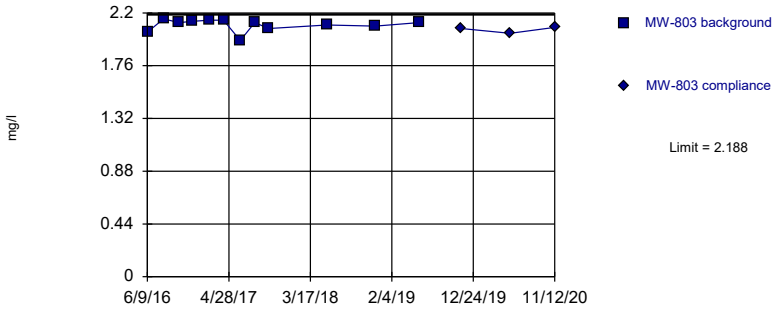
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802
6/7/2016					2.34		2.51	
6/9/2016	1.79							
6/10/2016			2.28					
8/9/2016	1.91		2.39		2.39			
8/10/2016							2.59	
10/11/2016					2.32		2.5	
10/13/2016	1.81		2.39					
12/6/2016					2.33		2.57	
12/7/2016	1.92							
12/9/2016			2.34					
2/7/2017					2.34		2.51	
2/8/2017	1.88		2.41					
4/4/2017							2.48	
4/6/2017	1.89				2.34			
4/7/2017			2.44					
6/13/2017							2.41	
6/14/2017					2.27			
6/15/2017	1.85		2.41					
8/7/2017							2.5	
8/9/2017	1.9				2.34			
8/10/2017			2.45					
10/4/2017					2.3		2.48	
10/5/2017			2.31					
10/6/2017	1.83							
5/23/2018	1.88		2.39		2.17		2.5	
11/30/2018	1.85		2.32		2.21		2.49	
5/23/2019	1.85		2.35		2.22		2.47	
11/7/2019		1.82		2.3		2.19		2.44
5/19/2020		1.8		2.28		2.14		2.41
11/12/2020		1.82		2.29		2.2		2.45

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.099, Std. Dev.=0.0516, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8353, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

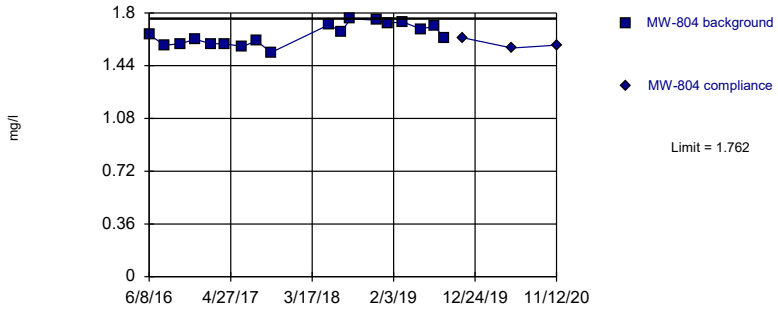
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.652, Std. Dev.=0.07131, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9373, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

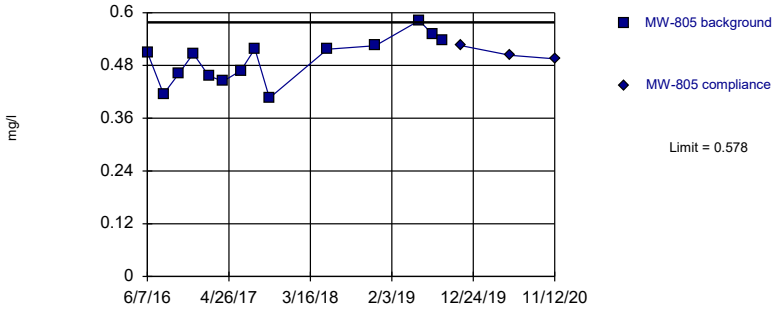
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4926, Std. Dev.=0.05176, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9627, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

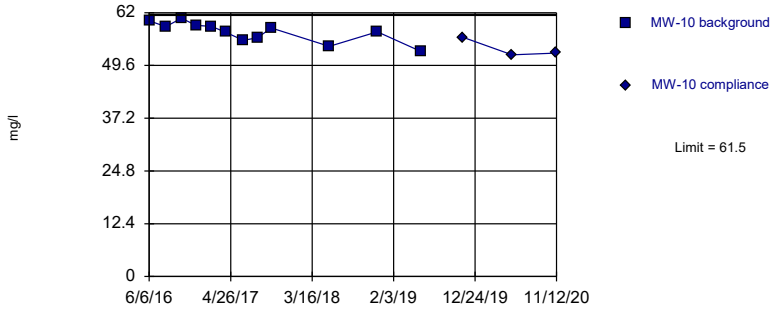
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=57.43, Std. Dev.=2.371, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9496, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON, CALCIUM Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

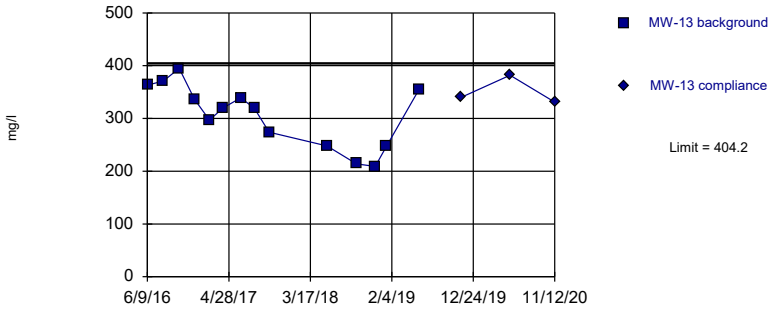
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10
6/6/2016							60.1	
6/7/2016					0.51			
6/8/2016			1.65					
6/9/2016	2.04							
8/10/2016			1.58		0.415			
8/11/2016							58.7	
8/12/2016	2.15							
10/11/2016			1.59		0.462			
10/12/2016							60.7	
10/13/2016	2.12							
12/6/2016	2.13				0.507			
12/7/2016			1.62					
12/9/2016							59	
2/6/2017					0.456			
2/7/2017			1.59					
2/8/2017	2.14						58.8	
4/4/2017			1.59		0.444			
4/6/2017							57.4	
4/7/2017	2.14							
6/13/2017	1.97		1.57		0.468			
6/15/2017							55.5	
8/8/2017			1.61		0.518			
8/9/2017	2.12							
8/10/2017							56.1	
10/4/2017	2.07						58.4	
10/5/2017			1.53		0.406			
5/23/2018	2.1		1.72		0.517		54.1	
7/11/2018			1.67					
8/16/2018			1.76					
11/30/2018	2.09		1.75		0.525		57.5	
1/14/2019			1.73					
3/11/2019			1.74					
5/23/2019	2.12		1.69		0.582		52.9	
7/17/2019			1.71		0.55			
8/22/2019			1.63		0.537			
11/7/2019		2.07		1.63		0.525		56.2
5/19/2020		2.03		1.56		0.503		52.1
11/12/2020		2.08		1.58		0.495		52.5

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=306.2, Std. Dev.=59.47, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

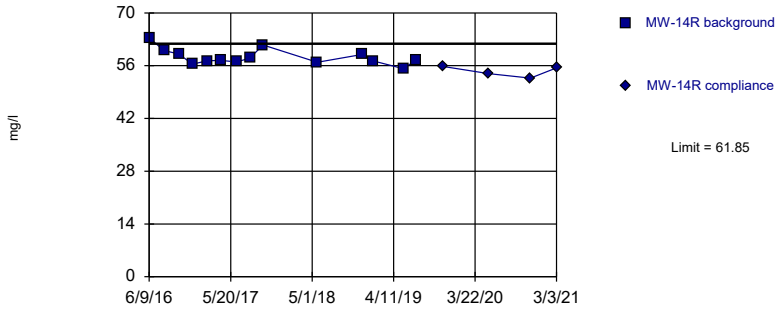
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=58.29, Std. Dev.=2.158, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.906, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

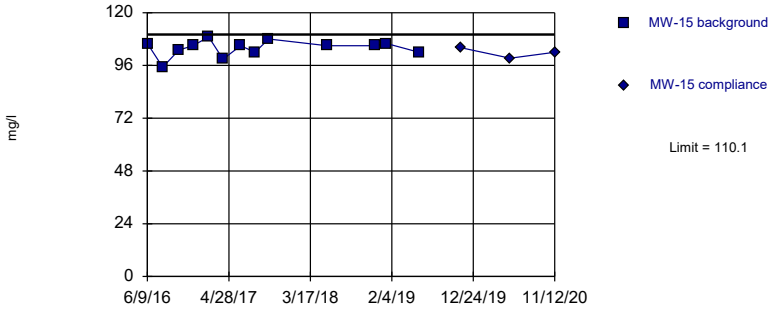
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=103.9, Std. Dev.=3.71, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9143, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

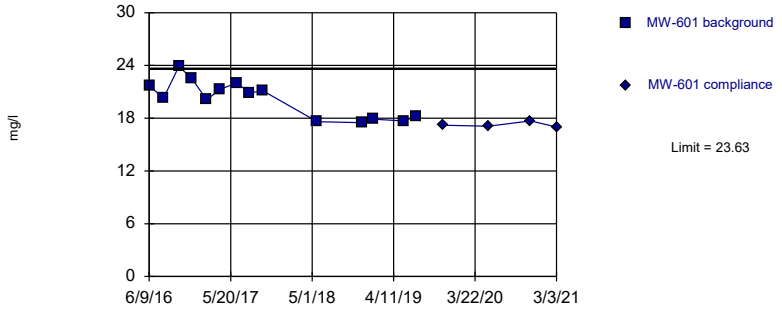
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=20.19, Std. Dev.=2.086, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9162, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

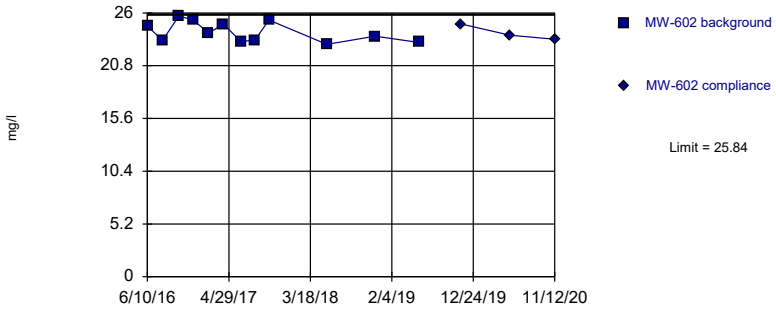
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601
6/9/2016	363		63.4		106		21.7	
8/9/2016					95.2		20.3	
8/11/2016	371		60					
10/12/2016					103			
10/13/2016	395		59.1				23.9	
12/7/2016					105		22.5	
12/9/2016			56.4					
12/13/2016	336							
2/7/2017					109			
2/8/2017							20.1	
2/9/2017			57.3					
2/10/2017	297							
4/5/2017					98.9			
4/6/2017	320						21.3	
4/7/2017			57.4					
6/14/2017					105			
6/15/2017	339		57				22	
8/8/2017	319							
8/9/2017							20.9	
8/10/2017			58		102			
10/3/2017					108			
10/5/2017	274		61.5					
10/6/2017							21.1	
5/23/2018	248		56.9		105		17.6	
9/17/2018	214							
11/30/2018	209		59		105		17.5	
1/14/2019	247		57.3		106		17.9	
5/23/2019	355		55.2		102		17.7	
7/17/2019			57.6				18.2	
11/7/2019		340		55.8		104		17.2
5/19/2020		382		53.9		99.3		17.1
11/12/2020		331		52.7		102		17.7
3/3/2021				55.4 Extra Sample				17 Extra Sample

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=24.12, Std. Dev.=1.006, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8906, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

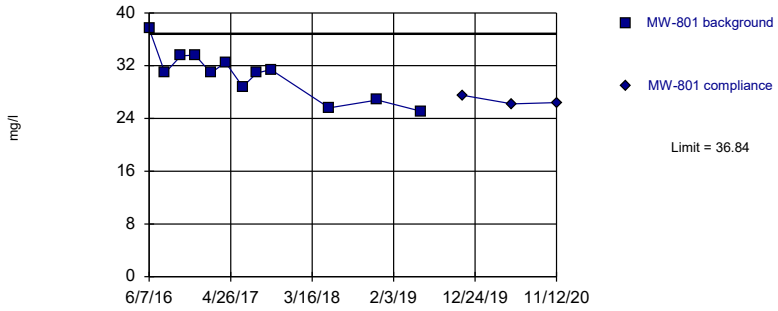
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.63, Std. Dev.=3.616, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9531, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

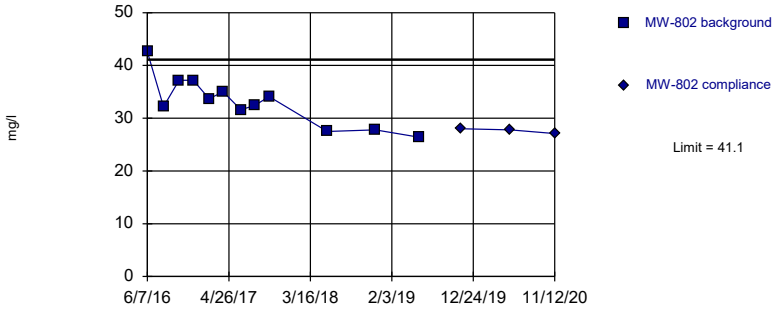
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=33.14, Std. Dev.=4.639, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9575, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

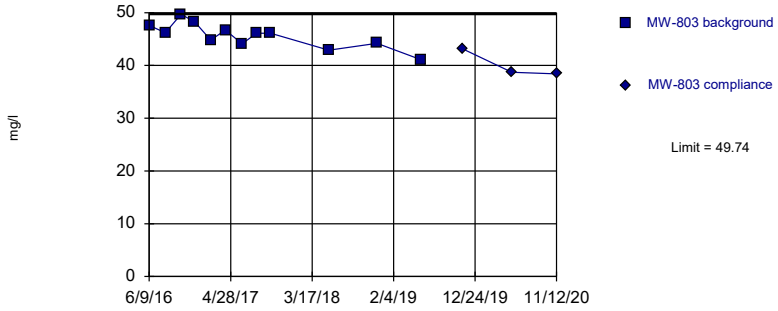
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=45.65, Std. Dev.=2.384, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9857, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

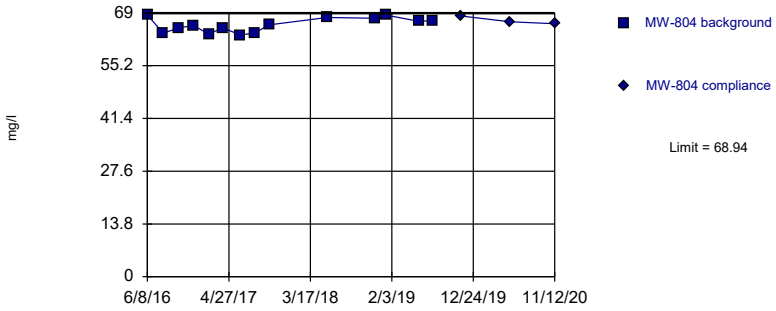
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803
6/7/2016			37.6		42.6			
6/9/2016							47.6	
6/10/2016	24.7							
8/9/2016	23.3		30.9					
8/10/2016					32.2			
8/12/2016							46.2	
10/11/2016			33.5		37.2			
10/13/2016	25.7						49.7	
12/6/2016			33.6		37.2		48.3	
12/9/2016	25.3							
2/7/2017			30.9		33.7			
2/8/2017	24						44.8	
4/4/2017					35			
4/6/2017			32.5					
4/7/2017	24.9						46.7	
6/13/2017					31.6		44.1	
6/14/2017			28.8					
6/15/2017	23.2							
8/7/2017					32.4			
8/9/2017			30.9				46.1	
8/10/2017	23.3							
10/4/2017			31.4		34.1		46.1	
10/5/2017	25.3							
5/23/2018	22.9		25.6		27.5		42.9	
11/30/2018	23.7		26.8		27.8		44.2	
5/23/2019	23.1		25.1		26.4		41.1	
11/7/2019		24.9		27.5		28		43.1
5/19/2020		23.8		26.2		27.8		38.7
11/12/2020		23.4		26.4		27.1		38.4

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=65.86, Std. Dev.=1.863, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9264, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

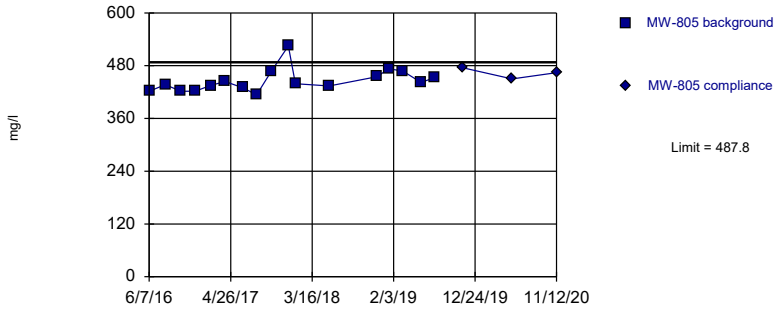
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=446, Std. Dev.=26.75, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8599, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

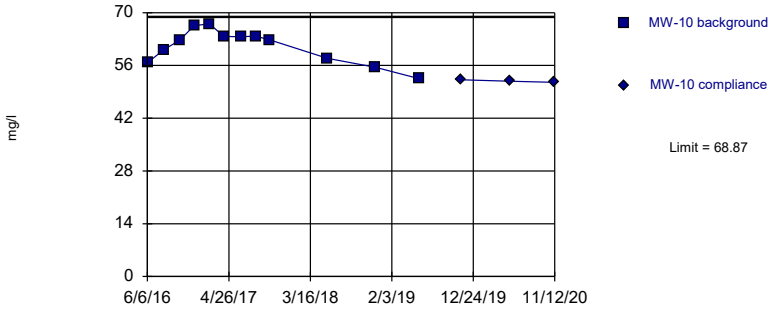
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=61.08, Std. Dev.=4.538, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9322, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

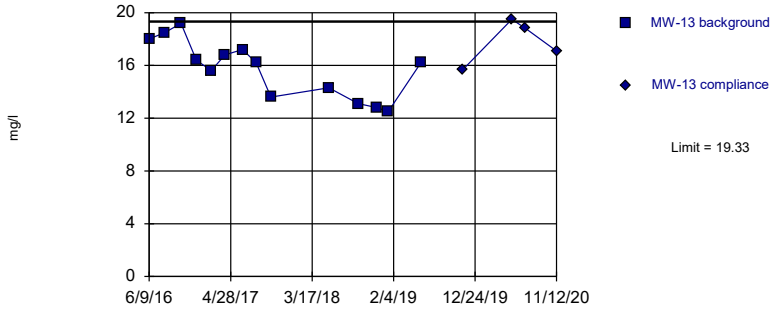
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.74, Std. Dev.=2.177, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM, CHLORIDE Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

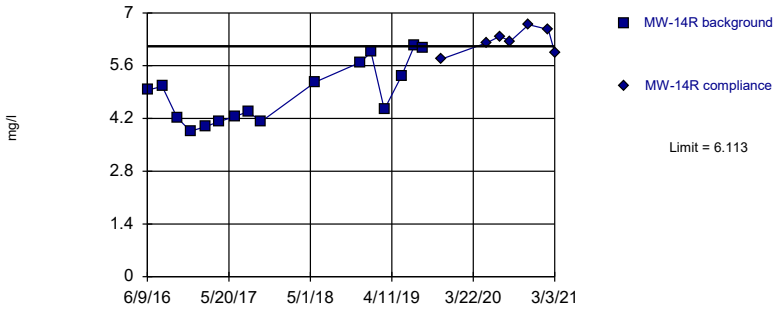
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13	
6/6/2016					56.7				
6/7/2016			422						
6/8/2016	68.5								
6/9/2016							18		
8/10/2016	63.7		437						
8/11/2016					60.2		18.5		
10/11/2016	65.1		422						
10/12/2016					62.7				
10/13/2016							19.2		
12/6/2016			422						
12/7/2016	65.7								
12/9/2016					66.6				
12/13/2016							16.4		
2/6/2017			435						
2/7/2017	63.5								
2/8/2017					67				
2/10/2017							15.6		
4/4/2017	65.1		444						
4/6/2017					63.7		16.8		
6/13/2017	63.2		430						
6/15/2017					63.6		17.2		
8/8/2017	63.8		414				16.2		
8/10/2017					63.8				
10/4/2017					62.8				
10/5/2017	65.9		467				13.6		
12/12/2017			525						
1/9/2018			439						
5/23/2018	67.8		434		57.9		14.3		
9/17/2018							13.1		
11/30/2018	67.6		455		55.5		12.8		
1/14/2019	68.4		473				12.5		
3/11/2019			468						
5/23/2019	66.8		442		52.5		16.2		
7/17/2019	67		453						
11/7/2019		68.2		475		52.2		15.7	
5/19/2020		66.7		450		51.8		19.5	
7/13/2020								18.8	1st Verification Sample
11/12/2020		66.2		464		51.5		17.1	

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=4.858, Std. Dev.=0.7941, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8996, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

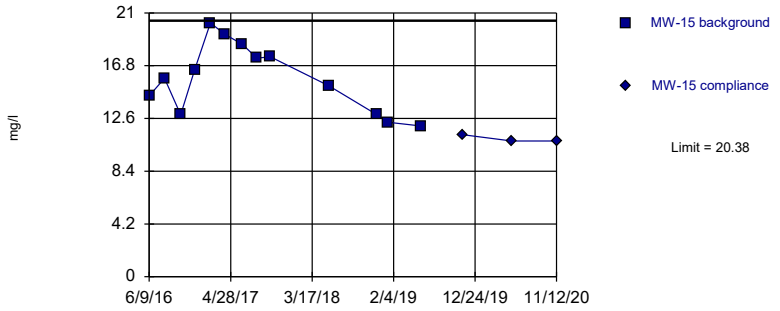
Constituent: CHLORIDE Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.76, Std. Dev.=2.748, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

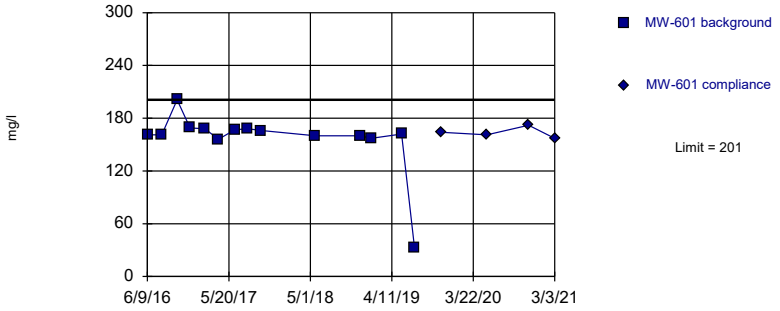
Constituent: CHLORIDE Analysis Run 3/17/2021 12:40 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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 14 background values. Well-constituent pair annual alpha = 0.003197. Individual comparison alpha = 0.0016 (1 of 3).

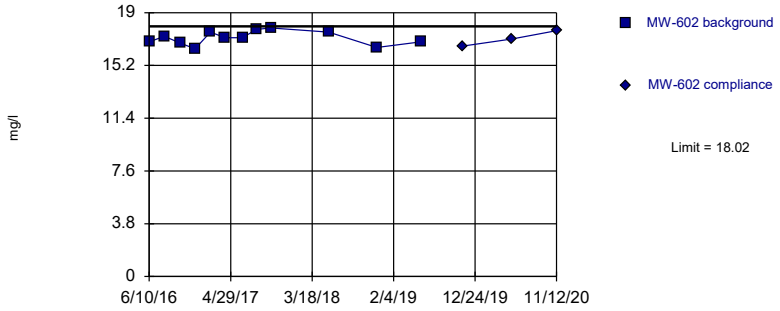
Constituent: CHLORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=17.18, Std. Dev.=0.4901, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9557, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

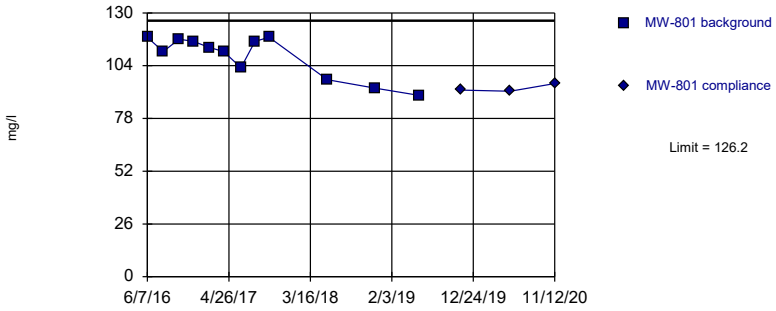
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602
6/9/2016	4.95		14.4		161			
6/10/2016							16.9	
8/9/2016			15.8		161		17.3	
8/11/2016	5.05							
10/12/2016			12.9					
10/13/2016	4.22				201		16.8	
12/7/2016			16.5		169			
12/9/2016	3.86						16.4	
2/7/2017			20.2					
2/8/2017					168		17.6	
2/9/2017	3.98							
4/5/2017			19.3					
4/6/2017					156			
4/7/2017	4.11						17.2	
6/14/2017			18.5					
6/15/2017	4.25				167		17.2	
8/9/2017					168			
8/10/2017	4.38		17.4				17.8	
10/3/2017			17.5					
10/5/2017	4.12						17.9	
10/6/2017					166			
5/23/2018	5.17		15.2		160		17.6	
11/30/2018	5.69		12.9		160		16.5	
1/14/2019	5.96		12.3		157			
3/11/2019	4.44							
5/23/2019	5.33		12		162		16.9	
7/17/2019	6.14				32.3			
8/23/2019	6.08							
11/7/2019		5.77		11.3		164		16.6
5/19/2020		6.21		10.8		161		17.1
7/13/2020		6.38	1st Verification Sample					
8/27/2020		6.25	2nd Verification Sample					
11/12/2020		6.69		10.8		172		17.7
2/4/2021		6.56	1st Verification Sample					
3/3/2021		5.95	2nd Verification Sample			157	Extra Sample	

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=108.5, Std. Dev.=10.3, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8377, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

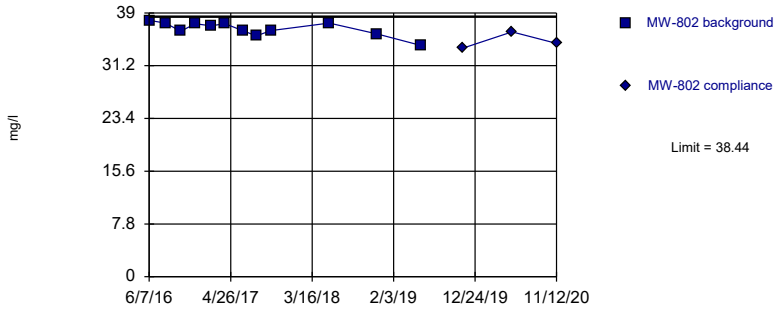
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=36.63, Std. Dev.=1.055, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9005, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

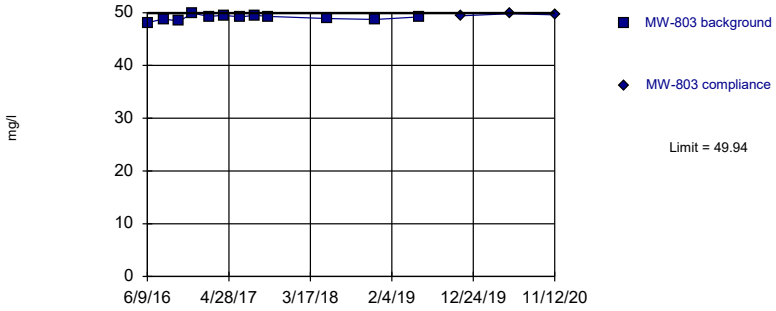
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=49.07, Std. Dev.=0.5069, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9692, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

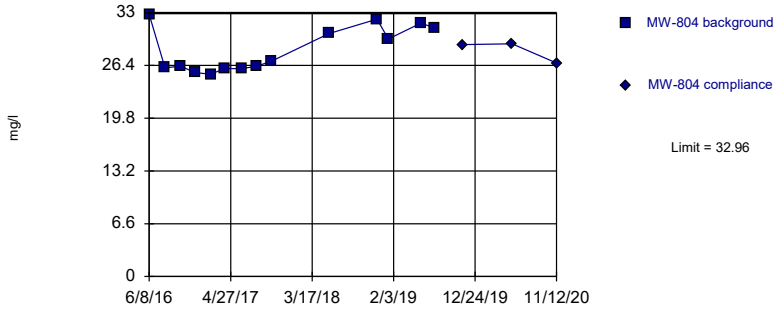
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=28.31, Std. Dev.=2.821, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.832, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

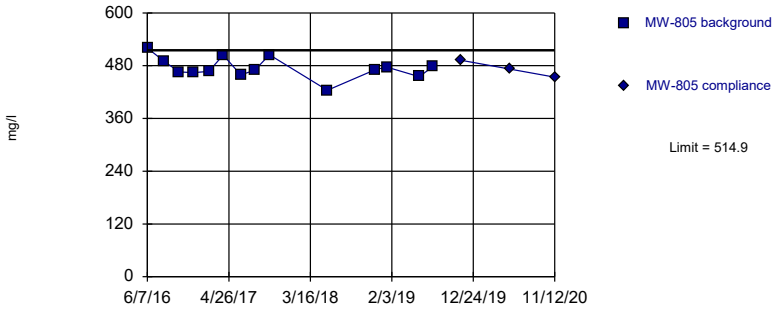
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804
6/7/2016	118		37.9					
6/8/2016							32.8	
6/9/2016					48.1			
8/9/2016	111							
8/10/2016			37.5				26.1	
8/12/2016					48.8			
10/11/2016	117		36.3				26.3	
10/13/2016					48.4			
12/6/2016	116		37.4		49.9			
12/7/2016							25.5	
2/7/2017	113		37.1				25.3	
2/8/2017					49.3			
4/4/2017			37.4				26	
4/6/2017	111							
4/7/2017					49.5			
6/13/2017			36.4		49.2		26	
6/14/2017	103							
8/7/2017			35.6					
8/8/2017							26.3	
8/9/2017	116				49.5			
10/4/2017	118		36.4		49.3			
10/5/2017							26.9	
5/23/2018	97.1		37.5		48.9		30.4	
11/30/2018	92.9		35.9		48.7		32.2	
1/14/2019							29.7	
5/23/2019	89.4		34.2		49.2		31.7	
7/17/2019							31.1	
11/7/2019		92		33.8		49.4		29
5/19/2020		91.4		36.2		49.8		29.1
11/12/2020		95.2		34.5		49.6		26.7

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=475.1, Std. Dev.=24.18, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9547, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

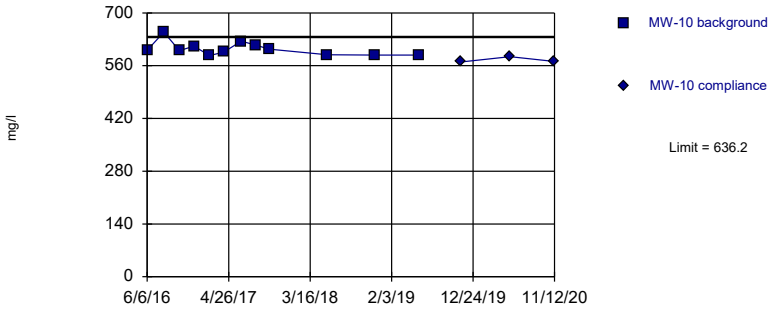
Constituent: CHLORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=604.5, Std. Dev.=18.5, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8634, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

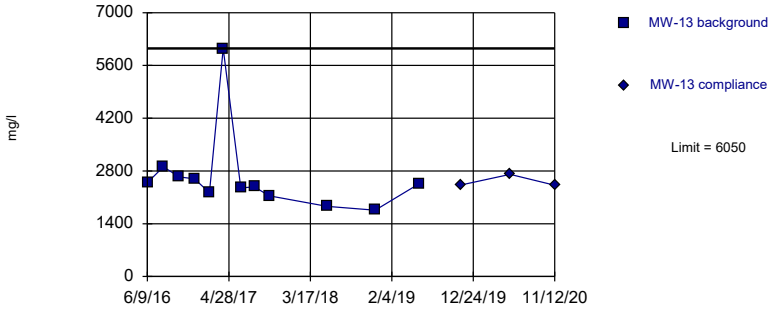
Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

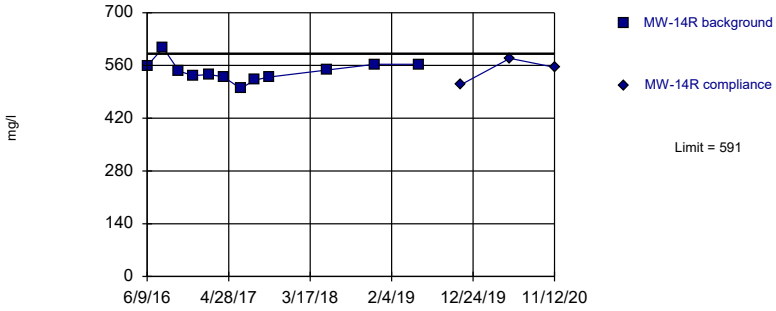
Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=544.4, Std. Dev.=27.12, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9426, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE, DISSOLVED SOLIDS Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

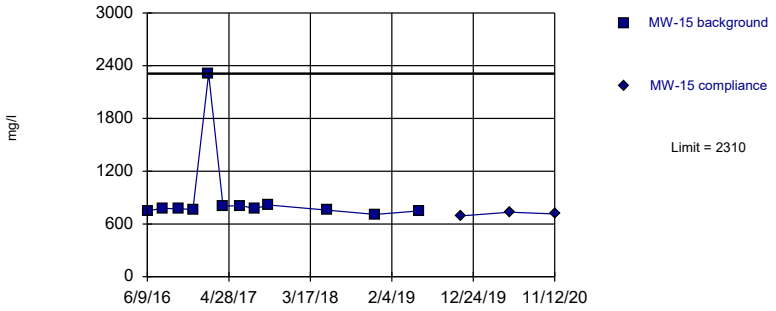
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R
6/6/2016			601					
6/7/2016	520							
6/9/2016					2490		559	
8/10/2016	491							
8/11/2016			649		2910		607	
10/11/2016	466							
10/12/2016			600					
10/13/2016					2640		545	
12/6/2016	464							
12/9/2016			612				533	
12/13/2016					2590			
2/6/2017	467							
2/8/2017			587					
2/9/2017							536	
2/10/2017					2220			
4/4/2017	504							
4/6/2017			596		6050			
4/7/2017							530	
6/13/2017	459							
6/15/2017			625		2350		499	
8/8/2017	470				2380			
8/10/2017			615				521	
10/4/2017			604					
10/5/2017	505				2140		529	
5/23/2018	424		589		1860		548	
11/30/2018	471		588		1760		563	
1/14/2019	477							
5/23/2019	455		588		2460		563	
7/17/2019	478							
11/7/2019		492		570		2430		509
5/19/2020		472		584		2710		579
11/12/2020		454		571		2420		555

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 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

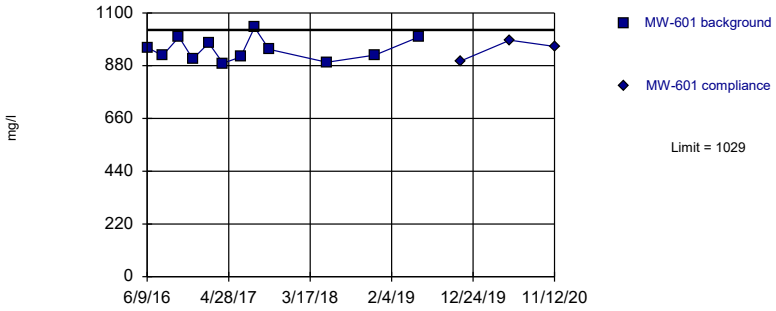
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=947.7, Std. Dev.=47.45, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9332, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

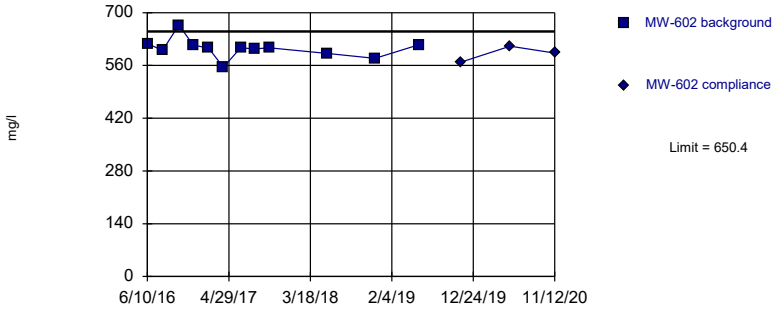
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=605.3, Std. Dev.=26.24, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8925, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

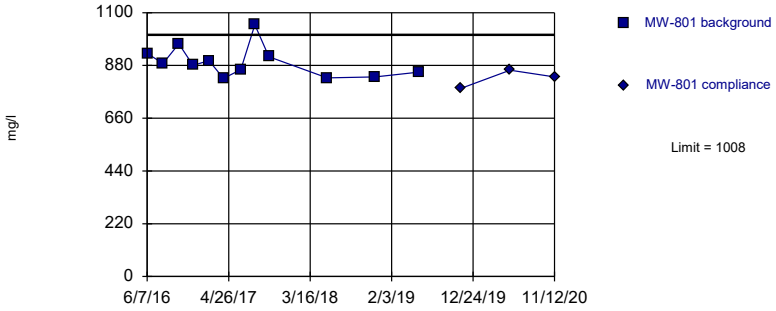
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=894.5, Std. Dev.=65.9, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8949, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

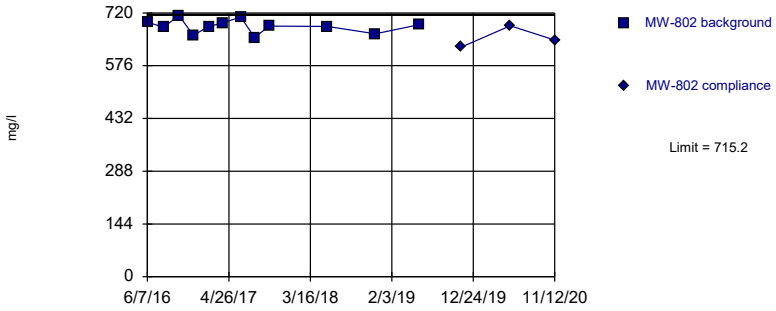
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801
6/7/2016							930	
6/9/2016	751		956					
6/10/2016					618			
8/9/2016	777		922		600		888	
10/11/2016							970	
10/12/2016	772							
10/13/2016			1000		667			
12/6/2016							880	
12/7/2016	767		908					
12/9/2016					614			
2/7/2017	2310						900	
2/8/2017			974		606			
4/5/2017	803							
4/6/2017			890				826	
4/7/2017					555			
6/14/2017	808						862	
6/15/2017			916		607			
8/9/2017			1040				1050	
8/10/2017	775				604			
10/3/2017	815							
10/4/2017							916	
10/5/2017					607			
10/6/2017			948					
5/23/2018	757		894		592		828	
11/30/2018	709		924		579		832	
5/23/2019	748		1000		615		852	
11/7/2019		692		900		569		785
5/19/2020		734		986		611		860
11/12/2020		713		960		593		832

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=683.7, Std. Dev.=18.39, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9477, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

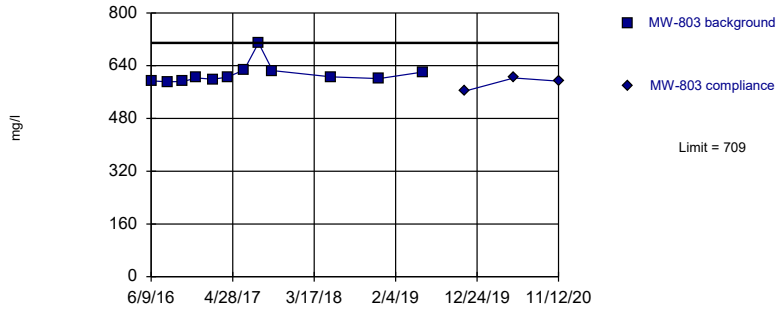
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

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 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

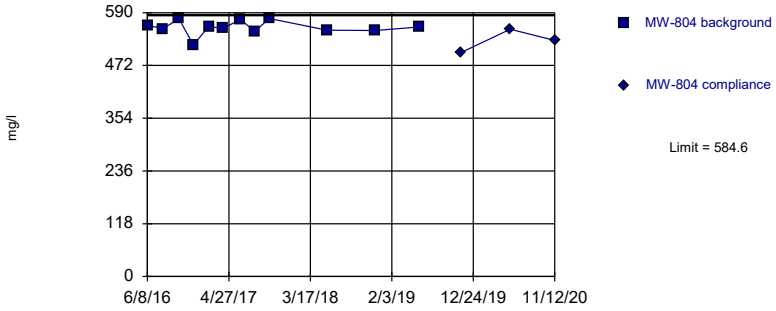
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=557, Std. Dev.=16.11, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8798, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

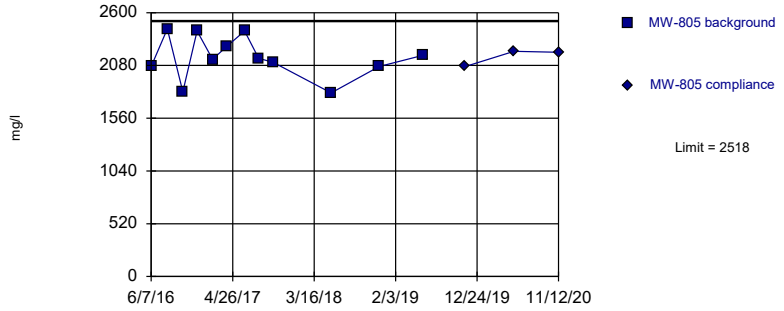
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2158, Std. Dev.=209.6, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.915, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

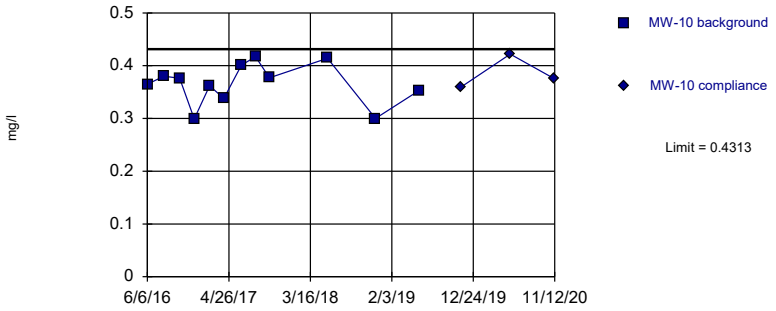
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805
6/7/2016	695						2070	
6/8/2016					562			
6/9/2016			594					
8/10/2016	681				554		2440	
8/12/2016			591					
10/11/2016	713				577		1820	
10/13/2016			592					
12/6/2016	659		603				2420	
12/7/2016					518			
2/6/2017							2140	
2/7/2017	683				559			
2/8/2017			599					
4/4/2017	693				555		2270	
4/7/2017			605					
6/13/2017	709		627		575		2420	
8/7/2017	653							
8/8/2017					548		2150	
8/9/2017			709					
10/4/2017	684		625					
10/5/2017					577		2110	
5/23/2018	683		606		551		1810	
11/30/2018	663		601		550		2070	
5/23/2019	688		621		558		2180	
11/7/2019		627		563		501		2070
5/19/2020		685		603		553		2220
11/12/2020		646		593		528		2210

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3652, Std. Dev.=0.03856, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9296, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

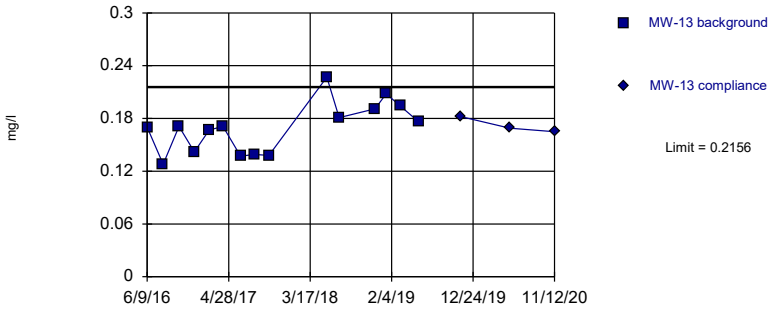
Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1693, Std. Dev.=0.02865, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9466, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

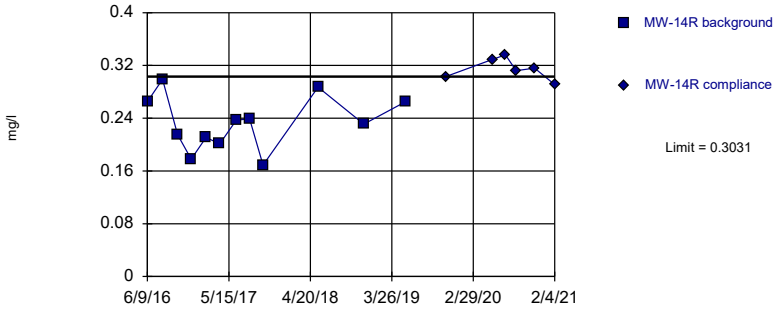
Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2331, Std. Dev.=0.04082, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9709, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

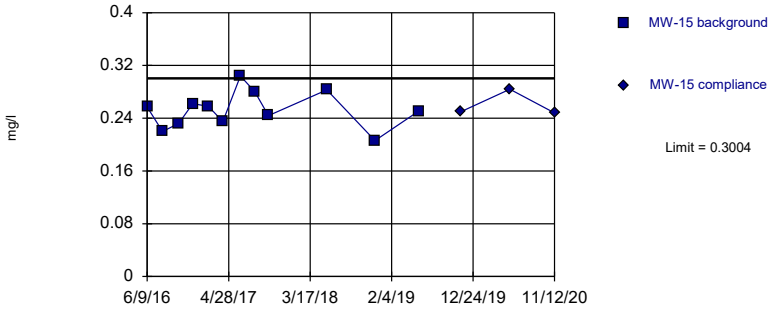
Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2527, Std. Dev.=0.0278, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9878, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

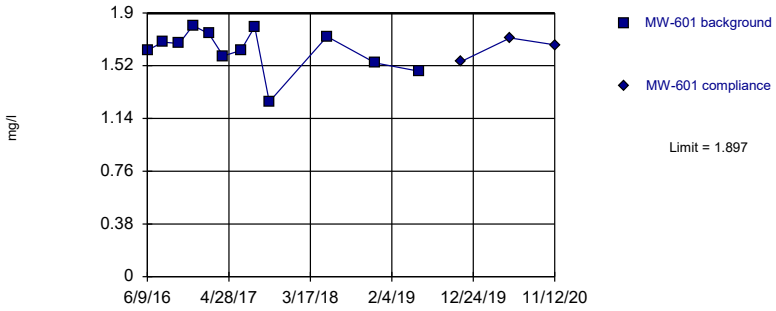
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15
6/6/2016	0.365							
6/9/2016			0.17		0.265		0.257	
8/9/2016							0.22	
8/11/2016	0.38		0.128		0.299			
10/12/2016	0.376						0.232	
10/13/2016			0.171		0.215			
12/7/2016							0.262	
12/9/2016	0.299				0.178			
12/13/2016			0.142					
2/7/2017							0.258	
2/8/2017	0.362							
2/9/2017					0.211			
2/10/2017			0.167					
4/5/2017							0.235	
4/6/2017	0.338		0.171					
4/7/2017					0.201			
6/14/2017							0.304	
6/15/2017	0.401		0.137		0.237			
8/8/2017			0.139					
8/10/2017	0.417				0.239		0.28	
10/3/2017							0.244	
10/4/2017	0.377							
10/5/2017			0.138		0.169			
5/23/2018	0.414		0.227		0.287		0.283	
7/11/2018			0.181					
11/30/2018	0.3		0.191		0.231		0.206	
1/14/2019			0.208					
3/11/2019			0.194					
5/23/2019	0.353		0.176		0.265		0.251	
11/7/2019		0.36		0.182		0.303		0.25
5/19/2020		0.422		0.169		0.329		0.284
7/13/2020						0.336	1st Verification Sample	
8/27/2020						0.312	2nd Verification Sample	
11/12/2020		0.375		0.165		0.316		0.248
2/4/2021						0.291	1st Verification Sample	

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.633, Std. Dev.=0.154, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9058, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

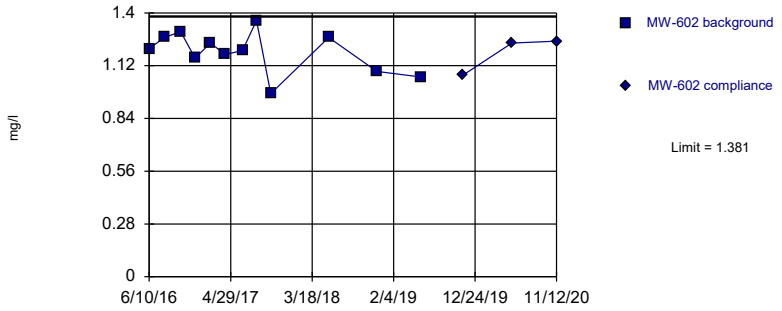
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.193, Std. Dev.=0.1096, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9686, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

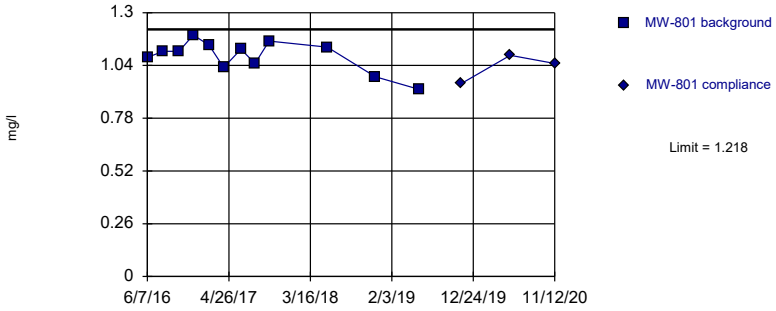
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.086, Std. Dev.=0.077, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9388, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

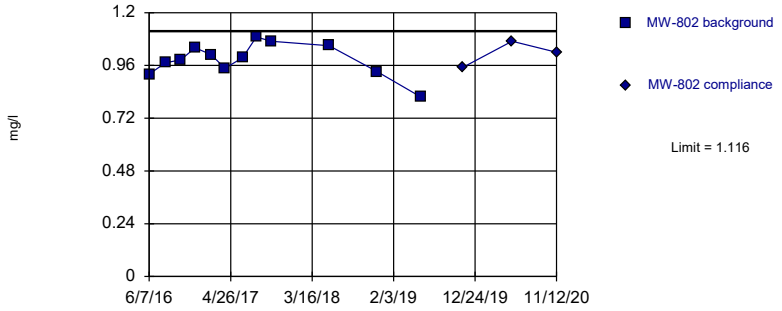
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.9857, Std. Dev.=0.07594, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9549, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

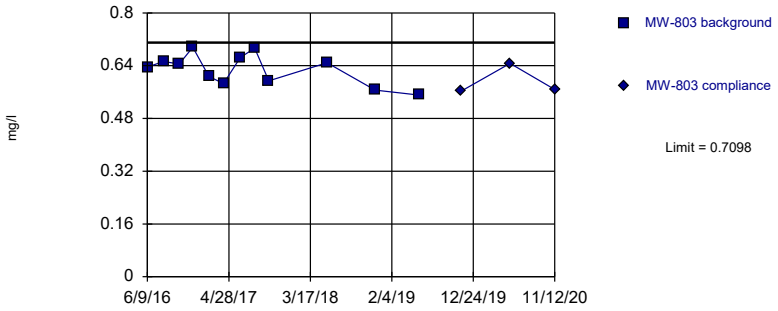
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802
6/7/2016					1.08		0.92	
6/9/2016	1.63							
6/10/2016			1.21					
8/9/2016	1.69		1.27		1.11			
8/10/2016							0.972	
10/11/2016					1.11		0.986	
10/13/2016	1.68		1.3					
12/6/2016					1.19		1.04	
12/7/2016	1.81							
12/9/2016			1.16					
2/7/2017					1.14		1.01	
2/8/2017	1.75		1.24					
4/4/2017							0.947	
4/6/2017	1.59				1.03			
4/7/2017			1.18					
6/13/2017							0.995	
6/14/2017					1.12			
6/15/2017	1.63		1.2					
8/7/2017							1.09	
8/9/2017	1.8				1.05			
8/10/2017			1.36					
10/4/2017					1.16		1.07	
10/5/2017			0.972					
10/6/2017	1.26							
5/23/2018	1.73		1.27		1.13		1.05	
11/30/2018	1.54		1.09		0.984		0.932	
5/23/2019	1.48		1.06		0.922		0.816	
11/7/2019		1.55		1.07		0.951		0.952
5/19/2020		1.72		1.24		1.09		1.07
11/12/2020		1.67		1.25		1.05		1.02

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.6284, Std. Dev.=0.04745, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9533, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

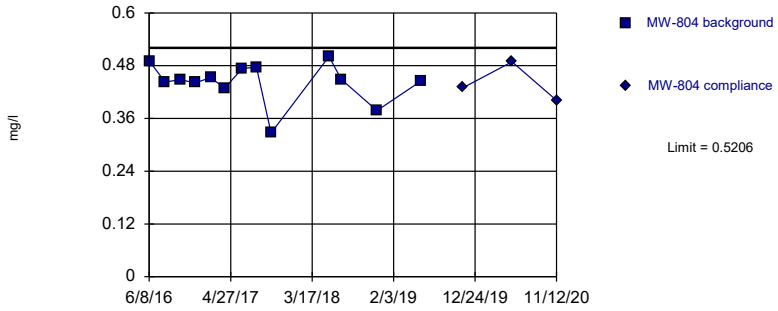
Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4427, Std. Dev.=0.04633, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8629, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

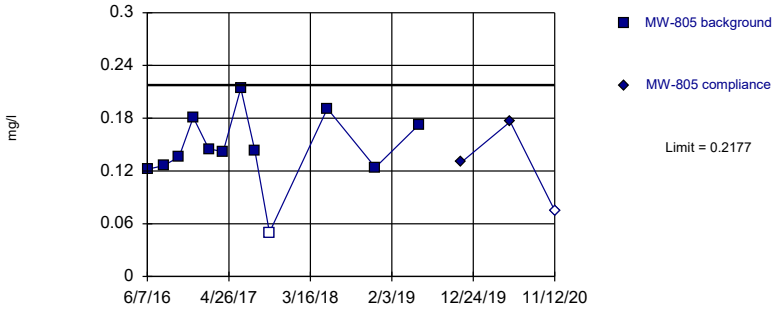
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1456, Std. Dev.=0.042, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9313, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

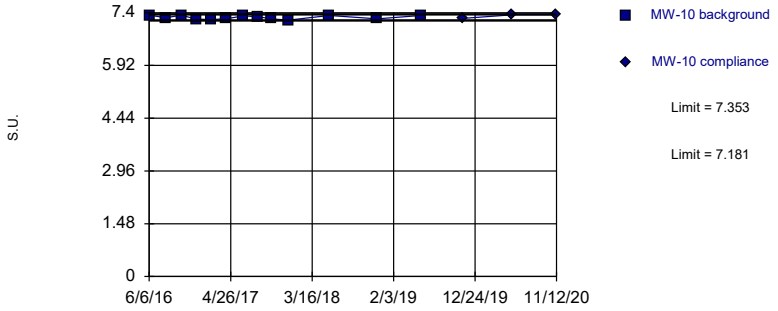
Constituent: FLUORIDE Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.267, Std. Dev.=0.05122, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.88, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE, pH Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

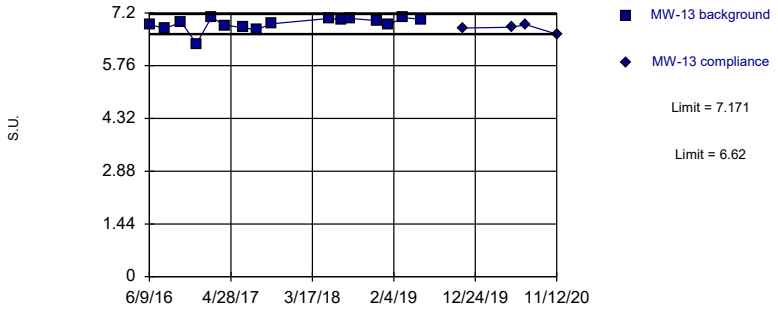
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10
6/6/2016							7.33	
6/7/2016					0.122			
6/8/2016			0.491					
6/9/2016	0.636							
8/10/2016			0.443		0.126			
8/11/2016							7.26	
8/12/2016	0.653							
10/11/2016			0.448		0.136			
10/12/2016							7.33	
10/13/2016	0.645							
12/6/2016	0.696				0.181			
12/7/2016			0.441					
12/9/2016							7.22	
2/6/2017					0.145			
2/7/2017			0.453					
2/8/2017	0.607						7.21	
4/4/2017			0.429		0.142			
4/6/2017							7.23	
4/7/2017	0.586							
6/13/2017	0.665		0.474		0.214			
6/15/2017							7.31	
8/8/2017			0.476		0.143			
8/9/2017	0.693							
8/10/2017							7.29	
10/4/2017	0.594						7.23	
10/5/2017			0.327		<0.1			
12/12/2017							7.19	
5/23/2018	0.649		0.501		0.191		7.32	
7/11/2018			0.449					
11/30/2018	0.566		0.378		0.124		7.23	
5/23/2019	0.551		0.445		0.173		7.32	
11/7/2019		0.563		0.43		0.13		7.24
5/19/2020		0.647		0.489		0.176		7.34
11/12/2020		0.568		0.401		<0.15		7.34

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=329.4, Std. Dev.=24.85, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.845, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

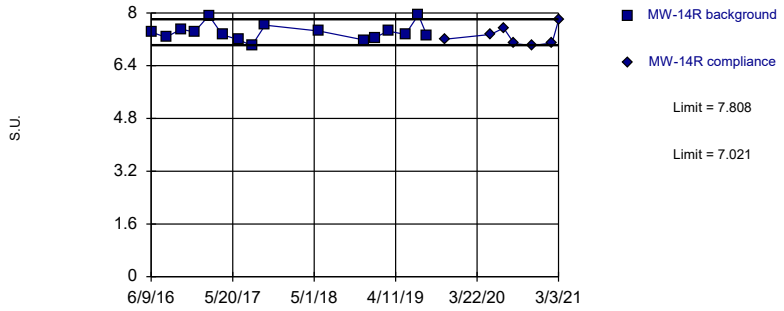
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.414, Std. Dev.=0.2491, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.915, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

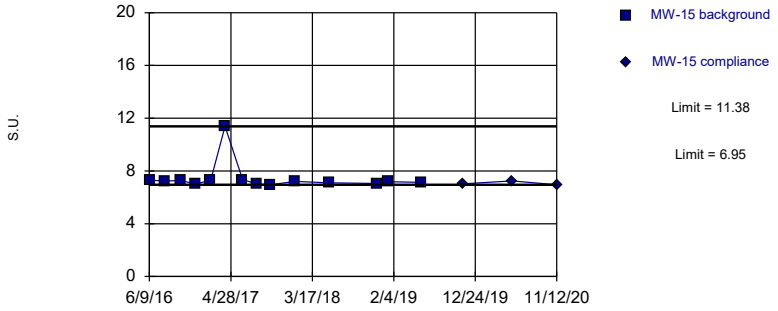
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

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 14 background values. Well-constituent pair annual alpha = 0.006393. Individual comparison alpha = 0.003199 (1 of 3).

Constituent: pH Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

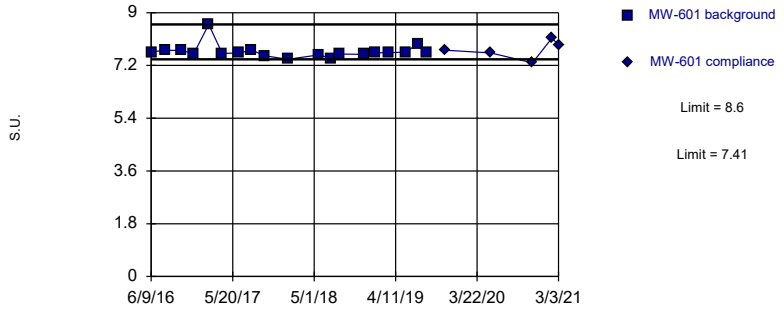
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

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 19 background values. Well-constituent pair annual alpha = 0.002713. Individual comparison alpha = 0.001357 (1 of 3).

Constituent: pH Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

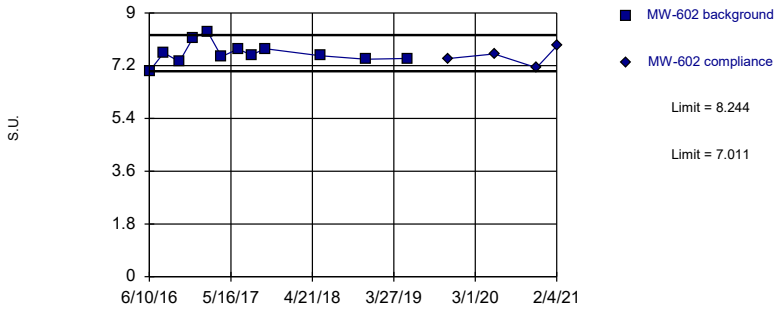
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601
6/9/2016	6.88		7.42		7.31		7.66	
8/9/2016					7.23		7.72	
8/11/2016	6.78		7.26					
10/12/2016					7.28			
10/13/2016	6.95		7.51				7.71	
12/7/2016					7.02		7.61	
12/9/2016			7.42					
12/13/2016	6.36							
2/7/2017					7.28			
2/8/2017							8.6	
2/9/2017			7.92					
2/10/2017	7.08							
4/5/2017					11.38			
4/6/2017	6.86						7.61	
4/7/2017			7.34					
6/14/2017					7.34			
6/15/2017	6.8		7.19				7.62	
8/8/2017	6.74							
8/9/2017							7.72	
8/10/2017			7.01		7.02			
10/3/2017					6.95			
10/5/2017	6.9		7.63					
10/6/2017							7.53	
1/9/2018					7.21		7.41	
5/23/2018	7.05		7.45		7.1		7.56	
7/11/2018	7.02						7.43	
8/16/2018	7.05						7.59	
11/30/2018	6.99		7.18		7.05		7.58	
1/14/2019	6.87		7.25		7.18		7.63	
3/11/2019	7.07		7.45				7.64	
5/23/2019	7.03		7.35		7.14		7.65	
7/17/2019			7.94				7.95	
8/23/2019			7.31				7.66	
11/7/2019		6.79		7.2		7.03		7.72
5/19/2020		6.81		7.35		7.25		7.63
7/13/2020		6.88 Extra Sample		7.54 Extra Sample				
8/27/2020				7.07				
11/12/2020		6.62		7.01		6.95		7.29
2/4/2021				7.09 1st Verification Sample				8.14 1st Verification Sample
3/3/2021				7.78 Extra Sample				7.88 Extra Sample

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.628, Std. Dev.=0.359, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.943, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

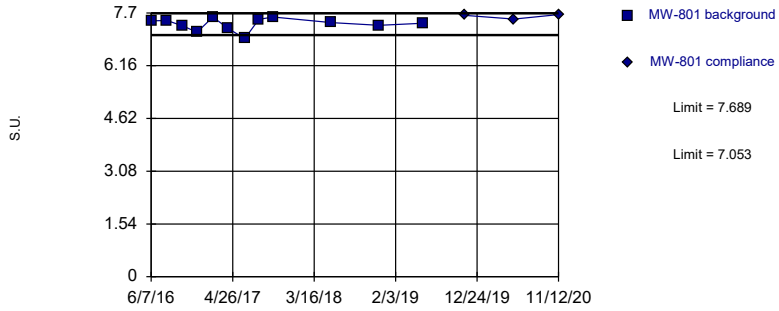
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.371, Std. Dev.=0.1854, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.914, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

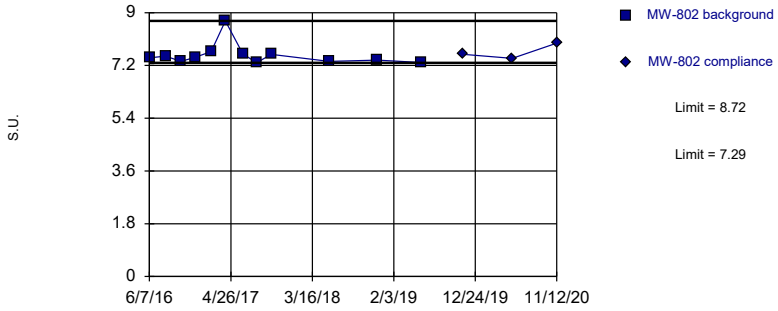
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

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 12 background values. Well-constituent pair annual alpha = 0.008684. Individual comparison alpha = 0.004347 (1 of 3).

Constituent: pH Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

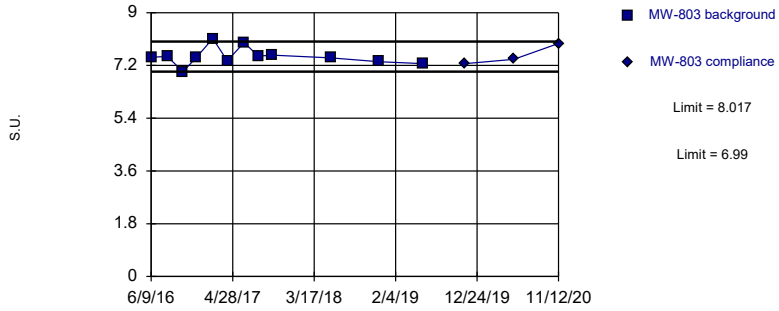
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.503, Std. Dev.=0.2994, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8953, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/17/2021 12:41 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

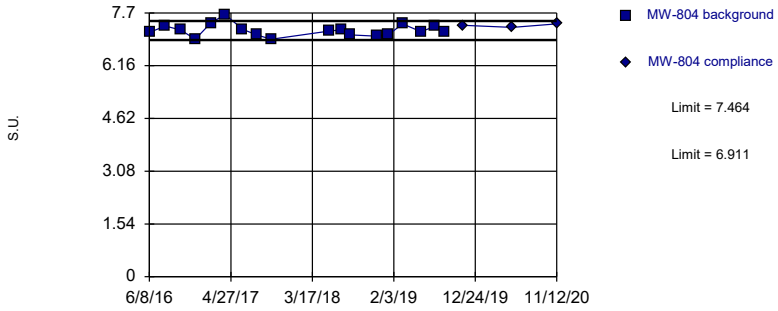
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803
6/7/2016			7.47		7.46			
6/9/2016							7.48	
6/10/2016	7.01							
8/9/2016	7.64		7.48					
8/10/2016					7.52			
8/12/2016							7.51	
10/11/2016			7.32		7.34			
10/13/2016	7.34						6.99	
12/6/2016			7.14		7.48		7.48	
12/9/2016	8.15							
2/7/2017			7.58		7.67			
2/8/2017	8.36						8.12	
4/5/2017					8.72			
4/6/2017			7.26					
4/7/2017	7.51						7.36	
6/13/2017					7.6		7.98	
6/14/2017			6.95					
6/15/2017	7.77							
8/7/2017					7.29			
8/8/2017							7.52	
8/9/2017			7.51					
8/10/2017	7.56							
10/4/2017			7.58		7.58		7.55	
10/5/2017	7.78							
5/23/2018	7.54		7.42		7.34		7.46	
11/30/2018	7.42		7.34		7.38		7.33	
5/23/2019	7.45		7.4		7.3		7.26	
11/7/2019		7.44		7.63		7.58		7.26
5/19/2020		7.6		7.52		7.44		7.41
11/12/2020		7.13		7.65		7.96		7.95
2/4/2021		7.87 Extra Sample						

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.188, Std. Dev.=0.1795, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

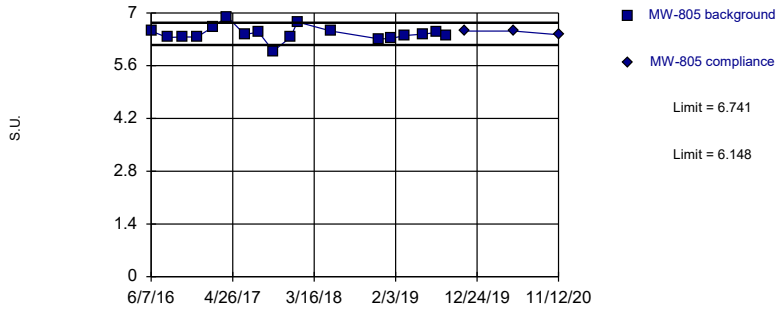
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.444, Std. Dev.=0.1924, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9113, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

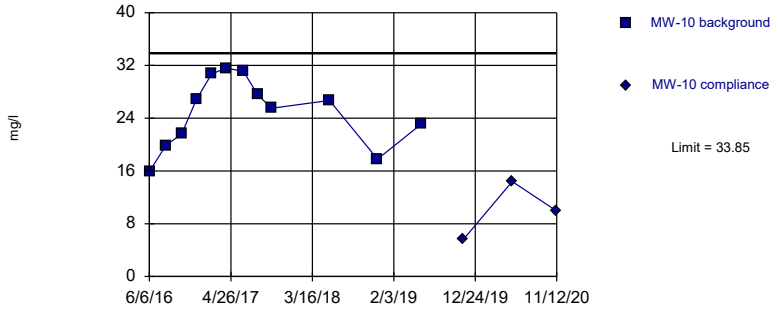
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=24.86, Std. Dev.=5.24, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9437, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

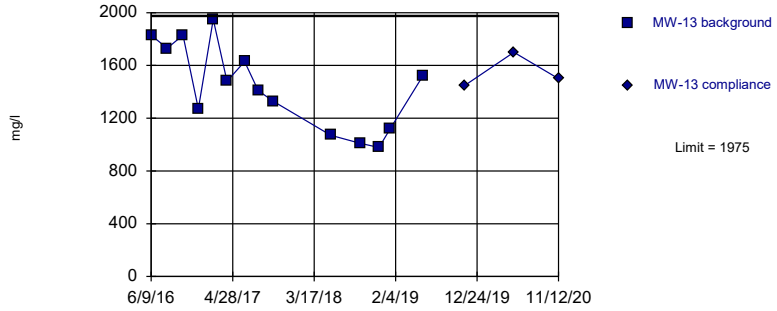
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1440, Std. Dev.=324.9, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9463, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH, SULFATE Analysis Run 3/17/2021 12:43 PM View: LF LAQC III

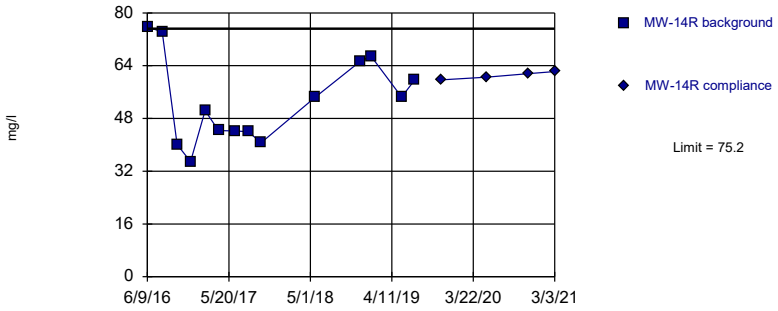
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13
6/6/2016					15.9			
6/7/2016			6.52					
6/8/2016	7.13							
6/9/2016							1830	
8/10/2016	7.32		6.35					
8/11/2016					19.9		1730	
10/11/2016	7.2		6.36					
10/12/2016					21.6			
10/13/2016							1830	
12/6/2016			6.36					
12/7/2016	6.93							
12/9/2016					26.8			
12/13/2016							1270	
2/6/2017			6.62					
2/7/2017	7.41							
2/8/2017					30.7			
2/10/2017							1950	
4/5/2017	7.65		6.9					
4/6/2017					31.6		1480	
6/13/2017	7.22		6.43					
6/15/2017					31.1		1630	
8/8/2017	7.06		6.49				1410	
8/10/2017					27.6			
10/4/2017					25.5			
10/5/2017	6.93		5.99				1330	
12/12/2017			6.35					
1/9/2018			6.76					
5/23/2018	7.17		6.52		26.7		1070	
7/11/2018	7.21							
8/16/2018	7.06							
9/17/2018							1010	
11/30/2018	7.02		6.31		17.8		978	
1/14/2019	7.07		6.32				1120	
3/11/2019	7.38		6.4					
5/23/2019	7.15		6.44		23.1		1520	
7/17/2019	7.31		6.48					
8/22/2019	7.16		6.4					
11/7/2019		7.34		6.52		5.64		1450
5/19/2020		7.28		6.52		14.4		1700
11/12/2020		7.38		6.42		9.92		1500

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=53.54, Std. Dev.=13.15, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9355, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

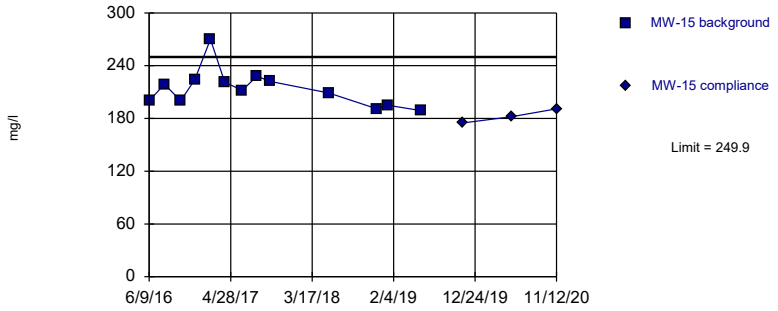
Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=213.8, Std. Dev.=21.42, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8725, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

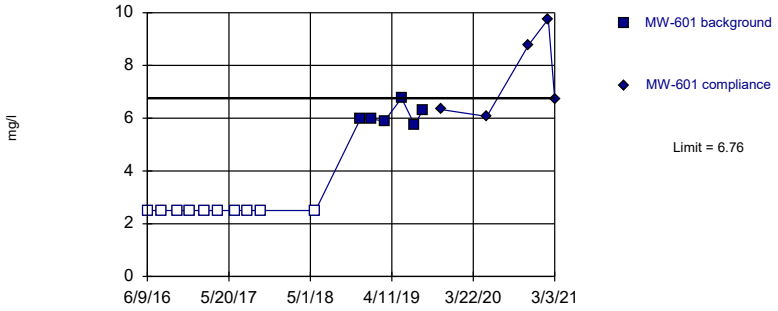
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

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 16 background values. 62.5% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

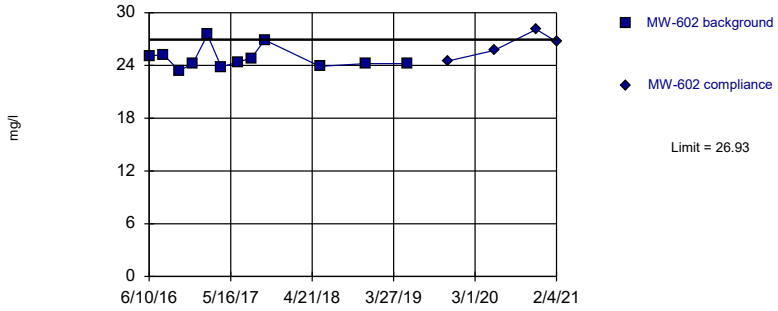
Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=24.8, Std. Dev.=1.242, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8446, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 3/17/2021 12:44 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

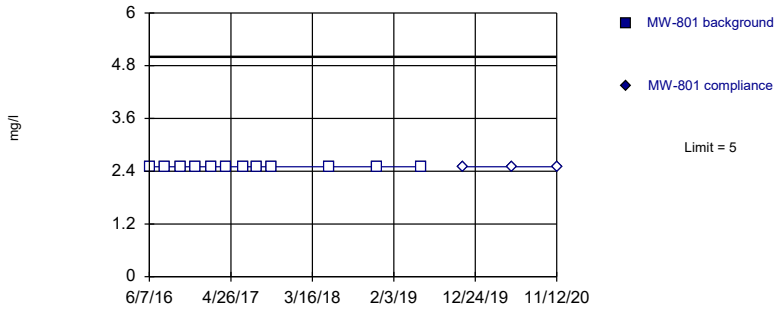
	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602
6/9/2016	75.8		200		<5			
6/10/2016							25.1	
8/9/2016			219		<5		25.2	
8/11/2016	74.2							
10/12/2016			200					
10/13/2016	40.1				<5		23.4	
12/7/2016			224		<5			
12/9/2016	34.9						24.2	
2/7/2017			270					
2/8/2017					<5		27.5	
2/9/2017	50.4							
4/5/2017			221					
4/6/2017					<5			
4/7/2017	44.3						23.8	
6/14/2017			212					
6/15/2017	44.2				<5		24.4	
8/9/2017					<5			
8/10/2017	44		228				24.8	
10/3/2017			222					
10/5/2017	40.7						26.9	
10/6/2017					<5			
5/23/2018	54.5		209		<5		23.9	
11/30/2018	65.4		191		5.98		24.2	
1/14/2019	66.9		195		5.97			
3/11/2019					5.89			
5/23/2019	54.5		189		6.76		24.2	
7/17/2019	59.6				5.75			
8/23/2019					6.32			
11/7/2019		59.7		175		6.33		24.5
5/19/2020		60.5		182		6.07		25.7
11/12/2020		61.6		191		8.78		28.1
2/4/2021						9.76	1st Verification Sample	26.7 1st Verification Sample
3/3/2021		62.2	Extra Sample			6.73	2nd Verification Sample	

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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).

Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

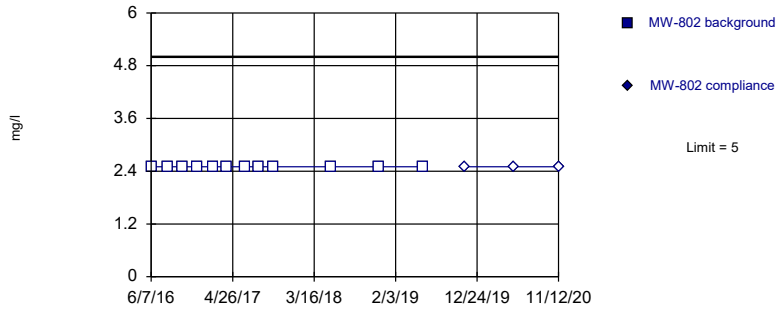
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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).

Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

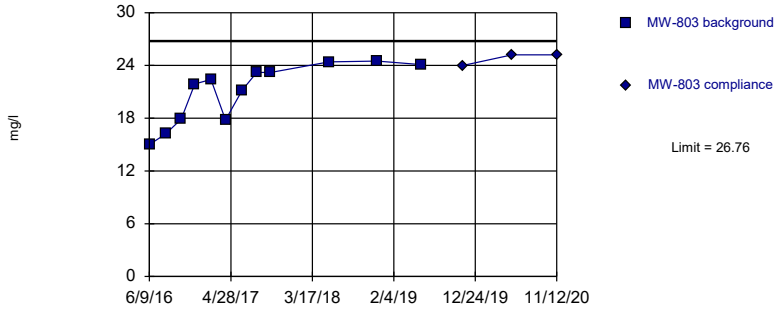
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=20.98, Std. Dev.=3.368, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8745, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

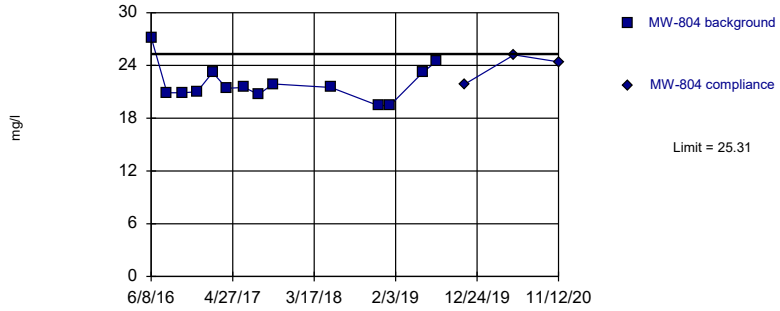
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.28 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=21.91, Std. Dev.=2.058, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8766, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 3/17/2021 12:44 PM View: LF LAQC III

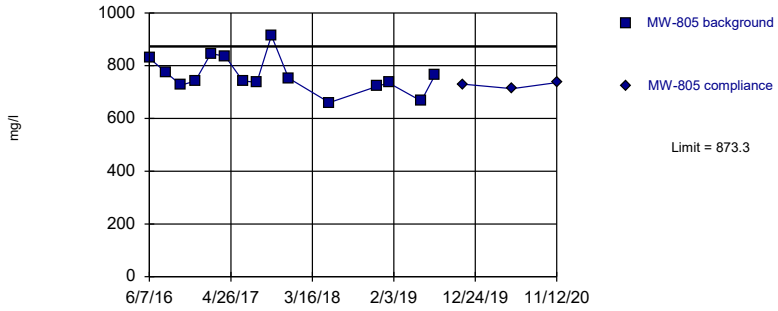
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804
6/7/2016	<5		<5					
6/8/2016							27.2	
6/9/2016					15			
8/9/2016	<5							
8/10/2016			<5				20.9	
8/12/2016					16.2			
10/11/2016	<5		<5				20.9	
10/13/2016					17.9			
12/6/2016	<5		<5		21.9			
12/7/2016							21	
2/7/2017	<5		<5				23.2	
2/8/2017					22.4			
4/4/2017			<5				21.4	
4/6/2017	<5							
4/7/2017					17.8			
6/13/2017			<5		21.2		21.5	
6/14/2017	<5							
8/7/2017			<5					
8/8/2017							20.7	
8/9/2017	<5				23.2			
10/4/2017	<5		<5		23.2			
10/5/2017							21.9	
5/23/2018	<5		<5		24.4		21.5	
11/30/2018	<5		<5		24.5		19.4	
1/14/2019							19.5	
5/23/2019	<5		<5		24.1		23.2	
7/17/2019							24.5	
11/7/2019		<5		<5		24		21.9
5/19/2020		<5		<5		25.2		25.2
11/12/2020		<5		<5		25.2		24.4

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=763.2, Std. Dev.=68.17, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9341, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 3/17/2021 12:42 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 3/17/2021 12:44 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-805	MW-805
6/7/2016	829	
8/10/2016	776	
10/11/2016	726	
12/6/2016	742	
2/6/2017	846	
4/4/2017	836	
6/13/2017	742	
8/8/2017	737	
10/5/2017	914	
12/12/2017	753	
5/23/2018	660	
11/30/2018	722	
1/14/2019	735	
5/23/2019	666	
7/17/2019	764	
11/7/2019		730
5/19/2020		713
11/12/2020		736

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 3/17/2021, 12:44 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
BORON (mg/l)	MW-10	0.9889	n/a	11/12/2020	0.845	No	13	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-13	0.6068	n/a	11/12/2020	0.456	No	16	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-14R	0.8115	n/a	11/12/2020	0.805	No	14	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-15	0.3016	n/a	11/12/2020	0.235	No	13	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-601	1.932	n/a	11/12/2020	1.82	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-602	2.465	n/a	11/12/2020	2.29	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-801	2.411	n/a	11/12/2020	2.2	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-802	2.579	n/a	11/12/2020	2.45	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-803	2.188	n/a	11/12/2020	2.08	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-804	1.762	n/a	11/12/2020	1.58	No	18	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-805	0.578	n/a	11/12/2020	0.495	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-10	61.5	n/a	11/12/2020	52.5	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-13	404.2	n/a	11/12/2020	331	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-14R	61.85	n/a	3/3/2021	55.4	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-15	110.1	n/a	11/12/2020	102	No	13	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-601	23.63	n/a	3/3/2021	17	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-602	25.84	n/a	11/12/2020	23.4	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-801	36.84	n/a	11/12/2020	26.4	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-802	41.1	n/a	11/12/2020	27.1	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-803	49.74	n/a	11/12/2020	38.4	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-804	68.94	n/a	11/12/2020	66.2	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-805	487.8	n/a	11/12/2020	464	No	17	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-10	68.87	n/a	11/12/2020	51.5	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-13	19.33	n/a	11/12/2020	17.1	No	14	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-14R	6.113	n/a	3/3/2021	5.95	No	16	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-15	20.38	n/a	11/12/2020	10.8	No	13	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-601	201	n/a	3/3/2021	157	No	14	0	n/a	0.0016	NP Intra (normality) ...
CHLORIDE (mg/l)	MW-602	18.02	n/a	11/12/2020	17.7	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-801	126.2	n/a	11/12/2020	95.2	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-802	38.44	n/a	11/12/2020	34.5	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-803	49.94	n/a	11/12/2020	49.6	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-804	32.96	n/a	11/12/2020	26.7	No	14	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-805	514.9	n/a	11/12/2020	454	No	14	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-10	636.2	n/a	11/12/2020	571	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-13	6050	n/a	11/12/2020	2420	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-14R	591	n/a	11/12/2020	555	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-15	2310	n/a	11/12/2020	713	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-601	1029	n/a	11/12/2020	960	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-602	650.4	n/a	11/12/2020	593	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-801	1008	n/a	11/12/2020	832	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-802	715.2	n/a	11/12/2020	646	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-803	709	n/a	11/12/2020	593	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-804	584.6	n/a	11/12/2020	528	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-805	2518	n/a	11/12/2020	2210	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-10	0.4313	n/a	11/12/2020	0.375	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-13	0.2156	n/a	11/12/2020	0.165	No	15	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-14R	0.3031	n/a	2/4/2021	0.291	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-15	0.3004	n/a	11/12/2020	0.248	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-601	1.897	n/a	11/12/2020	1.67	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-602	1.381	n/a	11/12/2020	1.25	No	12	0	No	0.001075	Param Intra 1 of 3

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 3/17/2021, 10:52 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
FLUORIDE (mg/l)	MW-801	1.218	n/a	11/12/2020	1.05	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-802	1.116	n/a	11/12/2020	1.02	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-803	0.7098	n/a	11/12/2020	0.568	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-804	0.5206	n/a	11/12/2020	0.401	No	13	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-805	0.2177	n/a	11/12/2020	0.075ND	No	12	8.333	No	0.001075	Param Intra 1 of 3
pH (S.U.)	MW-10	7.353	7.181	11/12/2020	7.34	No	13	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-13	7.171	6.62	11/12/2020	6.62	No	16	0	**x^3**	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-14R	7.808	7.021	3/3/2021	7.78	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-15	11.38	6.95	11/12/2020	6.95	No	14	0	n/a	0.003199	NP Intra (normality) ...
pH (S.U.)	MW-601	8.6	7.41	3/3/2021	7.88	No	19	0	n/a	0.001357	NP Intra (normality) ...
pH (S.U.)	MW-602	8.244	7.011	2/4/2021	7.87	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-801	7.689	7.053	11/12/2020	7.65	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-802	8.72	7.29	11/12/2020	7.96	No	12	0	n/a	0.004347	NP Intra (normality) ...
pH (S.U.)	MW-803	8.017	6.99	11/12/2020	7.95	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-804	7.464	6.911	11/12/2020	7.38	No	18	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-805	6.741	6.148	11/12/2020	6.42	No	18	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-10	33.85	n/a	11/12/2020	9.92	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-13	1975	n/a	11/12/2020	1500	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-14R	75.2	n/a	3/3/2021	62.2	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-15	249.9	n/a	11/12/2020	191	No	13	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-601	6.76	n/a	3/3/2021	6.73	No	16	62.5	n/a	0.001026	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-602	26.93	n/a	2/4/2021	26.7	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-801	5	n/a	11/12/2020	2.5ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-802	5	n/a	11/12/2020	2.5ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-803	26.76	n/a	11/12/2020	25.2	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-804	25.31	n/a	11/12/2020	24.4	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-805	873.3	n/a	11/12/2020	736	No	15	0	No	0.001075	Param Intra 1 of 3

ATTACHMENT 2

Sanitas™ Configuration Settings

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Exclude data flags: i

Observations with flags containing the following characters will be deselected: 'i', 'l',

Data Reading Options

- (•) Individual Observations
- ( ) Mean of Each: ( ) Month
- ( ) Median of Each: ( ) Season

Non-Detect / Trace Handling...

Setup Seasons...

[ ] Automatically Process Resamples...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

- [ ] Black and White Output
- [x] Four Plots Per Page
  - [x] Always Combine Data Pages...
  - [x] Include Tick Marks on Data Page
  - [ ] Use Constituent Name for Graph Title
- [ ] Draw Border Around Text Reports and Data Pages
- [x] Enlarge/Reduce Fonts (Graphs): 100%
- [x] Enlarge/Reduce Fonts (Data/Text Reports): 100%
- [x] Wide Margins (on reports without explicit setting)
- [ ] Use CAS# (Not Const. Name)
- [ ] Truncate File Names to 20 Characters
- [ ] Include Limit Lines when found in Database...
- [x] Show Deselected Data on Time Series Lighter
- [ ] Show Deselected Data on all Data Pages Lighter

Setup Symbols and Colors...

- [x] Prompt to Overwrite/Append Summary Tables
- [ ] Round Limits to 2 Sig. Digits (when not set in data file)
- [ ] User-Set Scale
- [x] Indicate Background Data
- [ ] Show Exact Dates
- [ ] Thick Plot Lines

Zoom Factor: 200%

Output Decimal Precision

- ( ) Less Precision
- (•) Normal Precision
- ( ) More Precision

- [x] Store Print Jobs in Multiple Constituent Mode

Store All Print Jobs...

Printer: Adobe PDF

Printers...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☐ Use Modified Alpha...

☑ Test Residuals For Normality (Parametric test only) using Shapiro-Wilk/Francia 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 > 75

☐ Include 95. % 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.

Data | Output | Trend Test | Control Cht | **Prediction Lim** | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☑ 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 _____ when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 0

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 α

Statistical Evaluations per Year: 2

Constituents Analyzed: 7

Downgradient (Compliance) Wells: 7

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)

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

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 α= 0.05 or if n > 22 Rosner's at α= 0.01 [x] Use EPA Screening to establish Suspected Outliers
- ( ) Tukey's Outlier Screening, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat
- [x] Test For Normality using Shapiro-Wilk/Francia at Alpha = 0.1
  - (•) Stop if Non-Normal
  - ( ) Continue with Parametric Test if Non-Normal
  - ( ) Tukey's if Non-Normal, with IQR Multiplier = 3.0 [x] Use Ladder of Powers to achieve Best W Stat
- [x] No Outlier If Less Than 3.0 Times Median
- [ ] Apply Rules found in Ohio Guidance Document 0715
- [ ] Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

- [ ] Combine Wells
- [ ] Combine Dates
- (•) Use Default Constituent Names
- ( ) Use Constituent Definition File Edit
- [x] Label Constituents
- [x] Label Axes
- [x] Note Cation-Anion Balance (Piper only)

Jared Morrison
October 31, 2022

ATTACHMENT 2-2

Spring 2021 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

October 5, 2021

To: La Cygne Generating Station
25166 East 2200 Road
La Cygne, Kansas 66040
Evergy Metro, Inc.

From: SCS Engineers

RE: Determination of Statistically Significant Increases –
CCR Landfill and Lower AQC Impoundment
Spring 2021 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill and Lower AQC Impoundment at the La Cygne 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 18, 2021. Review and validation of the results from the May 2021 Detection Monitoring Event was completed on July 8, 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. Two rounds of verification sampling were conducted for certain constituents on July 21, 2021 and August 30, 2021.

The completed statistical evaluation identified two Appendix III constituents above their respective prediction limits established for monitoring wells MW-14R and MW-803.

Constituent/Monitoring Well	*UPL	Observation May 18, 2021	1st Verification July 21, 2021	2nd Verification August 30, 2021
MW-14R				
Chloride	6.113	6.47	6.15	6.35
MW-803				
Chloride	49.94	50.2	51.1	50.1

*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 two SSIs above the background prediction limit for chloride at MW-14R and MW-803.

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, 1st verification re-sample results (when applicable), 2nd 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.

Revision Number	Revision Date	Attachment Revised	Summary of Revisions

La Cygne Generating Station
Determination of Statistically Significant Increases
CCR Landfill and Lower AQC Impoundment
October 5, 2021

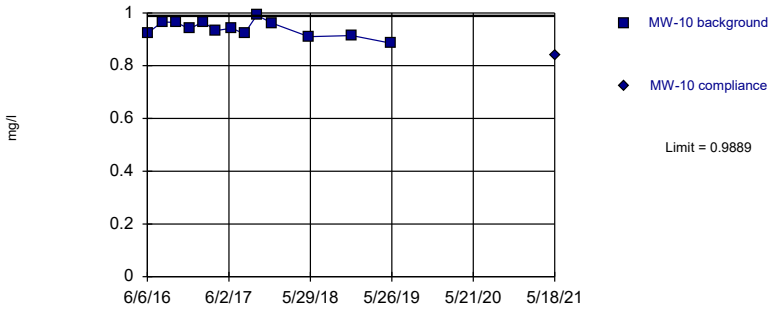
ATTACHMENT 1

Sanitas™ Output

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.9397, Std. Dev.=0.02926, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9728, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

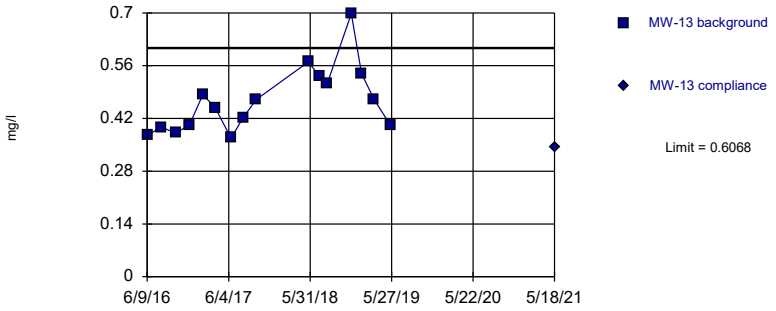
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.467, Std. Dev.=0.08842, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8992, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

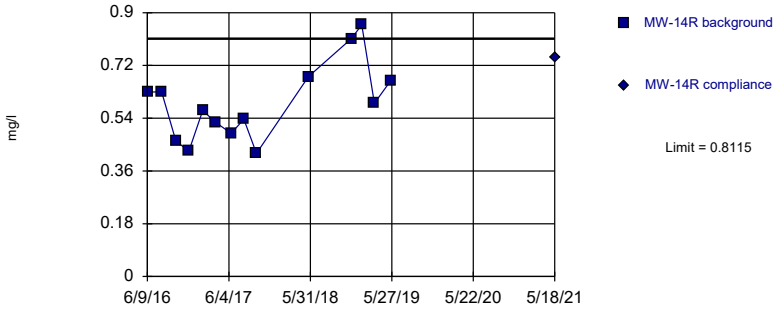
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5928, Std. Dev.=0.1327, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9446, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

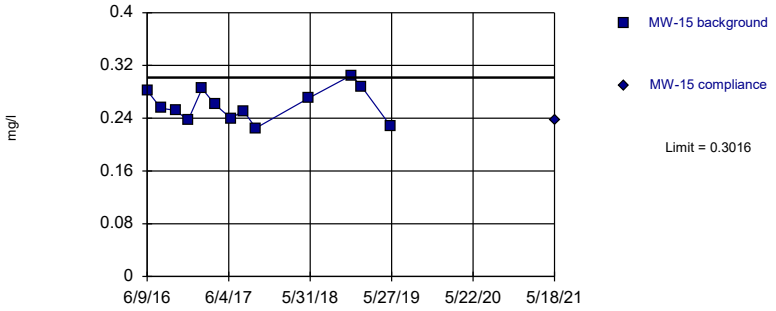
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2599, Std. Dev.=0.02478, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.961, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

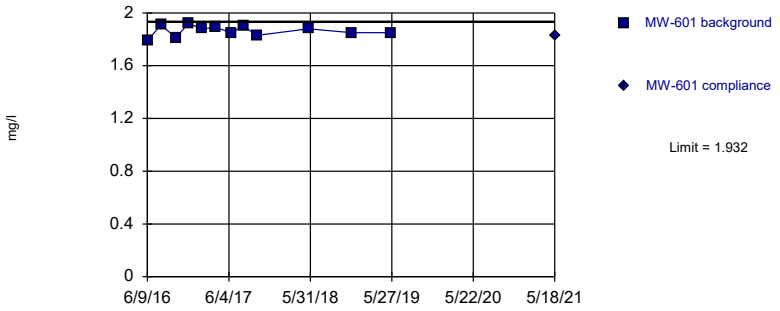
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15
6/6/2016	0.923							
6/9/2016			0.375		0.629		0.282	
8/9/2016							0.255	
8/11/2016	0.966		0.397		0.63			
10/12/2016	0.964						0.252	
10/13/2016			0.381		0.463			
12/7/2016							0.237	
12/9/2016	0.94				0.427			
12/13/2016			0.403					
2/7/2017							0.285	
2/8/2017	0.966							
2/9/2017					0.566			
2/10/2017			0.483					
4/5/2017							0.261	
4/6/2017	0.933		0.449					
4/7/2017					0.526			
6/14/2017							0.24	
6/15/2017	0.942		0.368		0.488			
8/8/2017			0.422					
8/10/2017	0.921				0.537		0.251	
10/3/2017							0.225	
10/4/2017	0.991							
10/5/2017			0.47		0.42			
12/12/2017	0.961							
5/23/2018	0.91		0.57		0.682		0.27	
7/11/2018			0.533					
8/16/2018			0.513					
11/30/2018	0.914		0.698		0.812		0.305	
1/14/2019			0.539		0.859		0.288	
3/11/2019			0.47		0.591			
5/23/2019	0.885		0.401		0.669		0.228	
5/18/2021		0.839		0.345		0.746		0.237

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.863, Std. Dev.=0.0403, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9586, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

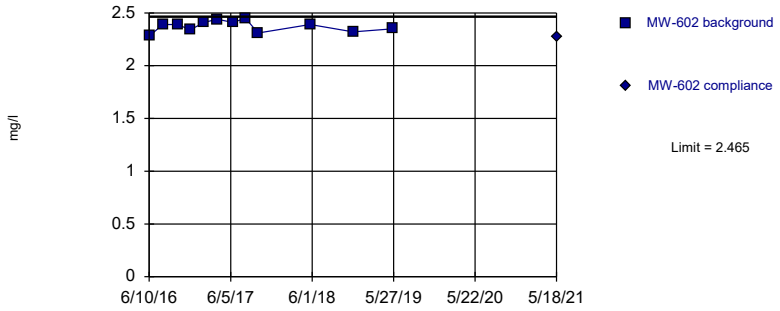
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.373, Std. Dev.=0.05314, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9546, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

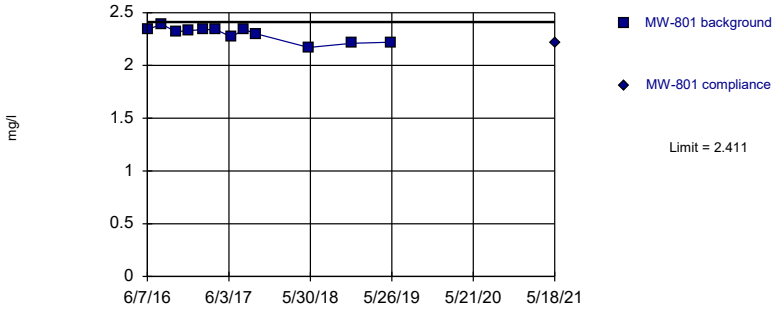
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.298, Std. Dev.=0.06608, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8916, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

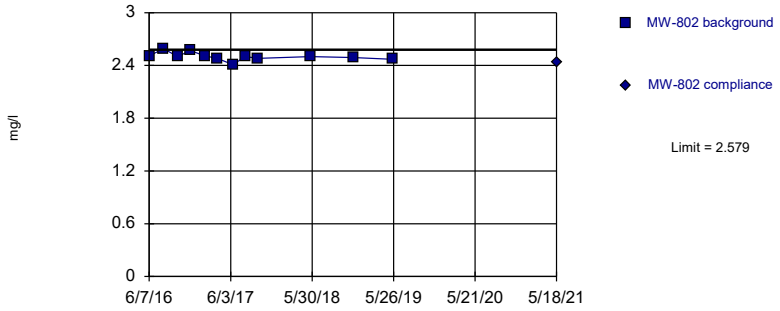
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.501, Std. Dev.=0.04582, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9045, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

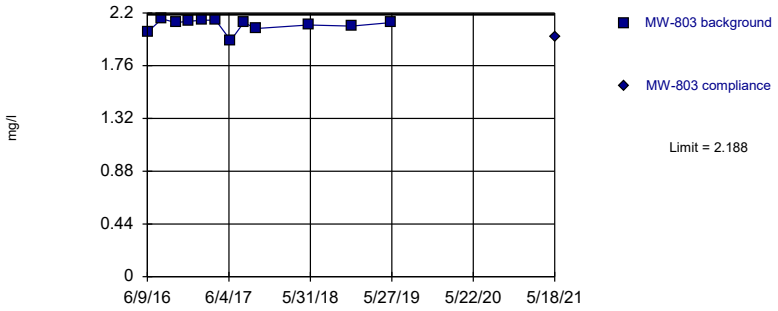
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802
6/7/2016					2.34		2.51	
6/9/2016	1.79							
6/10/2016			2.28					
8/9/2016	1.91		2.39		2.39			
8/10/2016							2.59	
10/11/2016					2.32		2.5	
10/13/2016	1.81		2.39					
12/6/2016					2.33		2.57	
12/7/2016	1.92							
12/9/2016			2.34					
2/7/2017					2.34		2.51	
2/8/2017	1.88		2.41					
4/4/2017							2.48	
4/6/2017	1.89				2.34			
4/7/2017			2.44					
6/13/2017							2.41	
6/14/2017					2.27			
6/15/2017	1.85		2.41					
8/7/2017							2.5	
8/9/2017	1.9				2.34			
8/10/2017			2.45					
10/4/2017					2.3		2.48	
10/5/2017			2.31					
10/6/2017	1.83							
5/23/2018	1.88		2.39		2.17		2.5	
11/30/2018	1.85		2.32		2.21		2.49	
5/23/2019	1.85		2.35		2.22		2.47	
5/18/2021		1.83		2.27		2.21		2.44

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.099, Std. Dev.=0.0516, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8353, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

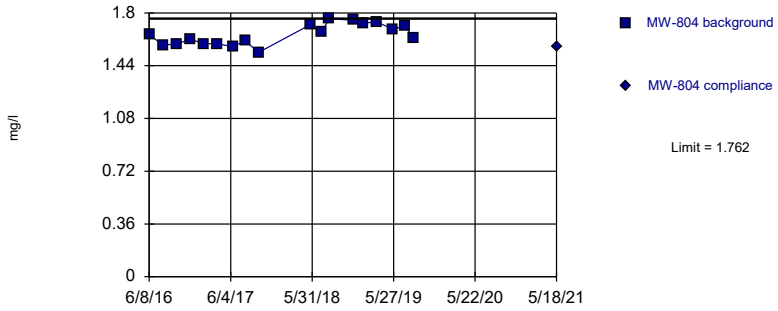
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.652, Std. Dev.=0.07131, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9373, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

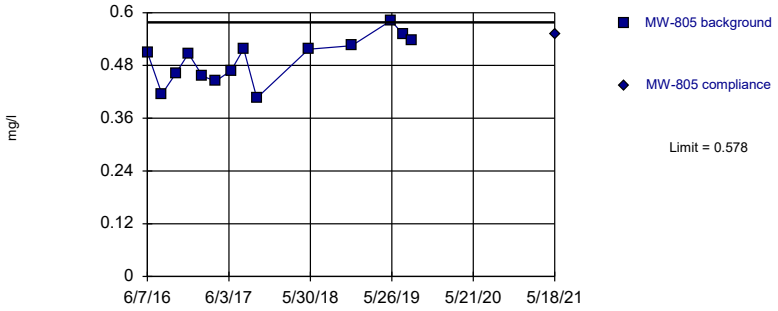
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4926, Std. Dev.=0.05176, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9627, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

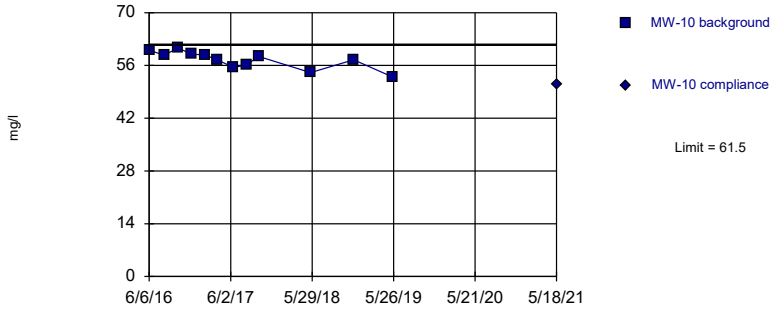
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=57.43, Std. Dev.=2.371, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9496, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON, CALCIUM Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

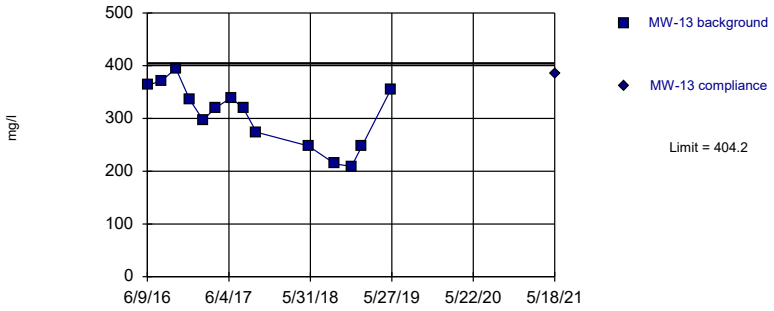
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10
6/6/2016							60.1	
6/7/2016					0.51			
6/8/2016			1.65					
6/9/2016	2.04							
8/10/2016			1.58		0.415			
8/11/2016							58.7	
8/12/2016	2.15							
10/11/2016			1.59		0.462			
10/12/2016							60.7	
10/13/2016	2.12							
12/6/2016	2.13				0.507			
12/7/2016			1.62					
12/9/2016							59	
2/6/2017					0.456			
2/7/2017			1.59					
2/8/2017	2.14						58.8	
4/4/2017			1.59		0.444			
4/6/2017							57.4	
4/7/2017	2.14							
6/13/2017	1.97		1.57		0.468			
6/15/2017							55.5	
8/8/2017			1.61		0.518			
8/9/2017	2.12							
8/10/2017							56.1	
10/4/2017	2.07						58.4	
10/5/2017			1.53		0.406			
5/23/2018	2.1		1.72		0.517		54.1	
7/11/2018			1.67					
8/16/2018			1.76					
11/30/2018	2.09		1.75		0.525		57.5	
1/14/2019			1.73					
3/11/2019			1.74					
5/23/2019	2.12		1.69		0.582		52.9	
7/17/2019			1.71		0.55			
8/22/2019			1.63		0.537			
5/18/2021		2		1.57		0.55		51

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=306.2, Std. Dev.=59.47, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

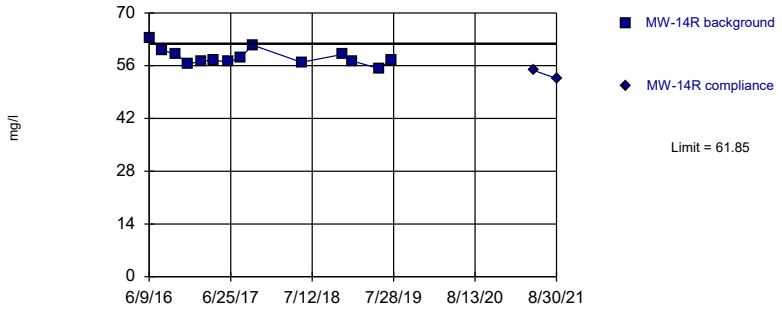
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=58.29, Std. Dev.=2.158, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.906, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

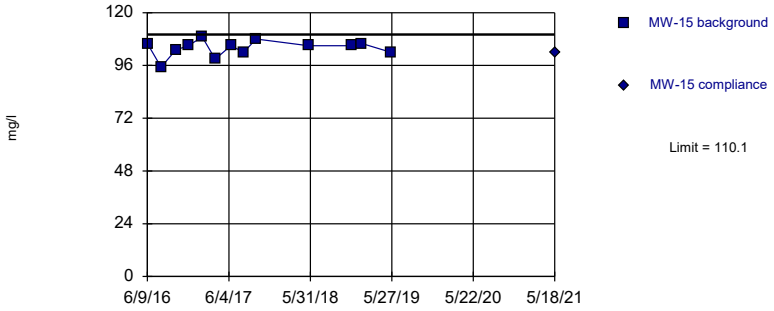
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=103.9, Std. Dev.=3.71, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9143, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

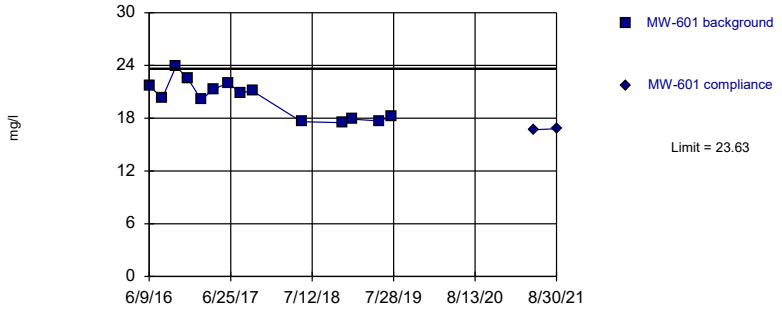
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=20.19, Std. Dev.=2.086, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9162, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:36 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

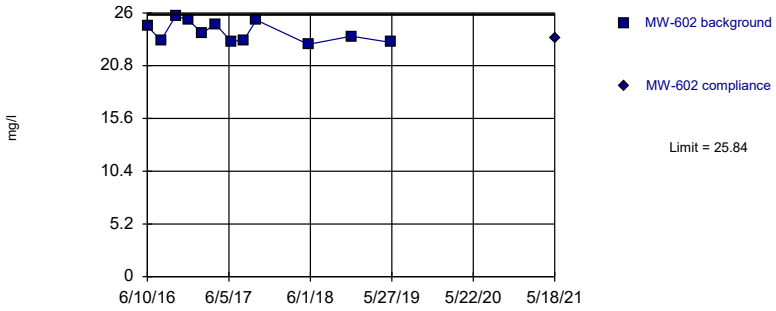
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601
6/9/2016	363		63.4		106		21.7	
8/9/2016					95.2		20.3	
8/11/2016	371		60					
10/12/2016					103			
10/13/2016	395		59.1				23.9	
12/7/2016					105		22.5	
12/9/2016			56.4					
12/13/2016	336							
2/7/2017					109			
2/8/2017							20.1	
2/9/2017			57.3					
2/10/2017	297							
4/5/2017					98.9			
4/6/2017	320						21.3	
4/7/2017			57.4					
6/14/2017					105			
6/15/2017	339		57				22	
8/8/2017	319							
8/9/2017							20.9	
8/10/2017			58		102			
10/3/2017					108			
10/5/2017	274		61.5					
10/6/2017							21.1	
5/23/2018	248		56.9		105		17.6	
9/17/2018	214							
11/30/2018	209		59		105		17.5	
1/14/2019	247		57.3		106		17.9	
5/23/2019	355		55.2		102		17.7	
7/17/2019			57.6				18.2	
5/18/2021		385		54.7		102		16.7
8/30/2021				52.6				16.8

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=24.12, Std. Dev.=1.006, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8906, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

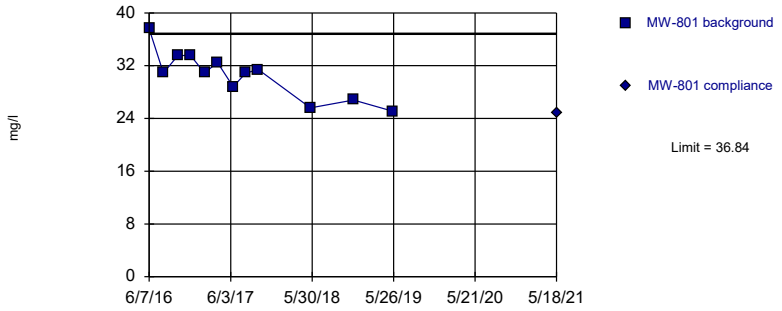
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.63, Std. Dev.=3.616, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9531, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

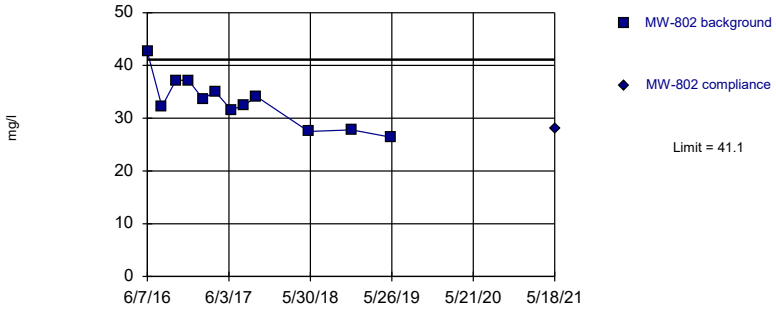
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=33.14, Std. Dev.=4.639, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9575, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

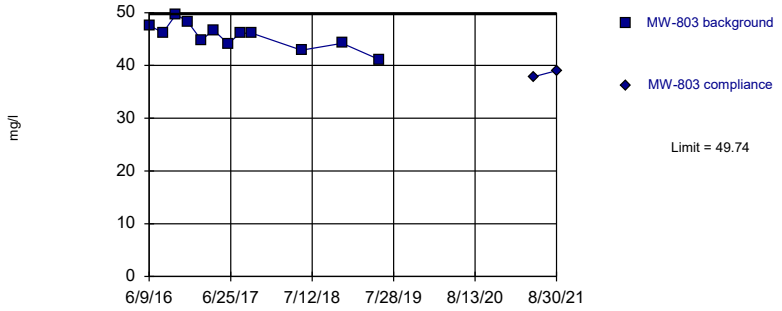
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=45.65, Std. Dev.=2.384, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9857, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

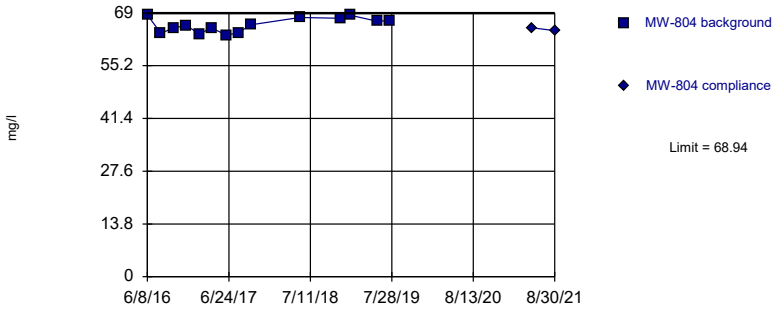
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803
6/7/2016			37.6		42.6			
6/9/2016							47.6	
6/10/2016	24.7							
8/9/2016	23.3		30.9					
8/10/2016					32.2			
8/12/2016							46.2	
10/11/2016			33.5		37.2			
10/13/2016	25.7						49.7	
12/6/2016			33.6		37.2		48.3	
12/9/2016	25.3							
2/7/2017			30.9		33.7			
2/8/2017	24						44.8	
4/4/2017					35			
4/6/2017			32.5					
4/7/2017	24.9						46.7	
6/13/2017					31.6		44.1	
6/14/2017			28.8					
6/15/2017	23.2							
8/7/2017					32.4			
8/9/2017			30.9				46.1	
8/10/2017	23.3							
10/4/2017			31.4		34.1		46.1	
10/5/2017	25.3							
5/23/2018	22.9		25.6		27.5		42.9	
11/30/2018	23.7		26.8		27.8		44.2	
5/23/2019	23.1		25.1		26.4		41.1	
5/18/2021		23.5		24.8		28		37.9
8/30/2021								39

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=65.86, Std. Dev.=1.863, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9264, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

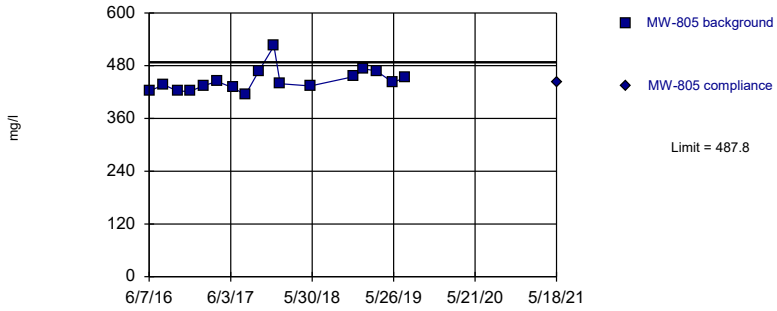
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=446, Std. Dev.=26.75, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8599, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

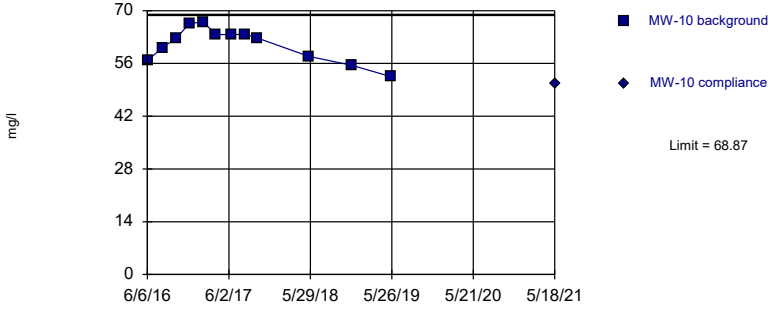
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=61.08, Std. Dev.=4.538, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9322, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

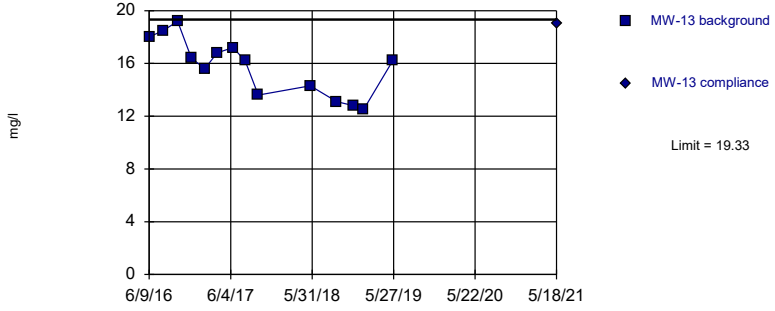
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.74, Std. Dev.=2.177, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM, CHLORIDE Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

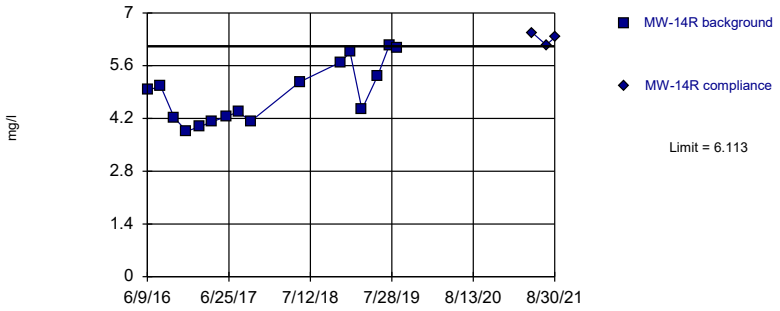
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13
6/6/2016					56.7			
6/7/2016			422					
6/8/2016	68.5							
6/9/2016							18	
8/10/2016	63.7		437					
8/11/2016					60.2		18.5	
10/11/2016	65.1		422					
10/12/2016					62.7			
10/13/2016							19.2	
12/6/2016			422					
12/7/2016	65.7							
12/9/2016					66.6			
12/13/2016							16.4	
2/6/2017			435					
2/7/2017	63.5							
2/8/2017					67			
2/10/2017							15.6	
4/4/2017	65.1		444					
4/6/2017					63.7		16.8	
6/13/2017	63.2		430					
6/15/2017					63.6		17.2	
8/8/2017	63.8		414				16.2	
8/10/2017					63.8			
10/4/2017					62.8			
10/5/2017	65.9		467				13.6	
12/12/2017			525					
1/9/2018			439					
5/23/2018	67.8		434		57.9		14.3	
9/17/2018							13.1	
11/30/2018	67.6		455		55.5		12.8	
1/14/2019	68.4		473				12.5	
3/11/2019			468					
5/23/2019	66.8		442		52.5		16.2	
7/17/2019	67		453					
5/18/2021		65.1		443		50.6		19
8/30/2021		64.4						

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=4.858, Std. Dev.=0.7941, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8996, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

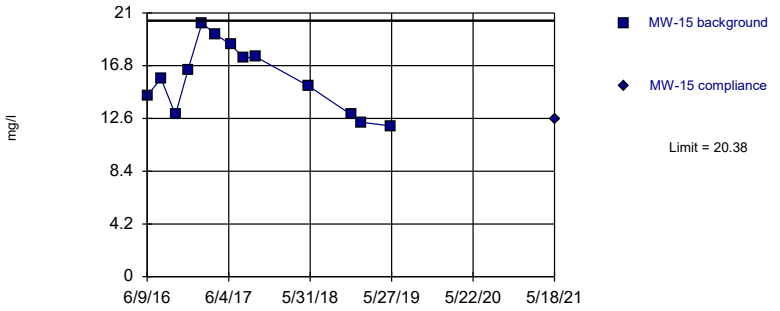
Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.76, Std. Dev.=2.748, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

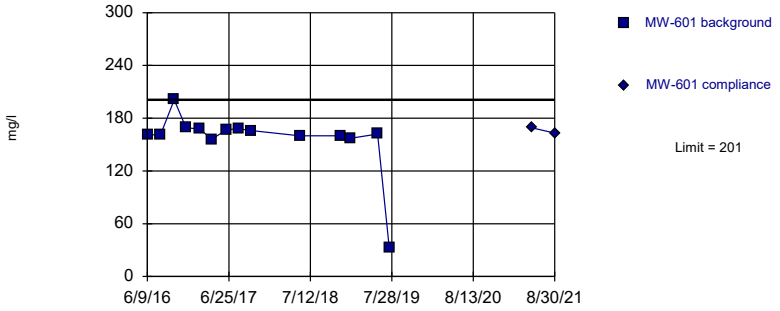
Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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 14 background values. Well-constituent pair annual alpha = 0.003197. Individual comparison alpha = 0.0016 (1 of 3).

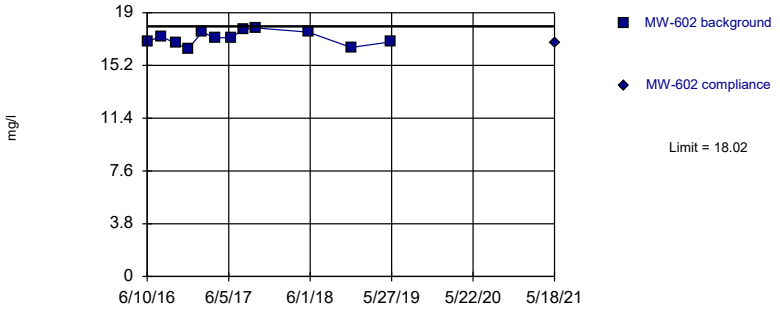
Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=17.18, Std. Dev.=0.4901, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9557, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

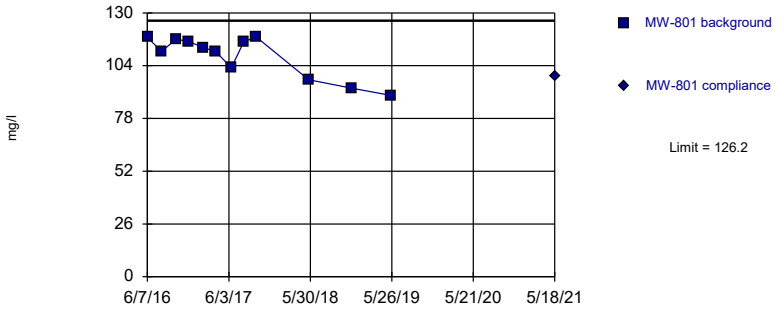
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602
6/9/2016	4.95		14.4		161			
6/10/2016							16.9	
8/9/2016			15.8		161		17.3	
8/11/2016	5.05							
10/12/2016			12.9					
10/13/2016	4.22				201		16.8	
12/7/2016			16.5		169			
12/9/2016	3.86						16.4	
2/7/2017			20.2					
2/8/2017					168		17.6	
2/9/2017	3.98							
4/5/2017			19.3					
4/6/2017					156			
4/7/2017	4.11						17.2	
6/14/2017			18.5					
6/15/2017	4.25				167		17.2	
8/9/2017					168			
8/10/2017	4.38		17.4				17.8	
10/3/2017			17.5					
10/5/2017	4.12						17.9	
10/6/2017					166			
5/23/2018	5.17		15.2		160		17.6	
11/30/2018	5.69		12.9		160		16.5	
1/14/2019	5.96		12.3		157			
3/11/2019	4.44							
5/23/2019	5.33		12		162		16.9	
7/17/2019	6.14				32.3			
8/23/2019	6.08							
5/18/2021		6.47		12.6		169		16.8
7/21/2021		6.15						
8/30/2021		6.35				163		

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=108.5, Std. Dev.=10.3, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8377, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

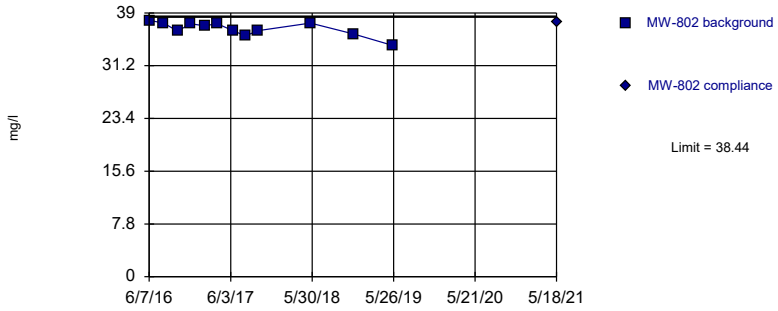
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=36.63, Std. Dev.=1.055, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9005, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

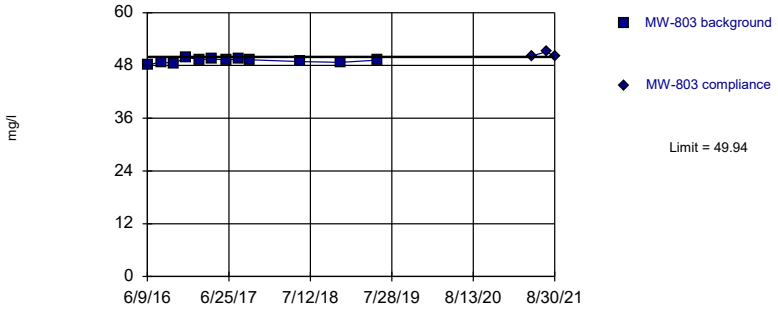
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=49.07, Std. Dev.=0.5069, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9692, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

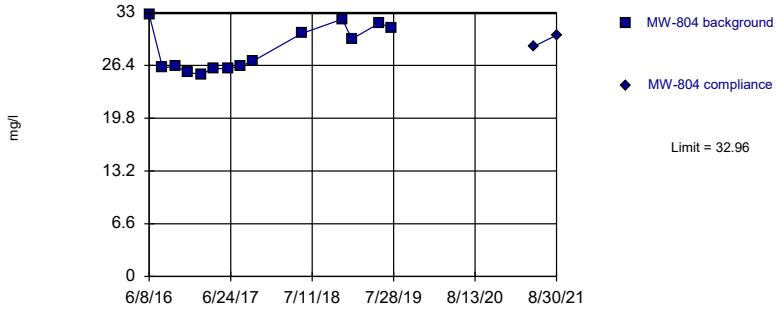
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=28.31, Std. Dev.=2.821, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.832, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

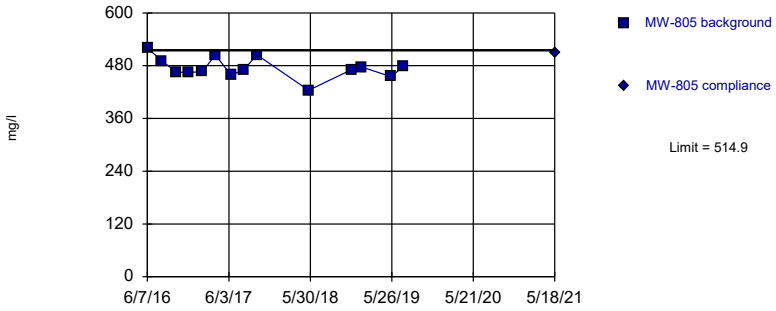
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804
6/7/2016	118		37.9					
6/8/2016							32.8	
6/9/2016					48.1			
8/9/2016	111							
8/10/2016			37.5				26.1	
8/12/2016					48.8			
10/11/2016	117		36.3				26.3	
10/13/2016					48.4			
12/6/2016	116		37.4		49.9			
12/7/2016							25.5	
2/7/2017	113		37.1				25.3	
2/8/2017					49.3			
4/4/2017			37.4				26	
4/6/2017	111							
4/7/2017					49.5			
6/13/2017			36.4		49.2		26	
6/14/2017	103							
8/7/2017			35.6					
8/8/2017							26.3	
8/9/2017	116				49.5			
10/4/2017	118		36.4		49.3			
10/5/2017							26.9	
5/23/2018	97.1		37.5		48.9		30.4	
11/30/2018	92.9		35.9		48.7		32.2	
1/14/2019							29.7	
5/23/2019	89.4		34.2		49.2		31.7	
7/17/2019							31.1	
5/18/2021		98.7		37.7		50.2		28.8
7/21/2021						51.1		
8/30/2021						50.1		30.2

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=475.1, Std. Dev.=24.18, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9547, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

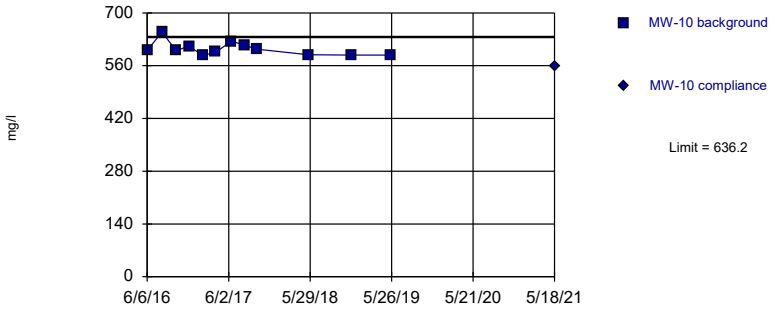
Constituent: CHLORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=604.5, Std. Dev.=18.5, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8634, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

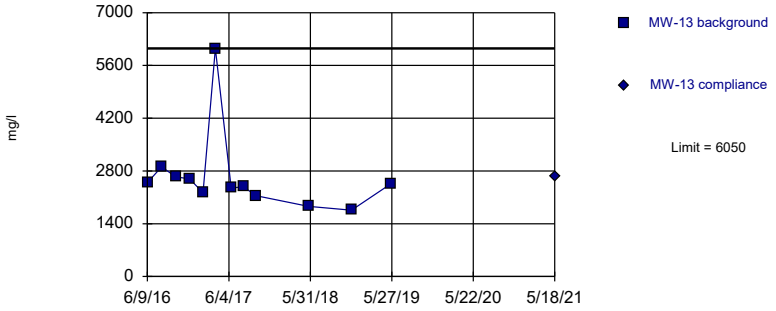
Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

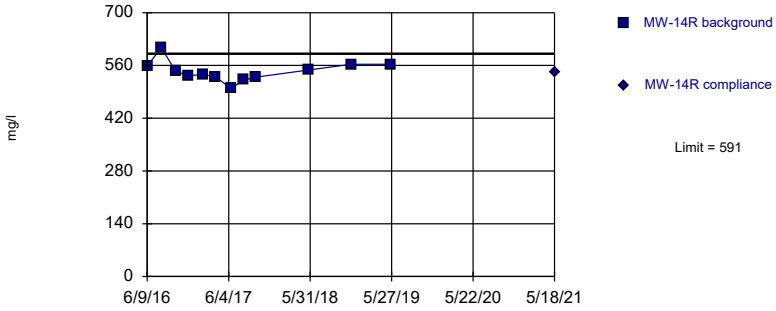
Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=544.4, Std. Dev.=27.12, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9426, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE, DISSOLVED SOLIDS Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

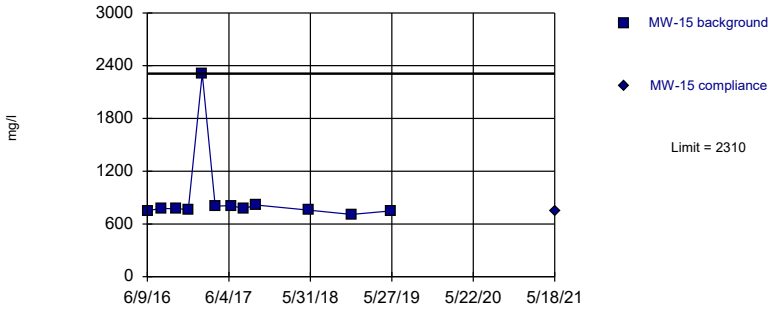
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R
6/6/2016			601					
6/7/2016	520							
6/9/2016					2490		559	
8/10/2016	491							
8/11/2016			649		2910		607	
10/11/2016	466							
10/12/2016			600					
10/13/2016					2640		545	
12/6/2016	464							
12/9/2016			612				533	
12/13/2016					2590			
2/6/2017	467							
2/8/2017			587					
2/9/2017							536	
2/10/2017					2220			
4/4/2017	504							
4/6/2017			596		6050			
4/7/2017							530	
6/13/2017	459							
6/15/2017			625		2350		499	
8/8/2017	470				2380			
8/10/2017			615				521	
10/4/2017			604					
10/5/2017	505				2140		529	
5/23/2018	424		589		1860		548	
11/30/2018	471		588		1760		563	
1/14/2019	477							
5/23/2019	455		588		2460		563	
7/17/2019	478							
5/18/2021		509		559		2640		543

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 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

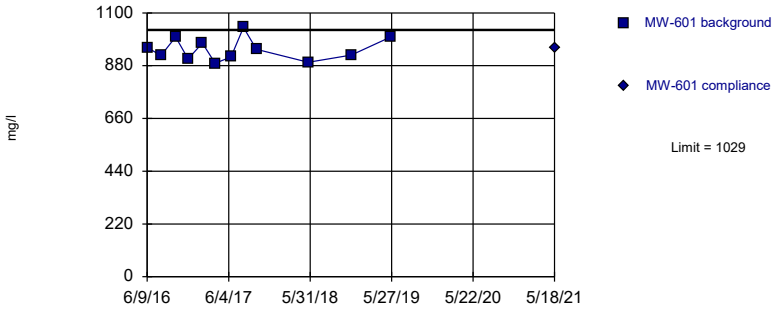
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=947.7, Std. Dev.=47.45, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9332, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

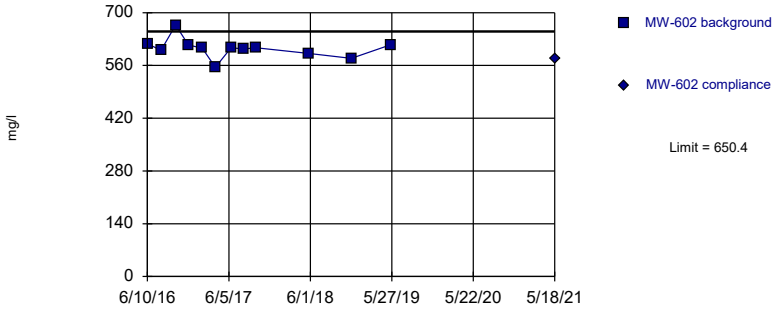
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=605.3, Std. Dev.=26.24, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8925, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

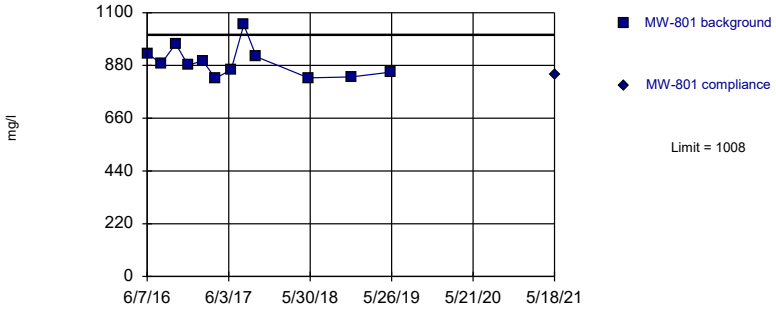
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=894.5, Std. Dev.=65.9, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8949, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

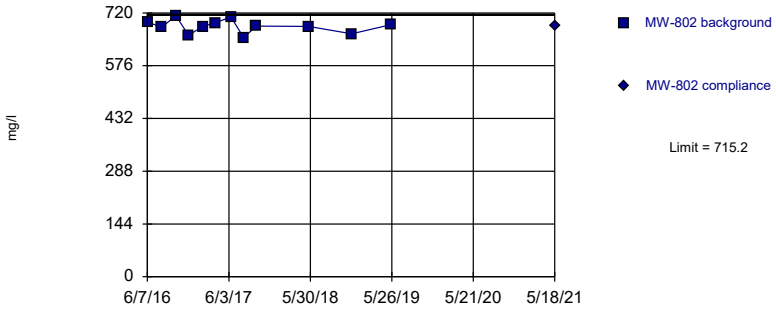
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801
6/7/2016							930	
6/9/2016	751		956					
6/10/2016					618			
8/9/2016	777		922		600		888	
10/11/2016							970	
10/12/2016	772							
10/13/2016			1000		667			
12/6/2016							880	
12/7/2016	767		908					
12/9/2016					614			
2/7/2017	2310						900	
2/8/2017			974		606			
4/5/2017	803							
4/6/2017			890				826	
4/7/2017					555			
6/14/2017	808						862	
6/15/2017			916		607			
8/9/2017			1040				1050	
8/10/2017	775				604			
10/3/2017	815							
10/4/2017							916	
10/5/2017					607			
10/6/2017			948					
5/23/2018	757		894		592		828	
11/30/2018	709		924		579		832	
5/23/2019	748		1000		615		852	
5/18/2021		740		952		578		843

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=683.7, Std. Dev.=18.39, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9477, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

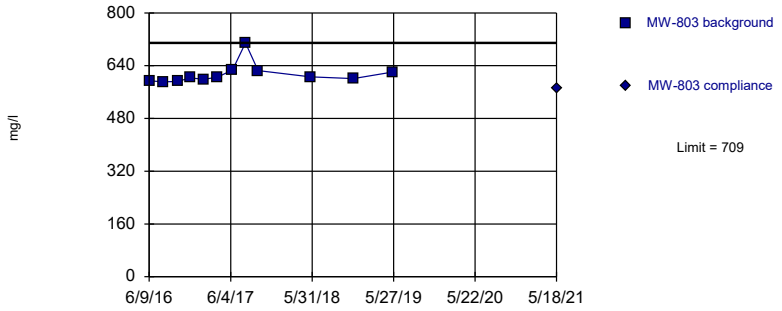
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

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 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

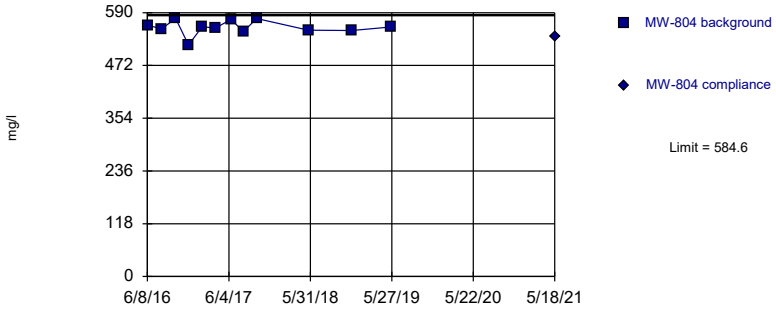
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=557, Std. Dev.=16.11, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8798, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

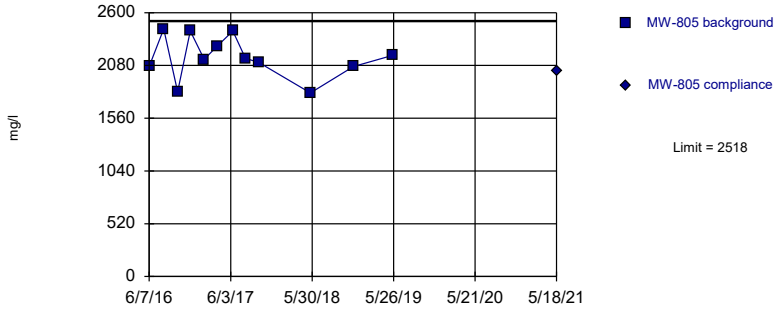
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2158, Std. Dev.=209.6, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.915, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

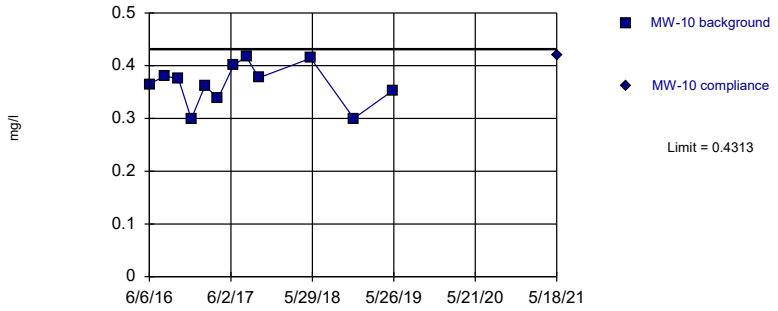
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805
6/7/2016	695						2070	
6/8/2016					562			
6/9/2016			594					
8/10/2016	681				554		2440	
8/12/2016			591					
10/11/2016	713				577		1820	
10/13/2016			592					
12/6/2016	659		603				2420	
12/7/2016					518			
2/6/2017							2140	
2/7/2017	683				559			
2/8/2017			599					
4/4/2017	693				555		2270	
4/7/2017			605					
6/13/2017	709		627		575		2420	
8/7/2017	653							
8/8/2017					548		2150	
8/9/2017			709					
10/4/2017	684		625					
10/5/2017					577		2110	
5/23/2018	683		606		551		1810	
11/30/2018	663		601		550		2070	
5/23/2019	688		621		558		2180	
5/18/2021		684		571		537		2020

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3652, Std. Dev.=0.03856, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9296, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

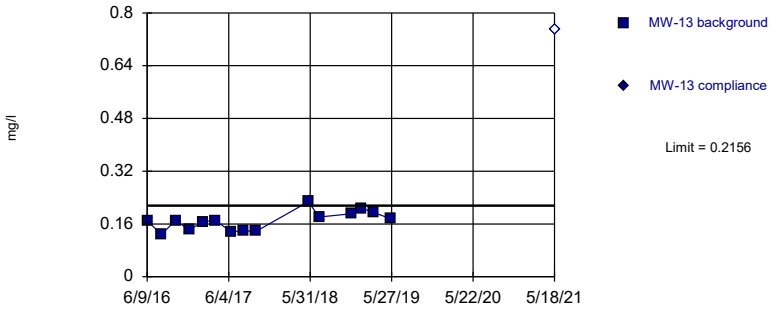
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1693, Std. Dev.=0.02865, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9466, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

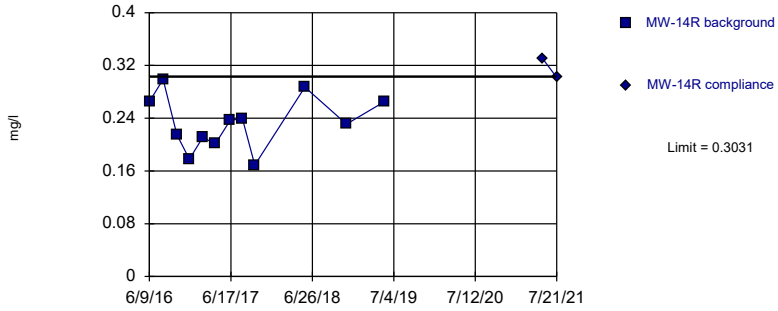
Constituent: FLUORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2331, Std. Dev.=0.04082, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9709, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

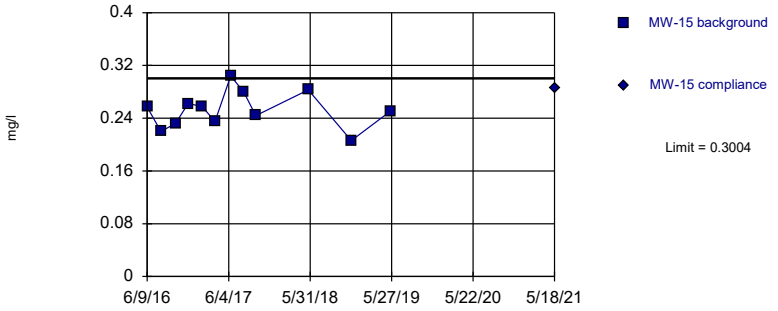
Constituent: FLUORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2527, Std. Dev.=0.0278, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9878, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

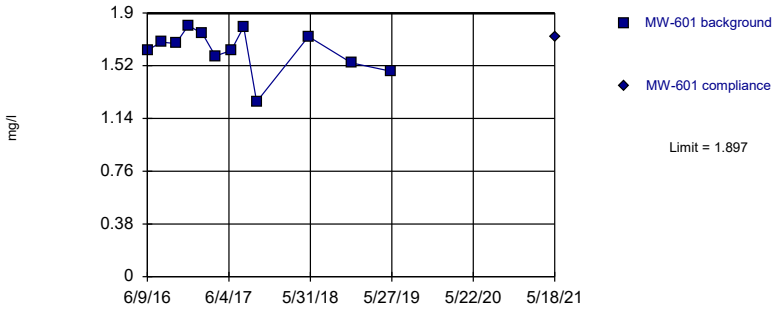
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15
6/6/2016	0.365							
6/9/2016			0.17		0.265		0.257	
8/9/2016							0.22	
8/11/2016	0.38		0.128		0.299			
10/12/2016	0.376						0.232	
10/13/2016			0.171		0.215			
12/7/2016							0.262	
12/9/2016	0.299				0.178			
12/13/2016			0.142					
2/7/2017							0.258	
2/8/2017	0.362							
2/9/2017					0.211			
2/10/2017			0.167					
4/5/2017							0.235	
4/6/2017	0.338		0.171					
4/7/2017					0.201			
6/14/2017							0.304	
6/15/2017	0.401		0.137		0.237			
8/8/2017			0.139					
8/10/2017	0.417				0.239		0.28	
10/3/2017							0.244	
10/4/2017	0.377							
10/5/2017			0.138		0.169			
5/23/2018	0.414		0.227		0.287		0.283	
7/11/2018			0.181					
11/30/2018	0.3		0.191		0.231		0.206	
1/14/2019			0.208					
3/11/2019			0.194					
5/23/2019	0.353		0.176		0.265		0.251	
5/18/2021		0.419		<1.5		0.33		0.285
7/21/2021						0.302		

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.633, Std. Dev.=0.154, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9058, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

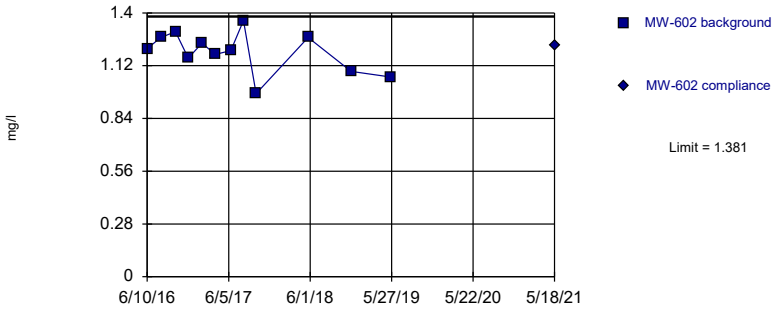
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.193, Std. Dev.=0.1096, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9686, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/27/2021 11:37 AM View: LF LAQC III

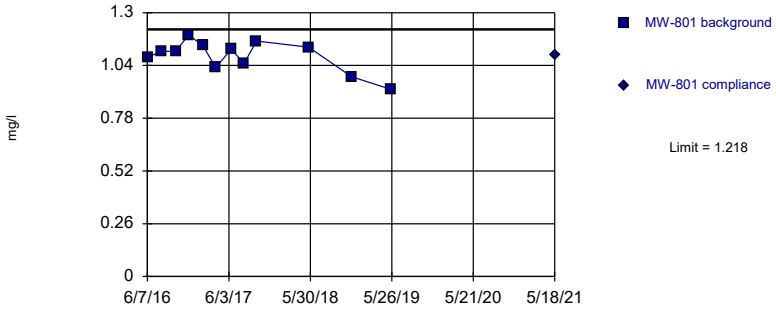
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.086, Std. Dev.=0.077, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9388, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

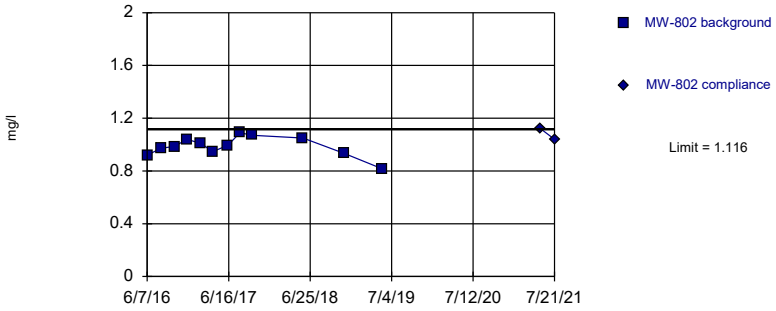
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.9857, Std. Dev.=0.07594, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9549, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

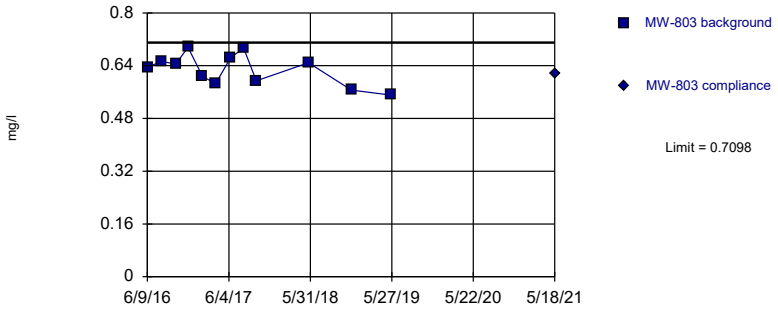
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802
6/7/2016					1.08		0.92	
6/9/2016	1.63							
6/10/2016			1.21					
8/9/2016	1.69		1.27		1.11			
8/10/2016							0.972	
10/11/2016					1.11		0.986	
10/13/2016	1.68		1.3					
12/6/2016					1.19		1.04	
12/7/2016	1.81							
12/9/2016			1.16					
2/7/2017					1.14		1.01	
2/8/2017	1.75		1.24					
4/4/2017							0.947	
4/6/2017	1.59				1.03			
4/7/2017			1.18					
6/13/2017							0.995	
6/14/2017					1.12			
6/15/2017	1.63		1.2					
8/7/2017							1.09	
8/9/2017	1.8				1.05			
8/10/2017			1.36					
10/4/2017					1.16		1.07	
10/5/2017			0.972					
10/6/2017	1.26							
5/23/2018	1.73		1.27		1.13		1.05	
11/30/2018	1.54		1.09		0.984		0.932	
5/23/2019	1.48		1.06		0.922		0.816	
5/18/2021		1.73		1.23		1.09		1.12
7/21/2021								1.04

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.6284, Std. Dev.=0.04745, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9533, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

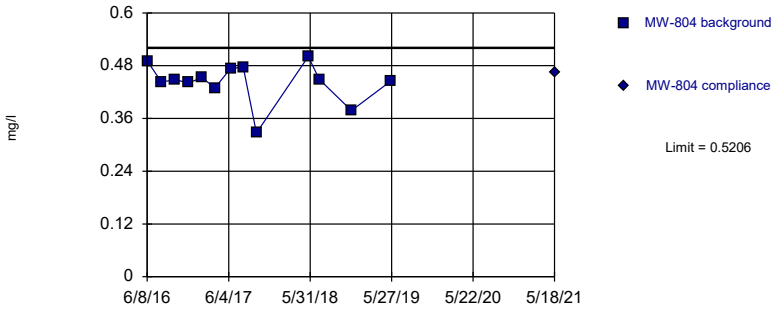
Constituent: FLUORIDE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4427, Std. Dev.=0.04633, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8629, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

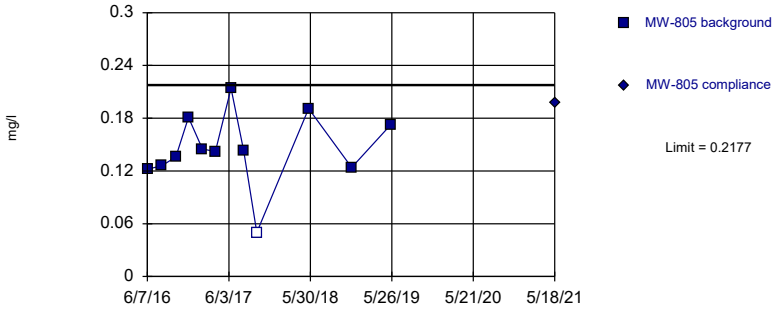
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1456, Std. Dev.=0.042, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9313, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

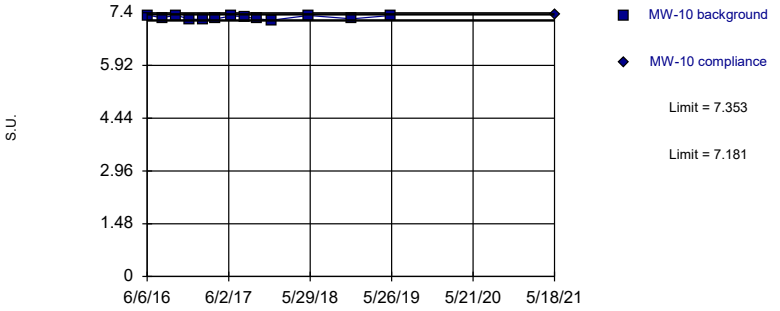
Constituent: FLUORIDE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.267, Std. Dev.=0.05122, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.88, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE, pH Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

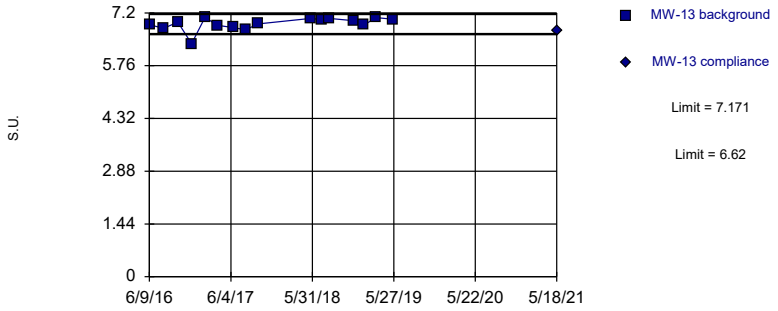
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10
6/6/2016							7.33	
6/7/2016					0.122			
6/8/2016			0.491					
6/9/2016	0.636							
8/10/2016			0.443		0.126			
8/11/2016							7.26	
8/12/2016	0.653							
10/11/2016			0.448		0.136			
10/12/2016							7.33	
10/13/2016	0.645							
12/6/2016	0.696				0.181			
12/7/2016			0.441					
12/9/2016							7.22	
2/6/2017					0.145			
2/7/2017			0.453					
2/8/2017	0.607						7.21	
4/4/2017			0.429		0.142			
4/6/2017							7.23	
4/7/2017	0.586							
6/13/2017	0.665		0.474		0.214			
6/15/2017							7.31	
8/8/2017			0.476		0.143			
8/9/2017	0.693							
8/10/2017							7.29	
10/4/2017	0.594						7.23	
10/5/2017			0.327		<0.1			
12/12/2017							7.19	
5/23/2018	0.649		0.501		0.191		7.32	
7/11/2018			0.449					
11/30/2018	0.566		0.378		0.124		7.23	
5/23/2019	0.551		0.445		0.173		7.32	
5/18/2021		0.614		0.465		0.197		7.34

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=329.4, Std. Dev.=24.85, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.845, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

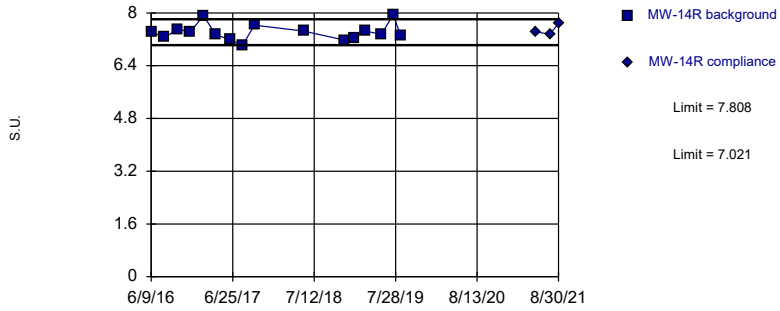
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.414, Std. Dev.=0.2491, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.915, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

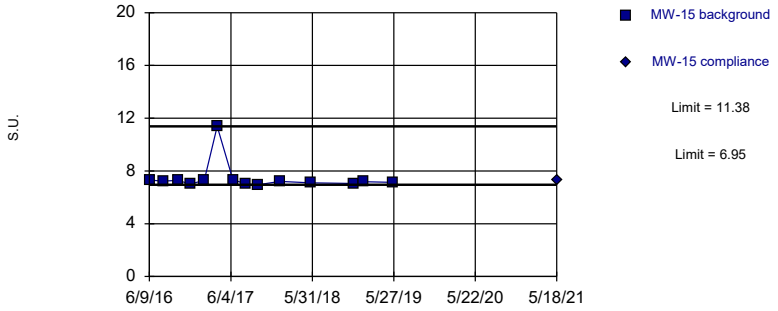
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

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 14 background values. Well-constituent pair annual alpha = 0.006393. Individual comparison alpha = 0.003199 (1 of 3).

Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

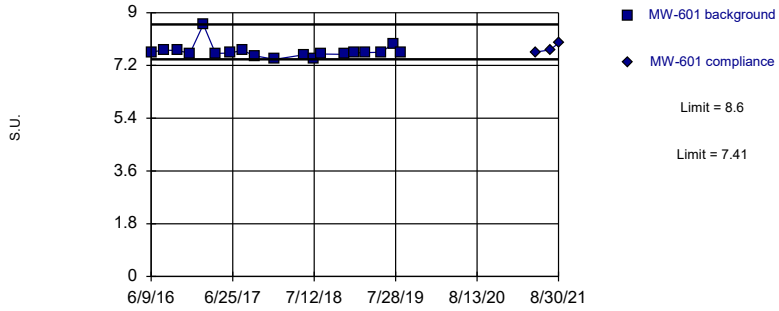
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

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 19 background values. Well-constituent pair annual alpha = 0.002713. Individual comparison alpha = 0.001357 (1 of 3).

Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

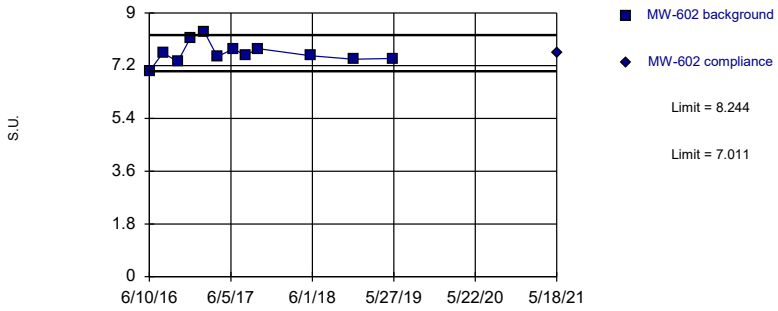
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601
6/9/2016	6.88		7.42		7.31		7.66	
8/9/2016					7.23		7.72	
8/11/2016	6.78		7.26					
10/12/2016					7.28			
10/13/2016	6.95		7.51				7.71	
12/7/2016					7.02		7.61	
12/9/2016			7.42					
12/13/2016	6.36							
2/7/2017					7.28			
2/8/2017							8.6	
2/9/2017			7.92					
2/10/2017	7.08							
4/5/2017					11.38			
4/6/2017	6.86						7.61	
4/7/2017			7.34					
6/14/2017					7.34			
6/15/2017	6.8		7.19				7.62	
8/8/2017	6.74							
8/9/2017							7.72	
8/10/2017			7.01		7.02			
10/3/2017					6.95			
10/5/2017	6.9		7.63					
10/6/2017							7.53	
1/9/2018					7.21		7.41	
5/23/2018	7.05		7.45		7.1		7.56	
7/11/2018	7.02						7.43	
8/16/2018	7.05						7.59	
11/30/2018	6.99		7.18		7.05		7.58	
1/14/2019	6.87		7.25		7.18		7.63	
3/11/2019	7.07		7.45				7.64	
5/23/2019	7.03		7.35		7.14		7.65	
7/17/2019			7.94				7.95	
8/23/2019			7.31				7.66	
5/18/2021		6.7		7.42		7.32		7.66
7/21/2021				7.36				7.73
8/30/2021				7.69				7.96

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.628, Std. Dev.=0.359, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.943, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

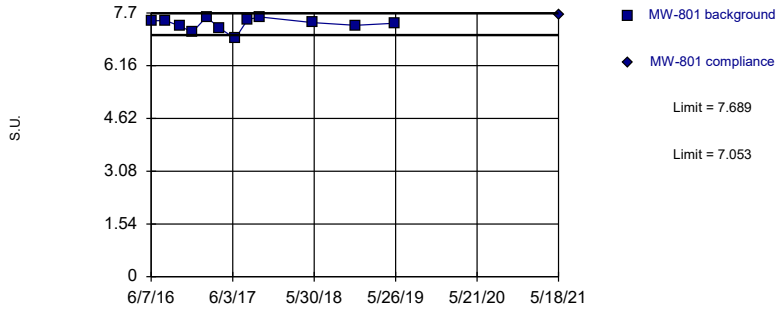
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.371, Std. Dev.=0.1854, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.914, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

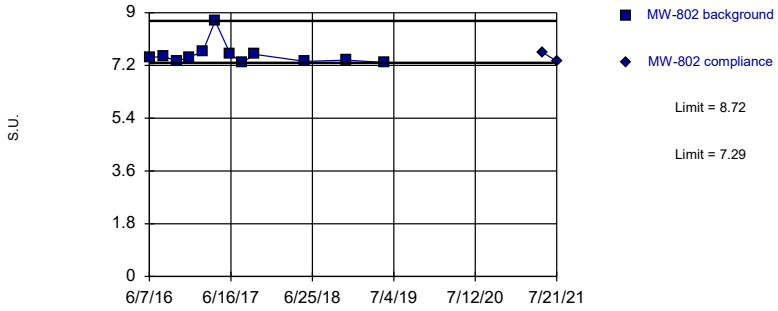
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

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 12 background values. Well-constituent pair annual alpha = 0.008684. Individual comparison alpha = 0.004347 (1 of 3).

Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

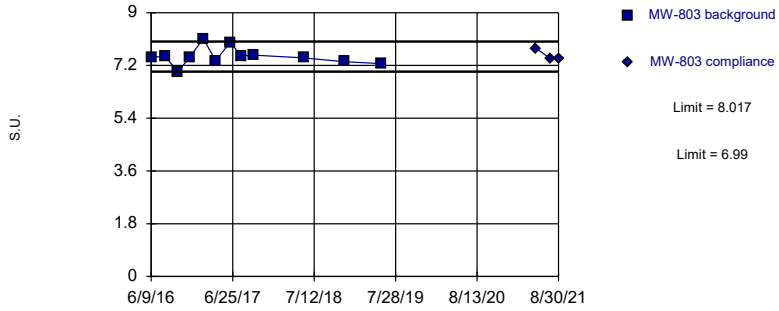
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.503, Std. Dev.=0.2994, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8953, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

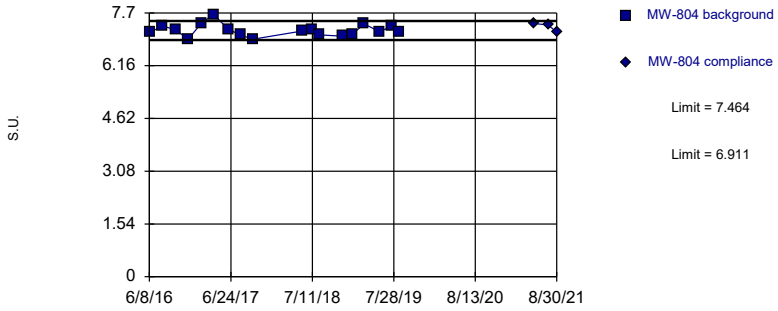
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803
6/7/2016			7.47		7.46			
6/9/2016							7.48	
6/10/2016	7.01							
8/9/2016	7.64		7.48					
8/10/2016					7.52			
8/12/2016							7.51	
10/11/2016			7.32		7.34			
10/13/2016	7.34						6.99	
12/6/2016			7.14		7.48		7.48	
12/9/2016	8.15							
2/7/2017			7.58		7.67			
2/8/2017	8.36						8.12	
4/5/2017					8.72			
4/6/2017			7.26					
4/7/2017	7.51						7.36	
6/13/2017					7.6		7.98	
6/14/2017			6.95					
6/15/2017	7.77							
8/7/2017					7.29			
8/8/2017							7.52	
8/9/2017			7.51					
8/10/2017	7.56							
10/4/2017			7.58		7.58		7.55	
10/5/2017	7.78							
5/23/2018	7.54		7.42		7.34		7.46	
11/30/2018	7.42		7.34		7.38		7.33	
5/23/2019	7.45		7.4		7.3		7.26	
5/18/2021		7.66		7.66		7.64		7.78
7/21/2021						7.35		7.44
8/30/2021								7.41

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.188, Std. Dev.=0.1795, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

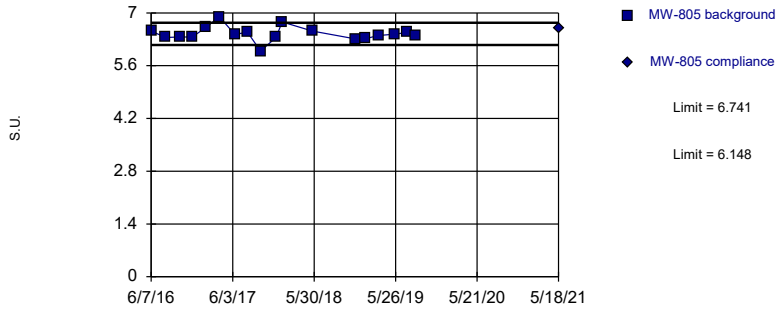
Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.444, Std. Dev.=0.1924, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9113, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

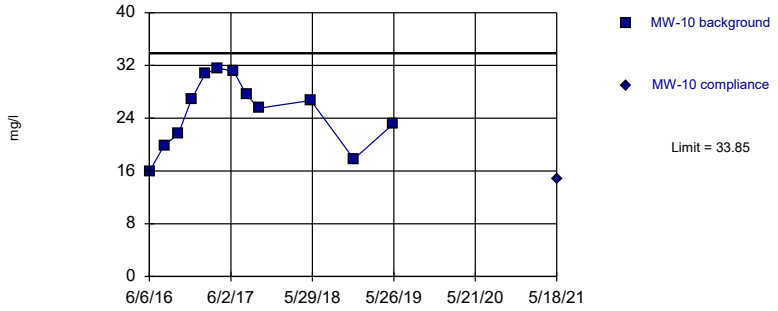
Constituent: pH Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=24.86, Std. Dev.=5.24, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9437, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

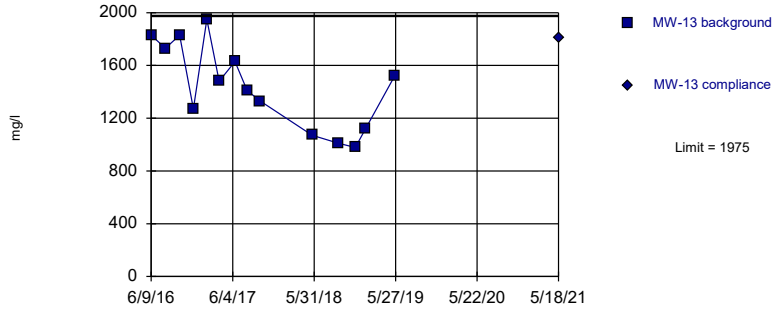
Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1440, Std. Dev.=324.9, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9463, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH, SULFATE Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

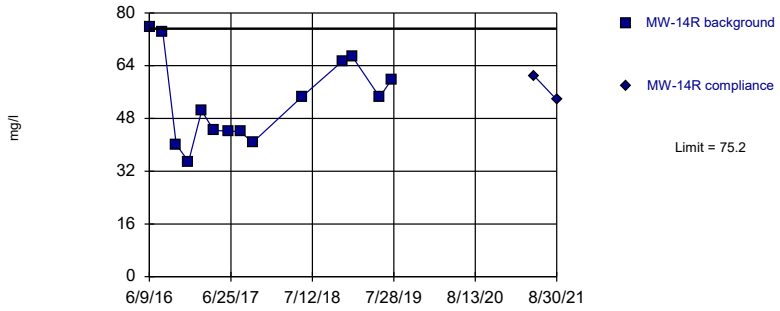
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13
6/6/2016					15.9			
6/7/2016			6.52					
6/8/2016	7.13							
6/9/2016							1830	
8/10/2016	7.32		6.35					
8/11/2016					19.9		1730	
10/11/2016	7.2		6.36					
10/12/2016					21.6			
10/13/2016							1830	
12/6/2016			6.36					
12/7/2016	6.93							
12/9/2016					26.8			
12/13/2016							1270	
2/6/2017			6.62					
2/7/2017	7.41							
2/8/2017					30.7			
2/10/2017							1950	
4/5/2017	7.65		6.9					
4/6/2017					31.6		1480	
6/13/2017	7.22		6.43					
6/15/2017					31.1		1630	
8/8/2017	7.06		6.49				1410	
8/10/2017					27.6			
10/4/2017					25.5			
10/5/2017	6.93		5.99				1330	
12/12/2017			6.35					
1/9/2018			6.76					
5/23/2018	7.17		6.52		26.7		1070	
7/11/2018	7.21							
8/16/2018	7.06							
9/17/2018							1010	
11/30/2018	7.02		6.31		17.8		978	
1/14/2019	7.07		6.32				1120	
3/11/2019	7.38		6.4					
5/23/2019	7.15		6.44		23.1		1520	
7/17/2019	7.31		6.48					
8/22/2019	7.16		6.4					
5/18/2021		7.39		6.58		14.7		1810
7/21/2021		7.35						
8/30/2021		7.14						

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=53.54, Std. Dev.=13.15, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9355, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

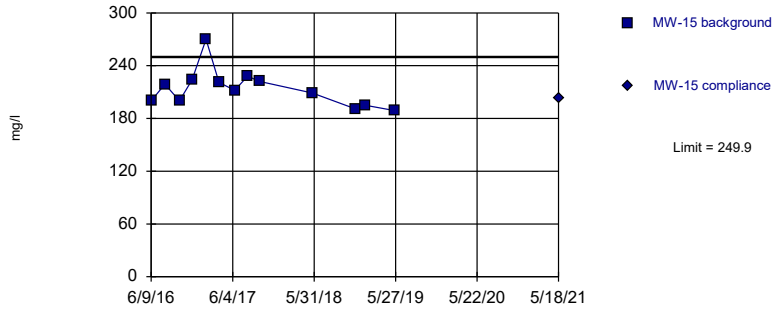
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=213.8, Std. Dev.=21.42, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8725, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

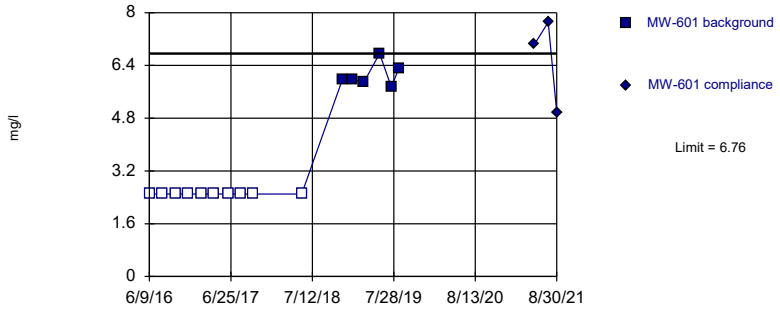
Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Hollow symbols indicate censored values.

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 16 background values. 62.5% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

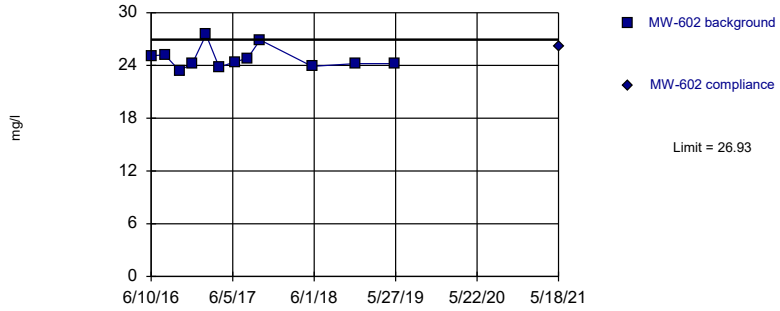
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=24.8, Std. Dev.=1.242, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8446, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

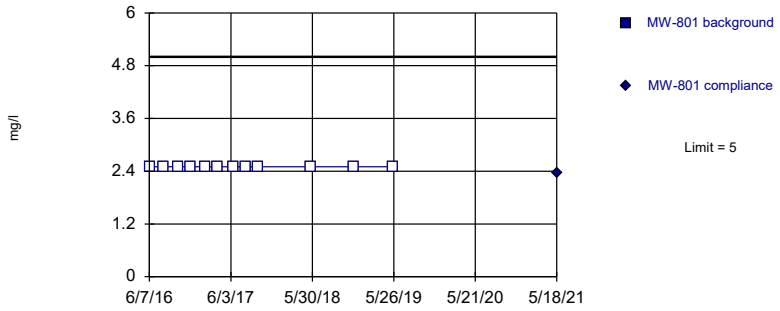
	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602
6/9/2016	75.8		200		<5			
6/10/2016							25.1	
8/9/2016			219		<5		25.2	
8/11/2016	74.2							
10/12/2016			200					
10/13/2016	40.1				<5		23.4	
12/7/2016			224		<5			
12/9/2016	34.9						24.2	
2/7/2017			270					
2/8/2017					<5		27.5	
2/9/2017	50.4							
4/5/2017			221					
4/6/2017					<5			
4/7/2017	44.3						23.8	
6/14/2017			212					
6/15/2017	44.2				<5		24.4	
8/9/2017					<5			
8/10/2017	44		228				24.8	
10/3/2017			222					
10/5/2017	40.7						26.9	
10/6/2017					<5			
5/23/2018	54.5		209		<5		23.9	
11/30/2018	65.4		191		5.98		24.2	
1/14/2019	66.9		195		5.97			
3/11/2019					5.89			
5/23/2019	54.5		189		6.76		24.2	
7/17/2019	59.6				5.75			
8/23/2019					6.32			
5/18/2021		60.8		203		7.04		26.2
7/21/2021						7.71		
8/30/2021		53.7				4.98		

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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).

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

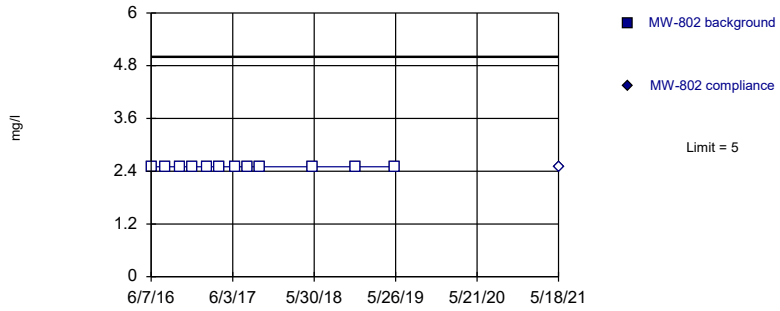
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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).

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

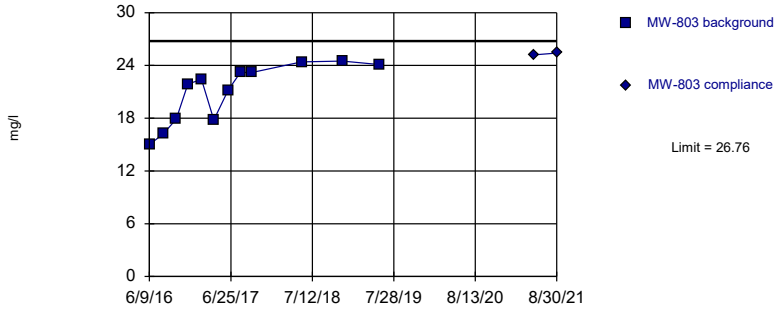
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=20.98, Std. Dev.=3.368, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8745, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

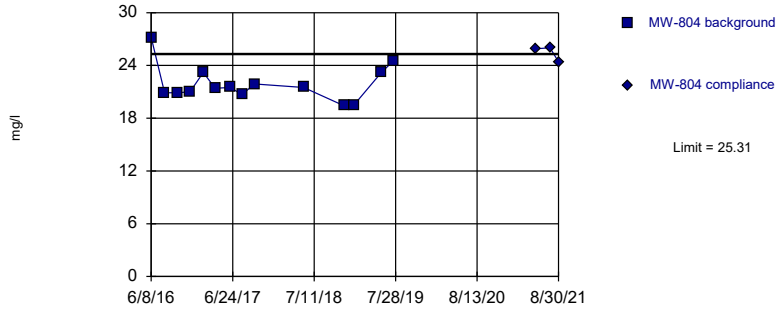
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.31 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=21.91, Std. Dev.=2.058, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8766, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

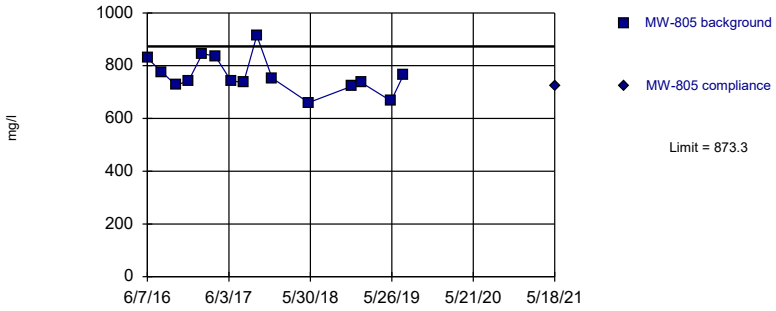
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804
6/7/2016	<5		<5					
6/8/2016							27.2	
6/9/2016					15			
8/9/2016	<5							
8/10/2016			<5				20.9	
8/12/2016					16.2			
10/11/2016	<5		<5				20.9	
10/13/2016					17.9			
12/6/2016	<5		<5		21.9			
12/7/2016							21	
2/7/2017	<5		<5				23.2	
2/8/2017					22.4			
4/4/2017			<5				21.4	
4/6/2017	<5							
4/7/2017					17.8			
6/13/2017			<5		21.2		21.5	
6/14/2017	<5							
8/7/2017			<5					
8/8/2017							20.7	
8/9/2017	<5				23.2			
10/4/2017	<5		<5		23.2			
10/5/2017							21.9	
5/23/2018	<5		<5		24.4		21.5	
11/30/2018	<5		<5		24.5		19.4	
1/14/2019							19.5	
5/23/2019	<5		<5		24.1		23.2	
7/17/2019							24.5	
5/18/2021		2.36		<5		25.2		25.9
7/21/2021								26
8/30/2021						25.4		24.4

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=763.2, Std. Dev.=68.17, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9341, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/27/2021 11:38 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 9/27/2021 11:42 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-805	MW-805
6/7/2016	829	
8/10/2016	776	
10/11/2016	726	
12/6/2016	742	
2/6/2017	846	
4/4/2017	836	
6/13/2017	742	
8/8/2017	737	
10/5/2017	914	
12/12/2017	753	
5/23/2018	660	
11/30/2018	722	
1/14/2019	735	
5/23/2019	666	
7/17/2019	764	
5/18/2021		724

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 9/27/2021, 11:42 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
BORON (mg/l)	MW-10	0.9889	n/a	5/18/2021	0.839	No	13	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-13	0.6068	n/a	5/18/2021	0.345	No	16	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-14R	0.8115	n/a	5/18/2021	0.746	No	14	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-15	0.3016	n/a	5/18/2021	0.237	No	13	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-601	1.932	n/a	5/18/2021	1.83	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-602	2.465	n/a	5/18/2021	2.27	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-801	2.411	n/a	5/18/2021	2.21	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-802	2.579	n/a	5/18/2021	2.44	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-803	2.188	n/a	5/18/2021	2	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-804	1.762	n/a	5/18/2021	1.57	No	18	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-805	0.578	n/a	5/18/2021	0.55	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-10	61.5	n/a	5/18/2021	51	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-13	404.2	n/a	5/18/2021	385	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-14R	61.85	n/a	8/30/2021	52.6	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-15	110.1	n/a	5/18/2021	102	No	13	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-601	23.63	n/a	8/30/2021	16.8	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-602	25.84	n/a	5/18/2021	23.5	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-801	36.84	n/a	5/18/2021	24.8	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-802	41.1	n/a	5/18/2021	28	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-803	49.74	n/a	8/30/2021	39	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-804	68.94	n/a	8/30/2021	64.4	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-805	487.8	n/a	5/18/2021	443	No	17	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-10	68.87	n/a	5/18/2021	50.6	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-13	19.33	n/a	5/18/2021	19	No	14	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	**MW-14R**	**6.113**	**n/a**	**8/30/2021**	**6.35**	**Yes**	**16**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
CHLORIDE (mg/l)	MW-15	20.38	n/a	5/18/2021	12.6	No	13	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-601	201	n/a	8/30/2021	163	No	14	0	n/a	0.0016	NP Intra (normality) ...
CHLORIDE (mg/l)	MW-602	18.02	n/a	5/18/2021	16.8	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-801	126.2	n/a	5/18/2021	98.7	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-802	38.44	n/a	5/18/2021	37.7	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	**MW-803**	**49.94**	**n/a**	**8/30/2021**	**50.1**	**Yes**	**12**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
CHLORIDE (mg/l)	MW-804	32.96	n/a	8/30/2021	30.2	No	14	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-805	514.9	n/a	5/18/2021	509	No	14	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-10	636.2	n/a	5/18/2021	559	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-13	6050	n/a	5/18/2021	2640	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-14R	591	n/a	5/18/2021	543	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-15	2310	n/a	5/18/2021	740	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-601	1029	n/a	5/18/2021	952	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-602	650.4	n/a	5/18/2021	578	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-801	1008	n/a	5/18/2021	843	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-802	715.2	n/a	5/18/2021	684	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-803	709	n/a	5/18/2021	571	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-804	584.6	n/a	5/18/2021	537	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-805	2518	n/a	5/18/2021	2020	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-10	0.4313	n/a	5/18/2021	0.419	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-13	0.2156	n/a	5/18/2021	0.75ND	No	15	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-14R	0.3031	n/a	7/21/2021	0.302	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-15	0.3004	n/a	5/18/2021	0.285	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-601	1.897	n/a	5/18/2021	1.73	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-602	1.381	n/a	5/18/2021	1.23	No	12	0	No	0.001075	Param Intra 1 of 3

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 9/27/2021, 11:42 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
FLUORIDE (mg/l)	MW-801	1.218	n/a	5/18/2021	1.09	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-802	1.116	n/a	7/21/2021	1.04	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-803	0.7098	n/a	5/18/2021	0.614	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-804	0.5206	n/a	5/18/2021	0.465	No	13	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-805	0.2177	n/a	5/18/2021	0.197	No	12	8.333	No	0.001075	Param Intra 1 of 3
pH (S.U.)	MW-10	7.353	7.181	5/18/2021	7.34	No	13	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-13	7.171	6.62	5/18/2021	6.7	No	16	0	x^3	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-14R	7.808	7.021	8/30/2021	7.69	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-15	11.38	6.95	5/18/2021	7.32	No	14	0	n/a	0.003199	NP Intra (normality) ...
pH (S.U.)	MW-601	8.6	7.41	8/30/2021	7.96	No	19	0	n/a	0.001357	NP Intra (normality) ...
pH (S.U.)	MW-602	8.244	7.011	5/18/2021	7.66	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-801	7.689	7.053	5/18/2021	7.66	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-802	8.72	7.29	7/21/2021	7.35	No	12	0	n/a	0.004347	NP Intra (normality) ...
pH (S.U.)	MW-803	8.017	6.99	8/30/2021	7.41	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-804	7.464	6.911	8/30/2021	7.14	No	18	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-805	6.741	6.148	5/18/2021	6.58	No	18	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-10	33.85	n/a	5/18/2021	14.7	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-13	1975	n/a	5/18/2021	1810	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-14R	75.2	n/a	8/30/2021	53.7	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-15	249.9	n/a	5/18/2021	203	No	13	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-601	6.76	n/a	8/30/2021	4.98	No	16	62.5	n/a	0.001026	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-602	26.93	n/a	5/18/2021	26.2	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-801	5	n/a	5/18/2021	2.36	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-802	5	n/a	5/18/2021	2.5ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-803	26.76	n/a	8/30/2021	25.4	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-804	25.31	n/a	8/30/2021	24.4	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-805	873.3	n/a	5/18/2021	724	No	15	0	No	0.001075	Param Intra 1 of 3

ATTACHMENT 2

Sanitas™ Configuration Settings

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Exclude data flags: i

Observations with flags containing the following characters will be deselected: 'i', 'l',

Data Reading Options

- (•) Individual Observations
- ( ) Mean of Each: ( ) Month
- ( ) Median of Each: ( ) Season

Non-Detect / Trace Handling...

Setup Seasons...

[ ] Automatically Process Resamples...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

- [ ] Black and White Output
- [x] Four Plots Per Page
  - [x] Always Combine Data Pages...
  - [x] Include Tick Marks on Data Page
  - [ ] Use Constituent Name for Graph Title
- [ ] Draw Border Around Text Reports and Data Pages
- [x] Enlarge/Reduce Fonts (Graphs): 100%
- [x] Enlarge/Reduce Fonts (Data/Text Reports): 100%
- [x] Wide Margins (on reports without explicit setting)
- [ ] Use CAS# (Not Const. Name)
- [ ] Truncate File Names to 20 Characters
- [ ] Include Limit Lines when found in Database...
- [x] Show Deselected Data on Time Series Lighter
- [ ] Show Deselected Data on all Data Pages Lighter

Setup Symbols and Colors...

- [x] Prompt to Overwrite/Append Summary Tables
- [ ] Round Limits to 2 Sig. Digits (when not set in data file)
- [ ] User-Set Scale
- [x] Indicate Background Data
- [ ] Show Exact Dates
- [ ] Thick Plot Lines

Zoom Factor: 200%

Output Decimal Precision

- ( ) Less Precision
- (•) Normal Precision
- ( ) More Precision

- [x] Store Print Jobs in Multiple Constituent Mode

Store All Print Jobs...

Printer: Adobe PDF

Printers...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☐ Use Modified Alpha...

☑ Test Residuals For Normality (Parametric test only) using Shapiro-Wilk/Francia 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 > 75

☐ Include 95. % 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.

Data | Output | Trend Test | Control Cht | **Prediction Lim** | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☑ 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 _____ when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 0

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 α

Statistical Evaluations per Year: 2

Constituents Analyzed: 7

Downgradient (Compliance) Wells: 7

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)

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

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 α= 0.05 or if n > 22 Rosner's at α= 0.01 [x] Use EPA Screening to establish Suspected Outliers
- ( ) Tukey's Outlier Screening, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat
- [x] Test For Normality using Shapiro-Wilk/Francia at Alpha = 0.1
  - (•) Stop if Non-Normal
  - ( ) Continue with Parametric Test if Non-Normal
  - ( ) Tukey's if Non-Normal, with IQR Multiplier = 3.0 [x] Use Ladder of Powers to achieve Best W Stat
- [x] No Outlier If Less Than 3.0 Times Median
- [ ] Apply Rules found in Ohio Guidance Document 0715
- [ ] Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

- [ ] Combine Wells
- [ ] Combine Dates
- (•) Use Default Constituent Names
- ( ) Use Constituent Definition File Edit
- [x] Label Constituents
- [x] Label Axes
- [x] Note Cation-Anion Balance (Piper only)

Jared Morrison
October 31, 2022

ATTACHMENT 3

Revised Groundwater Potentiometric Surface Maps

Jared Morrison
October 31, 2022

ATTACHMENT 3-1

Revised Groundwater Potentiometric Surface Map (May 2021)

LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UNIT)
- MW-703 (877.00) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- −875— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)
- 5 ft/yr DIRECTION OF GROUNDWATER FLOW AND CALCULATED FLOW RATE (FEET/YEAR)

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. DRONE IMAGE DATED JANUARY 2021. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.

800 0 800 1600

SCALE FEET

REV.	DATE	FLOW RATE	CK. BY
1	9/29/22		JRR
2	–		–
3	–		–
4	–		–
5	–		–
6	–		–

SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (MAY 2021)

PROJECT TITLE
2021 CCR GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT
EVERGY METRO, INC
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO.	DSN. BY:	Q/A REW BY:
27217233.21	MBE	JRR
DSN. BY:	CHK. BY:	PROJ. MGR
DAW	JF	JRR

CADD FILE:
LA CYGNE LF LAQC IMP & UAQC FIG 1_MAY2021 V.DWG

DATE: 10/28/2022

FIGURE NO.
2

N:\KCPL\Projects\Groundwater\DWG\La Cygne\2021\Alternative Source Demonstration\La Cygne LF LAQC Imp & UAQC Fig 1_MAY2021 v.5.dwg Oct 28, 2022 - 11:35am Layout Name: Fig 1 Lower By: 4503mae

Jared Morrison
October 31, 2022

ATTACHMENT 3-2

Revised Groundwater Potentiometric Surface Map (November 2021)

LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UPPER AQC IMPOUNDMENT)
- MW-703 (877.00) — CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- −875— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)
- MW-702* — INDICATES WELL NOT USED IN POTENTIOMETRIC SURFACE MAP CREATION
- 12 ft/yr — DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. DRONE IMAGE DATED JANUARY 2021. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 18, 2021.

800 0 800 1600

SCALE FEET

REV.	DATE	FLOW RATE	CK. BY
0	9/29/22	-	JRR
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP (NOVEMBER 2021)
LAQC

PROJECT TITLE
2021 CCR GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT
EVERGY METRO, INC
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO.	DWN. BY:	CHK. BY:	QA/A RVW BY:	PROJ. MGR
27217233.20	MBE	JF	JRR	JRR
DSN. BY: DAW				

CADD FILE: LA CYGNE FIG 3_NOV_2021 LOWER V0.3.DWG

DATE: 10/28/22

FIGURE NO. 3

N:\KCPL\Projects\Groundwater\DWG\La Cygne\2022\La Cygne Fig 3_NOV_2021 LOWER V0.3.dwg Oct 28, 2022 - 11:25am Layout Name: Fig 1 Lower By: 4503mae