2019 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

UPPER AQC IMPOUNDMENT
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

Presented To:
Evergy Metro, Inc. (f/k/a Kansas City Power & Light Co.)

SCS ENGINEERS

27217233.19 | January 2020, Revised December 16, 2022

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

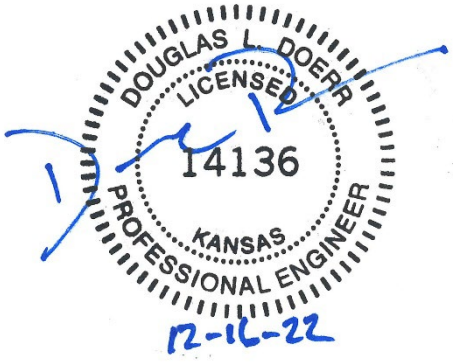
CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and Professional Geologist in the State of Kansas, do hereby certify that the 2019 Annual Groundwater Monitoring and Corrective Action Report for the Upper 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 2019 Annual Groundwater Monitoring and Corrective Action Report for the Upper 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 Section	Summary of Revisions
0	January 2020	NA	Original
1	December 16, 2022	Addendum 1	Added Addendum 1

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Section **Page**

Appendices

1 INTRODUCTION

This 2019 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). Specifically, this report was prepared for Evergy Metro, Inc. (f/k/a Kansas City Power & Light Company) 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 2019 Annual Groundwater Monitoring and Corrective Action Report for the Upper AQC Impoundment at the La Cygne Generating Station.

2 § 257.90(E) ANNUAL REPORT REQUIREMENTS

Annual groundwater monitoring and corrective action report. *For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:*

2.1 § 257.90(E)(1) SITE MAP

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

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

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

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

No new monitoring wells were installed and no wells were decommissioned as part of the CCR groundwater monitoring program for the Upper AQC Impoundment in 2019.

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

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

Only detection monitoring was conducted during the reporting period (2019). Samples collected in 2019 were collected and analyzed for Appendix III detection monitoring constituents as indicated in **Appendix B**, **Table 1** (Appendix III Detection Monitoring Results, and **Table 2** (Detection Monitoring Field Measurements). The dates of sample collection, the monitoring program requiring the sample, and the results of the analyses are also provided in these tables. These tables include Fall 2018 semiannual detection monitoring event verification data taken in 2019; Spring 2019 semiannual detection monitoring data; and the initial Fall 2019 semiannual detection monitoring data.

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

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

There was no transition between monitoring programs in 2019. Only detection monitoring was conducted in 2019.

2.5 § 257.90(e)(5) OTHER REQUIREMENTS

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

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

2.5.1 § 257.90(e) Program Status

Status of Groundwater Monitoring and Corrective Action Program.

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

Summary of Key Actions Completed.

a. completion of the Fall 2018 verification sampling and analyses per the certified statistical method,

b. completion of the statistical evaluation of the Fall 2018 semiannual detection monitoring sampling and analysis event per the certified statistical method,

c. completion of the 2018 Annual Groundwater Monitoring and Corrective Action Report,

d. completion of a successful alternative source demonstration for the Fall 2018 semiannual detection monitoring sampling and analysis event,

e. completion of the Spring 2019 semiannual detection monitoring sampling and analysis event, and subsequent verification sampling per the certified statistical method,

f. completion of the statistical evaluation of the Spring 2019 semiannual detection monitoring sampling and analysis event per the certified statistical method,

g. completion of a successful alternative source demonstration for the Spring 2019 semiannual detection monitoring sampling and analysis event, and

h. initiation of the Fall 2019 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 (2020).

Completion of verification sampling and data analysis, and the statistical evaluation of Fall 2019 detection monitoring sampling and analysis event. Semiannual Spring and Fall 2020 groundwater sampling and analysis. Completion of the statistical evaluation of the Spring 2020 detection monitoring sampling and analysis event, and, if required, alternative source demonstration(s).

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

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

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

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

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

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

C1 CCR Groundwater Monitoring Alternative Source Demonstration Report November 2018 Groundwater Monitoring Event, Upper AQC Impoundment, La Cygne Generating Station (June 2019)

C2 CCR Groundwater Monitoring Alternative Source Demonstration Report May 2019 Groundwater Monitoring Event, Upper AQC Impoundment, La Cygne Generating Station (December 2019)

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

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

Not applicable because there was no assessment monitoring conducted.

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

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

Not applicable because there was no assessment monitoring conducted.

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

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

Not applicable because there was no assessment monitoring conducted.

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

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

Not applicable because there was no assessment monitoring conducted.

3 GENERAL COMMENTS

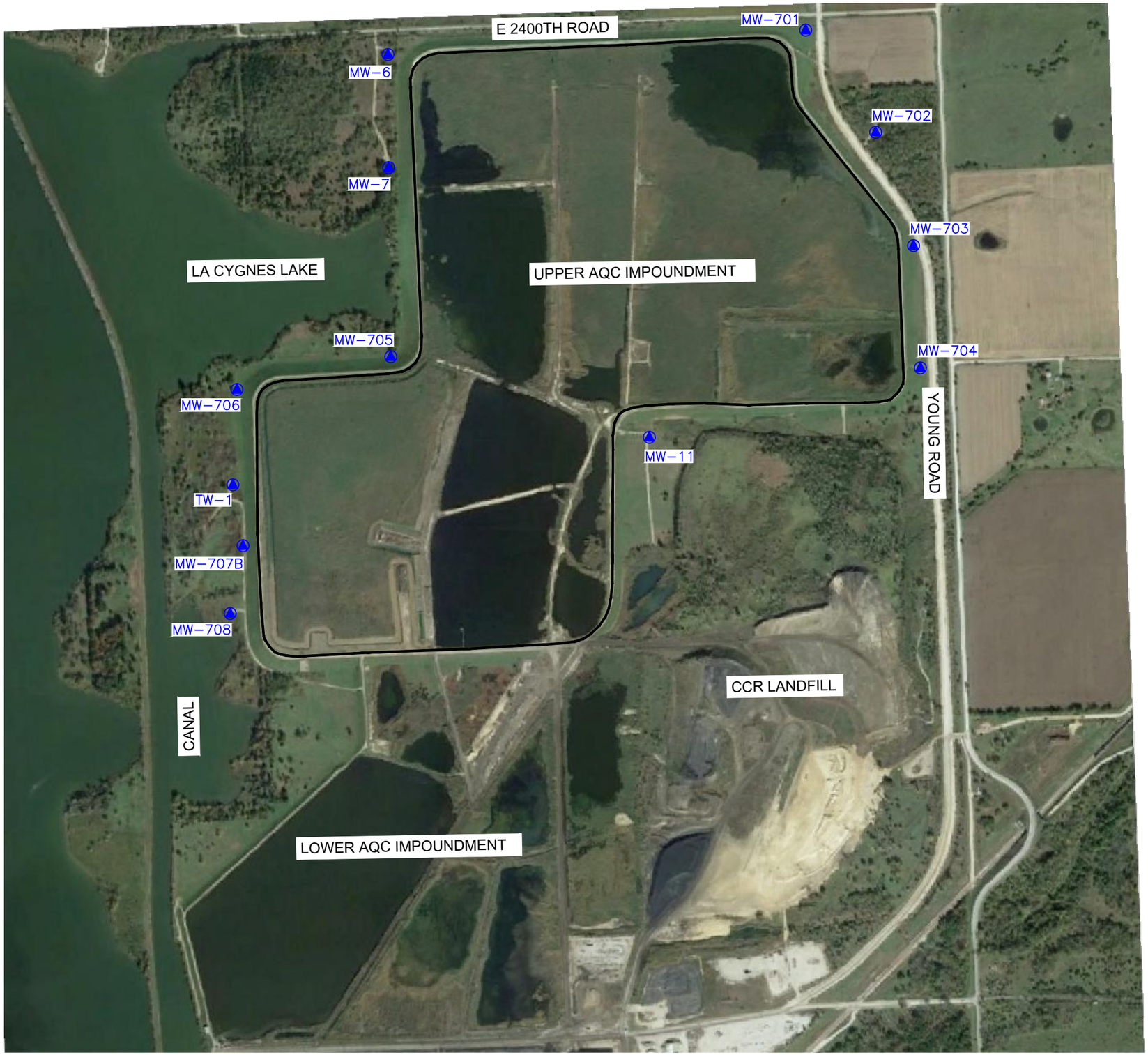
This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. The information contained in this report is a reflection of the conditions encountered at the La Cygne Generating Station at the time of fieldwork. This report includes 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 Upper AQC Impoundment. No warranties, express or implied, are intended or made.

APPENDIX A

FIGURES

Figure 1: Site Map



LEGEND

CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UPPER AQC IMPOUNDMENT)

MW–702 CCR GROUNDWATER MONITORING SYSTEM WELLS

NOTES:

1. KDHE FACILITY PERMIT AREA BOUNDARY VARIES FROM THAT SHOWN.
2. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.

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SCALE FEET

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SHEET TITLE
SITE MAP
UPPER AQC IMPOUNDMENT
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE
2019 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:	O/A RVW BY:
27217233.19	TGW	JRR
DSN. BY:	CHK. BY:	PROJ. MGR
TGW	JRR	JRR

CADD FILE:
FIG 1 – LA CYGNE UAQC IMP.DWG

DATE:
1/07/20

FIGURE NO.
1

N:\KCPL\Projects\Groundwater\DWG\La Cygne\CCR Annual Report\2018\Fig 1 - La Cygne UAQC Imp.dwg Jan 08, 2020 - 10:57am Layout Name: Fig 1 By: 4648jdj

APPENDIX B

TABLES

Table 1: Appendix III Detection Monitoring Results

Table 2: Detection Monitoring Field Measurements

Table 1
Upper AQC Impoundment
Appendix III Detection Monitoring Results
Evergy LaCygne 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-6	5/23/2019	1.19	83.7	204	0.467	7.17	154	1210
MW-6	11/7/2019	1.15	79.7	197	0.615	7.45	136	1090
MW-7	5/23/2019	1.60	22.1	96.5	1.09	7.75	<5.00	936
MW-7	11/7/2019	1.59	20.0	96.2	1.34	7.92	<5.00	848
MW-11	5/23/2019	0.819	65.4	121	0.454	7.52	142	1000
MW-11	11/7/2019	0.846	58.2	122	0.561	7.26	191	908
MW-701	1/15/2019	---	*40.2	---	---	**7.95	---	---
MW-701	3/11/2019	---	*44.2	---	---	**7.61	---	---
MW-701	5/23/2019	0.992	41.6	48.6	0.603	7.12	78.8	582
MW-701	7/17/2019	---	*45.0	---	---	**7.80	---	---
MW-701	8/23/2019	---	*39.9	---	---	**7.54	---	---
MW-701	11/7/2019	0.952	40.4	46.2	0.703	7.45	83.7	521
MW-702	1/14/2019	---	---	---	*1.20	**7.95	---	---
MW-702	5/23/2019	1.55	5.70	41.8	1.21	8.82	<5.00	530
MW-702	11/7/2019	1.41	2.73	40.7	1.58	8.75	<5.00	193
MW-703	5/23/2019	1.86	19.3	109	1.34	7.50	<5.00	910
MW-703	11/7/2019	1.82	17.6	111	1.56	7.63	<5.00	866

* 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

--- Not Sampled

Table 1
Upper AQC Impoundment
Appendix III Detection Monitoring Results
Evergy LaCygne 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-704	5/23/2019	2.03	21.9	87.2	0.828	7.53	153	1230
MW-704	7/17/2019	---	---	*89.7	---	**7.78	---	---
MW-704	8/23/2019	---	---	*89.2	---	**7.54	---	---
MW-704	11/7/2019	1.97	21.0	84.5	0.953	7.45	163	1110
MW-705	5/23/2019	2.18	28.5	135	0.852	7.33	37.0	980
MW-705	11/7/2019	2.11	26.7	134	1.05	7.38	37.9	914
MW-706	1/15/2019	---	---	---	---	**7.49	*7.73	---
MW-706	3/11/2019	---	---	---	---	**7.55	*6.96	---
MW-706	5/23/2019	2.09	23.2	253	0.985	7.61	5.78	1230
MW-706	7/17/2019	---	---	---	---	**7.58	*8.27	---
MW-706	8/23/2019	---	---	---	---	**7.48	*8.79	---
MW-706	11/7/2019	2.09	22.5	240	1.18	7.72	9.68	1160
MW-707B	5/23/2019	1.96	418	194	0.276	6.83	5530	8310
MW-707B	7/17/2019	---	---	---	---	**6.80	*4920	---
MW-707B	11/7/2019	1.86	386	169	0.442	7.14	5330	7920
MW-708	5/23/2019	1.31	28.6	43.4	0.495	7.36	9.18	651
MW-708	11/7/2019	1.34	27.7	45.0	0.601	7.53	10.1	607
TW-1	5/23/2019	1.47	24.1	41.8	0.365	7.72	62.9	1050
TW-1	11/7/2019	1.42	23.3	40.1	0.411	7.71	61.9	956

* 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

--- Not Sampled

Table 2
Upper AQC Impoundment
Detection Monitoring Field Measurements
Evergy LaCygne 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-6	5/23/2019	7.17	2070	12.27	0.00	-91	0.00	8.96	851.72
MW-6	11/7/2019	7.45	1930	13.64	0.00	-124	0.00	8.65	852.03
MW-7	5/23/2019	7.75	1620	12.21	0.00	-189	0.00	6.48	849.18
MW-7	11/7/2019	7.92	1490	12.25	0.00	-143	0.38	6.55	849.11
MW-11	5/23/2019	7.52	1620	24.50	21.00	-40	1.56	2.35	874.63
MW-11	11/7/2019	7.26	1400	13.17	0.00	-37	0.70	2.86	874.12
MW-701	1/15/2019	**7.95	955	11.35	29.90	-48	0.00	6.91	878.32
MW-701	3/11/2019	**7.61	953	13.81	24.50	18	8.56	6.55	878.68
MW-701	5/23/2019	7.12	1170	17.99	3.50	12	1.15	6.44	878.79
MW-701	7/17/2019	**7.80	907	21.77	0.00	-22	1.05	8.02	877.21
MW-701	8/23/2019	**7.54	938	17.29	3.90	29	0.00	8.99	876.24
MW-701	11/7/2019	7.45	837	13.02	12.50	-79	0.45	7.09	878.14
MW-702	1/14/2019	**7.95	1120	11.08	0.10	-41	1.67	19.90	863.27
MW-702	5/23/2019	8.82	1030	16.45	0.10	145	8.32	18.08	865.09
MW-702	11/7/2019	8.75	926	11.42	6.30	137	2.08	20.02	863.15
MW-703	5/23/2019	7.50	1620	15.20	2.30	97	7.82	6.67	877.17
MW-703	11/7/2019	7.63	1700	12.75	18.80	117	1.20	6.08	877.76
MW-704	5/23/2019	7.53	2060	16.49	0.40	-16	0.00	11.12	872.05
MW-704	7/17/2019	**7.78	1770	23.71	0.00	64	0.90	14.08	869.09
MW-704	8/23/2019	**7.54	1920	17.28	0.00	62	0.00	16.35	866.82
MW-704	11/7/2019	7.45	1690	13.09	3.30	-36	0.72	13.38	869.79

* 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

Table 2
Upper AQC Impoundment
Detection Monitoring Field Measurements
Evergy LaCygne 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-705	5/23/2019	7.33	1770	13.57	0.00	-76	0.00	9.52	846.43
MW-705	11/7/2019	7.38	1640	14.59	0.00	-72	0.00	8.60	847.35
MW-706	1/15/2019	**7.49	2250	12.47	0.00	-79	2.15	8.73	845.55
MW-706	3/11/2019	**7.55	2100	13.95	11.00	-9	1.70	8.01	846.27
MW-706	5/23/2019	7.61	2170	15.02	3.20	-92	0.00	9.29	844.99
MW-706	7/17/2019	**7.58	2070	19.33	0.00	-86	2.00	10.22	844.06
MW-706	8/23/2019	**7.48	1990	19.24	4.30	-14	0.00	10.84	843.44
MW-706	11/7/2019	7.72	2040	13.31	0.00	-68	0.00	10.14	844.14
MW-707B	5/23/2019	6.83	8340	15.26	20.60	-8	0.00	6.22	852.58
MW-707B	7/17/2019	**6.80	7400	22.34	0.00	48	1.00	7.78	851.02
MW-707B	11/7/2019	7.14	8080	13.11	16.10	27	0.00	7.32	851.48
MW-708	5/23/2019	7.36	1190	13.95	0.00	0	0.00	7.53	845.50
MW-708	11/7/2019	7.53	1240	13.84	0.00	74	0.77	7.08	845.95
TW-1	5/23/2019	7.72	1770	13.88	0.00	-14	1.21	18.13	843.97
TW-1	11/7/2019	7.71	1850	13.28	7.90	78	1.23	17.61	844.49

* 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

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NTU - Nephelometric Turbidity Unit

APPENDIX C

ALTERNATIVE SOURCE DEMONSTRATIONS

C1 CCR Groundwater Monitoring Alternative Source Demonstration Report November 2018 Groundwater Monitoring Event, Upper AQC Impoundment, La Cygne Generating Station (June 2019)

C2 CCR Groundwater Monitoring Alternative Source Demonstration Report May 2019 Groundwater Monitoring Event, Upper AQC Impoundment, La Cygne Generating Station (December 2019)

C1 CCR Groundwater Monitoring Alternative Source Demonstration Report November 2018 Groundwater Monitoring Event, Upper AQC Impoundment, La Cygne Generating Station (June 2019)

CCR GROUNDWATER MONITORING

ALTERNATIVE SOURCE DEMONSTRATION REPORT

NOVEMBER 2018 GROUNDWATER MONITORING EVENT

UPPER AQC IMPOUNDMENT

LA CYGNE GENERATING STATION

LA CYGNE, KANSAS

Presented To:

Kansas City Power & Light Company

Presented By:

SCS ENGINEERS

8575 West 110th Street, Suite 100

Overland Park, Kansas 66210

(913) 681-0030

June 2019

File No. 27217233.19

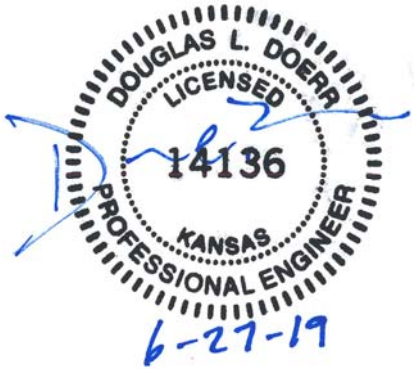
CERTIFICATIONS

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 Upper 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 Upper 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

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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 Upper 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 December 3 or 4, 2018. Review and validation of the results from the December 2018 Detection Monitoring Event was completed on January 12, 2019, which constitutes completion and finalization of detection monitoring laboratory analyses. A statistical analysis was then conducted to determine whether there was a 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 January 14 and 15, 2019 and March 11, 2019.

The completed statistical evaluation identified two Appendix III constituents above their respective prediction limit in monitoring wells MW-701 and MW-706.

The prediction limit for calcium in upgradient monitoring well MW-701 is 39.71 mg/L. The detection monitoring sample was reported at 44.8 mg/L. The first verification re-sample was collected on January 15, 2019 with a result of 40.2 mg/L. The second verification re-sample was collected on March 11, 2019 with a result of 44.2 mg/L.

The prediction limit for sulfate in monitoring well MW-706 is 5.00 mg/L. The detection monitoring sample was reported at 7.69 mg/L. The first verification re-sample was collected on January 15, 2019 with a result of 7.73 mg/L. The second verification re-sample was collected on March 11, 2019 with a result of 6.96 mg/L.

Therefore, in accordance with the Statistical Method Certification, the detection monitoring sampling results for calcium from upgradient monitoring well MW-701 and sulfate from monitoring well MW-706 exceed their respective prediction limits and are confirmed SSIs over background.

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 calcium in upgradient monitoring well MW-701, and for sulfate in monitoring well MW-706.

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 Upper 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 Upper 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 Upper AQC Impoundment at the time of sampling. The groundwater flow directions indicated are for the December 2018 groundwater monitoring event and are typical flow directions for this unit. As seen in the map, monitoring well MW-701 is located upgradient from the Upper AQC Impoundment indicating the SSI for calcium in MW-701 is not caused by a release from the Upper AQC Impoundment. This demonstrates that a source other than the Upper AQC Impoundment caused the SSI above background level for calcium, 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 sulfate for upgradient wells MW-701, MW-702, and MW-703 and downgradient well MW-706. Although the sulfate SSI was only identified in downgradient well MW-706 the box and whiskers plots show that it is below the sulfate range for an upgradient well (MW-701). The comparison indicates the sulfate level in upgradient well MW-701 is greater than the sulfate level in MW-706. This demonstrates that a source other than the Upper AQC Impoundment caused the SSI above background levels for sulfate, or that the SSI 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 sulfate were prepared for the CCR monitoring system upgradient wells MW-701, MW-702, and MW-703 and downgradient well MW-706. Although the sulfate SSI was only identified in downgradient well MW-706, the time series plots show that sulfate in MW-706 is below the sulfate range for an upgradient well (MW-701). The comparison indicates the sulfate level in upgradient well MW-701 is greater than the sulfate level in MW-706. This demonstrates that a source other than the Upper AQC Impoundment caused the sulfate SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

Time series plots are provided in **Appendix C**.

3.4 PIPER PLOTS

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

A piper diagram has two triangular plots on the right and left side of a 4-sided center field. The three major cations are plotted in the left triangle and anions in the right. Each of the three cation/anion variables, in milliequivalents, is divided by the sum of the three values, to produce a percent of total cation/anions. These percentages determine the location of the associated symbol. The data points in the center field are located by extending the points in the lower triangles to the point of intersection. In order for a piper diagram to be produced, the selected data file must contain the following constituents: Sodium (Na), Potassium (K), Calcium (Ca), Magnesium (Mg), Chloride (Cl), Sulfate (SO4), Carbonate (CO3), and Bicarbonate (HCO3).

A piper diagram was generated for samples from upgradient wells MW-701 and MW-702 and from downgradient well MW-706. The sample from downgradient well MW-706 plots between the samples from upgradient wells MW-701 and MW-702 indicating similar geochemical characteristics to upgradient wells. Additionally of note, the difference between the upgradient wells indicates that natural variability occurs between relatively close upgradient wells and is likely to occur across the site. This demonstrates that a source other than the Upper AQC Impoundment caused the SSI for sulfate in MW-706, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

The piper diagram plots are provided in **Appendix D**.

4 CONCLUSION

Our opinion is that a sufficient body of evidence is available and presented above to demonstrate that a source other than the Upper AQC Impoundment caused the SSIs for calcium and sulfate, 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 Upper AQC Impoundment may continue with the detection monitoring program under § 257.94.

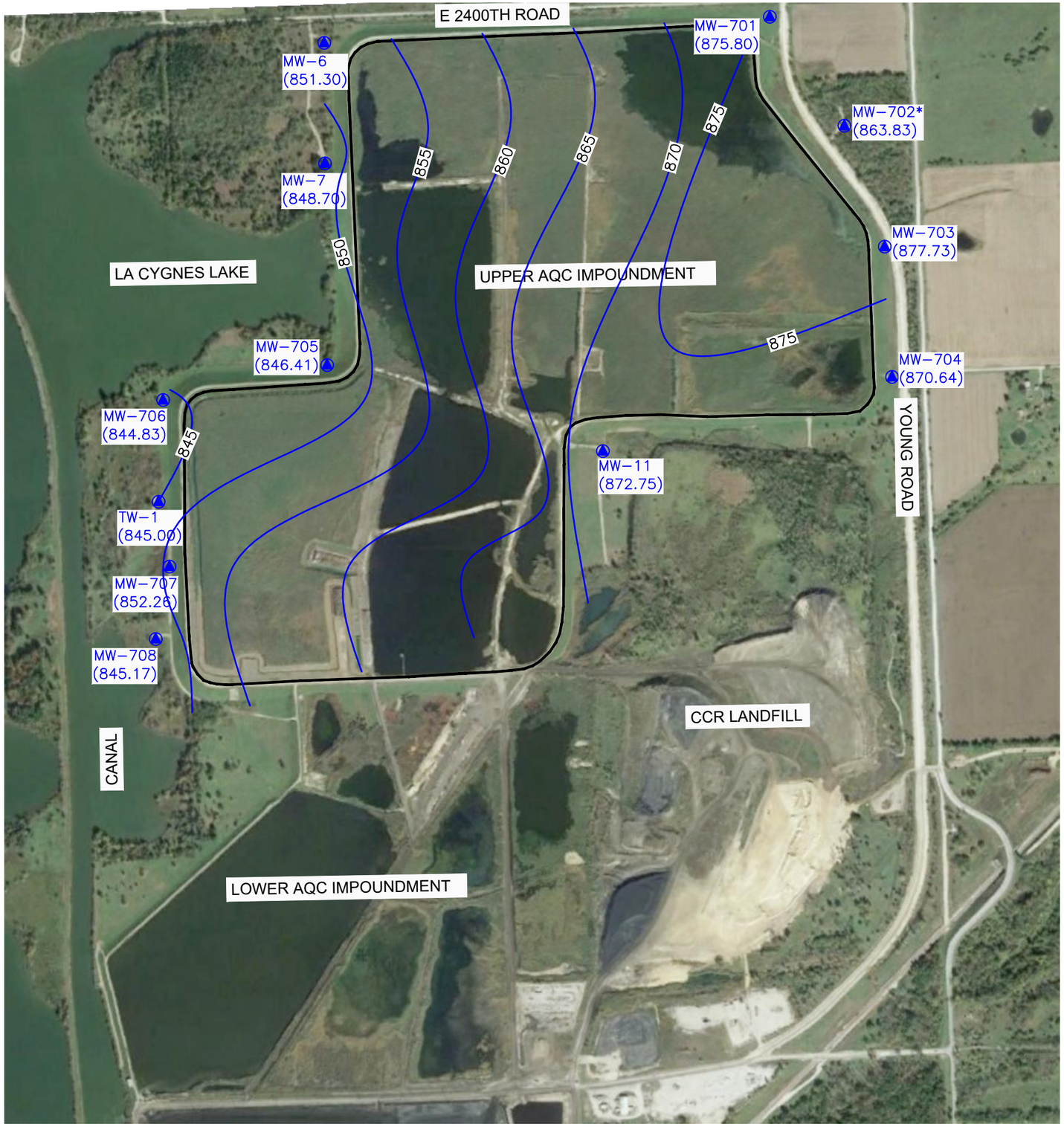
5 GENERAL COMMENTS

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

Appendix A

Figure 1



LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UPPER AQC IMPOUNDMENT)
- MW-703 (877.00) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- —875— GROUNDWATER SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)
- MW-702* INDICATES WELL NOT USED IN POTENTIOMETRIC SURFACE MAP CREATION

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. GOOGLE EARTH IMAGE DATED OCTOBER 2014. 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 (DECEMBER 2018)
CCR LANDFILL & LOWER AQC IMPOUNDMENT

PROJECT TITLE
ALTERNATIVE SOURCE DEMONSTRATION

CLIENT
KANSAS CITY POWER & LIGHT COMPANY
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. 27217233.18
DSN. BY: TGW
DWN. BY: TGW
CHK. BY: JRR
Q/A RVW BY: JRR
PROJ. MGR JRR

CADD FILE:
LA CYGNE LF LAQC IMP & UAQC FIG 1_COMBINED.DWG

DATE:
5/22/19

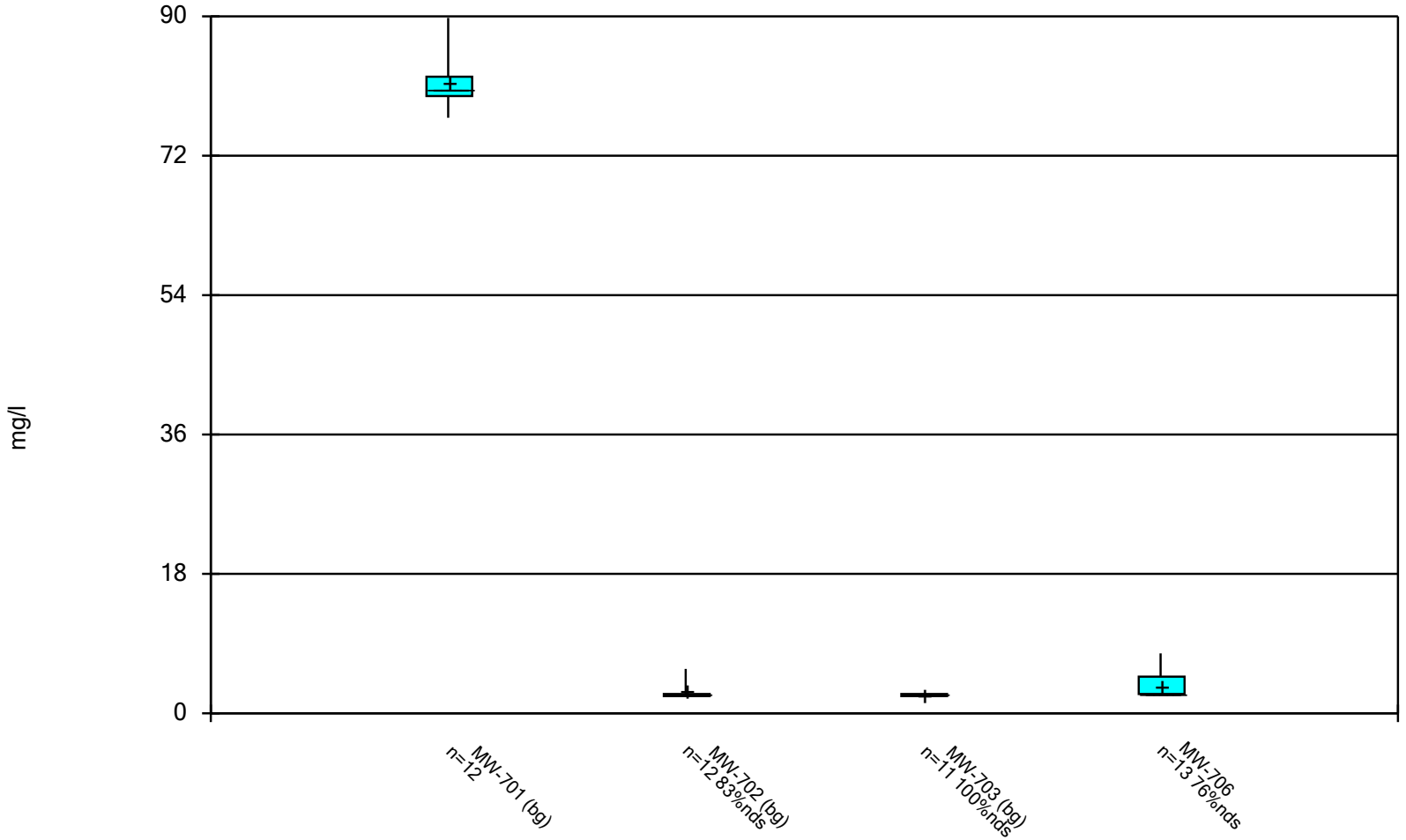
FIGURE NO.
1

N:\KCPL\Projects\Groundwater\DWG\La Cygne\2018\GW\La Cygne LF LAQC Imp & UAQC Fig 1_Combined.dwg May 23, 2019 - 4:24pm Layout Name: Fig 1 UAQC By: 4470daw

Appendix B

Box and Whiskers Plots

Box & Whiskers Plot



Constituent: SULFATE Analysis Run 4/3/2019 10:11 AM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Box & Whiskers Plot

Constituent: SULFATE (mg/l) Analysis Run 4/3/2019 10:12 AM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701 (bg)	MW-702 (bg)	MW-703 (bg)	MW-706
6/7/2016	76.9		<5	
6/8/2016		5.73		<5
8/9/2016	81.1	5.46	<5	<5
10/11/2016	80.3	<5	<5	<5
12/6/2016	80.9		<5	<5
12/8/2016		<5		
2/7/2017	89.8		<5	<5
2/8/2017		<5		
4/4/2017	83.8		<5	<5
4/5/2017		<5		
6/13/2017	80.6			<5
6/14/2017			<5	
6/15/2017		<5		
8/8/2017	80.8			
8/9/2017		<5		<5
8/10/2017			<5	
10/3/2017	80.6	<5		
10/4/2017				<5
10/5/2017			<5	
5/24/2018	78.6	<5	<5	<5
12/3/2018	79.1	<5	<5	
12/4/2018				7.69
1/14/2019		<5		
1/15/2019	83.3			7.73
3/11/2019				6.96
Median	80.7	2.5	2.5	2.5
LowerQ.	79.7	2.5	2.5	2.5
UpperQ.	82.2	2.5	2.5	4.73
Min	76.9	2.5	2.5	2.5
Max	89.8	5.73	2.5	7.73
Mean	81.32	3.016	2.5	3.645

Box & Whiskers Plot

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 4/3/2019, 10:12 AM

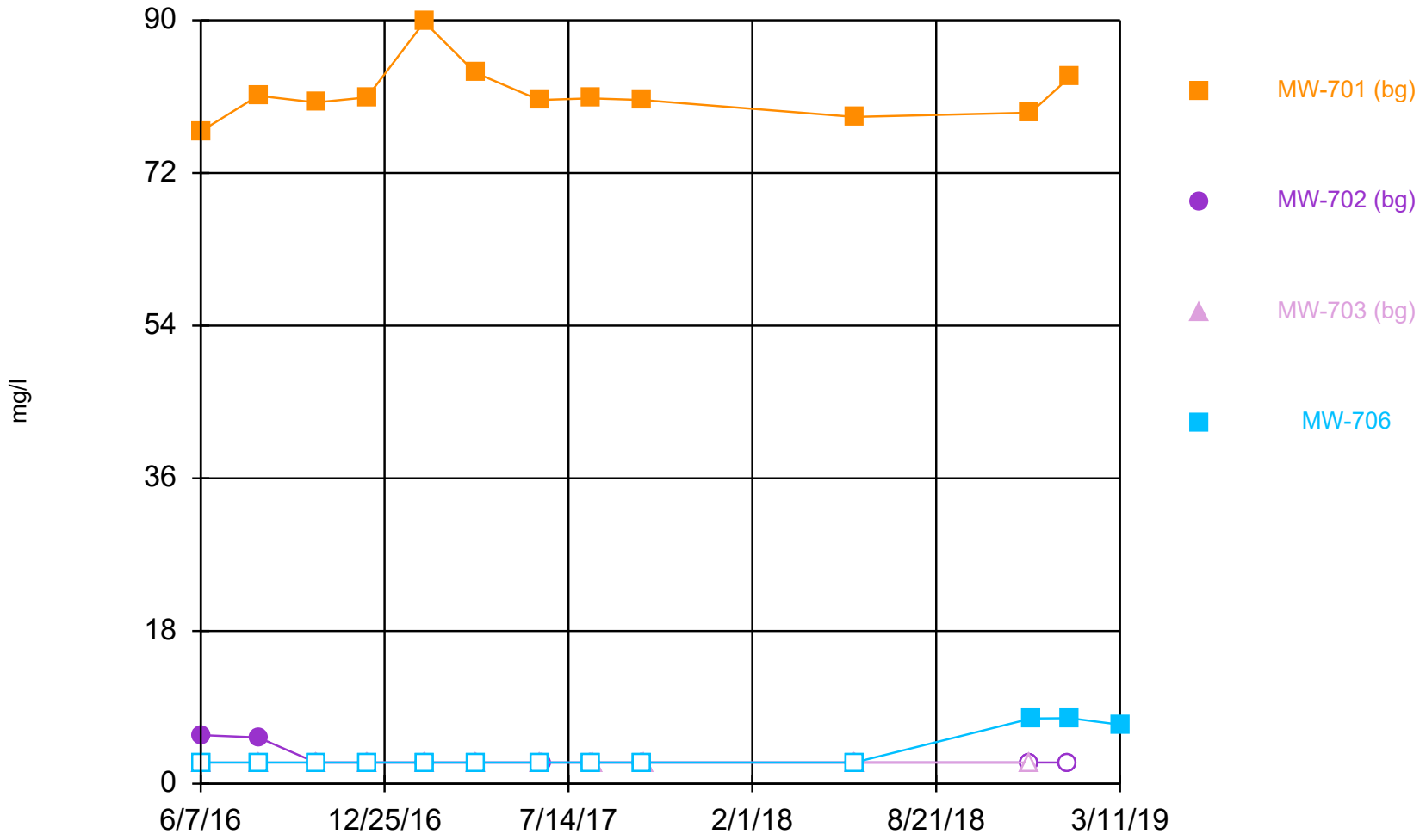
Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
SULFATE (mg/l)	MW-701 (bg)	12	81.32	3.253	0.9391	80.7	76.9	89.8	0
SULFATE (mg/l)	MW-702 (bg)	12	3.016	1.206	0.3482	2.5	2.5	5.73	83.33
SULFATE (mg/l)	MW-703 (bg)	11	2.5	0	0	2.5	2.5	2.5	100
SULFATE (mg/l)	MW-706	13	3.645	2.182	0.6053	2.5	2.5	7.73	76.92

Appendix C

Time Series Plots

Hollow symbols indicate censored values.

Time Series



Constituent: SULFATE Analysis Run 4/3/2019 10:10 AM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Time Series

Constituent: SULFATE (mg/l) Analysis Run 4/3/2019 10:10 AM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

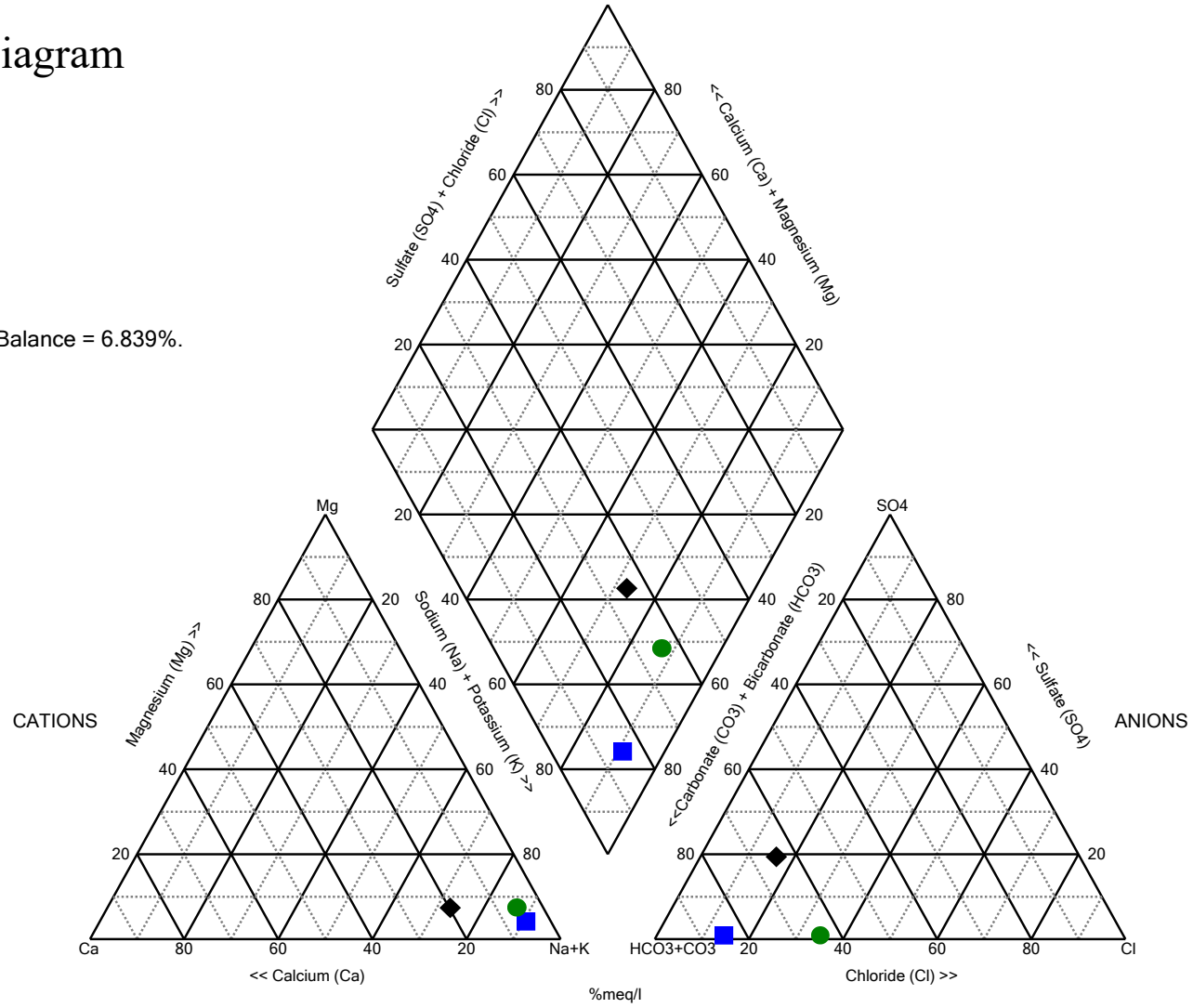
	MW-701 (bg)	MW-702 (bg)	MW-703 (bg)	MW-706
6/7/2016	76.9		<5	
6/8/2016		5.73		<5
8/9/2016	81.1	5.46	<5	<5
10/11/2016	80.3	<5	<5	<5
12/6/2016	80.9		<5	<5
12/8/2016		<5		
2/7/2017	89.8		<5	<5
2/8/2017		<5		
4/4/2017	83.8		<5	<5
4/5/2017		<5		
6/13/2017	80.6			<5
6/14/2017			<5	
6/15/2017		<5		
8/8/2017	80.8			
8/9/2017		<5		<5
8/10/2017			<5	
10/3/2017	80.6	<5		
10/4/2017				<5
10/5/2017			<5	
5/24/2018	78.6	<5	<5	<5
12/3/2018	79.1	<5	<5	
12/4/2018				7.69
1/14/2019		<5		
1/15/2019	83.3			7.73
3/11/2019				6.96

Appendix D

Piper Plots

Piper Diagram

Cation-Anion Balance = 6.839%.



Analysis Run 5/22/2019 4:45 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Piper Diagram

Analysis Run 5/22/2019 4:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Totals (ppm)	Na	K	Ca	Mg	Cl	SO4	HCO3	CO3
MW-701* 1/15/2019	169	3.11	40.2	8.79	47.9	83.3	336	10
MW-702* 1/14/2019	230	3.14	11.2	5.24	43	2.5	461	10
MW-706 1/15/2019	442	6.52	24.7	19.5	238	7.73	769	10

C2 CCR Groundwater Monitoring Alternative Source Demonstration Report May 2019 Groundwater Monitoring Event, Upper AQC Impoundment, La Cygne Generating Station (December 2019)

CCR GROUNDWATER MONITORING
ALTERNATIVE SOURCE DEMONSTRATION REPORT
MAY 2019 GROUNDWATER MONITORING EVENT

UPPER AQC IMPOUNDMENT
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

Presented To:

Evergy Metro, Inc.

Presented By:

SCS ENGINEERS

8575 West 110th Street, Suite 100

Overland Park, Kansas 66210

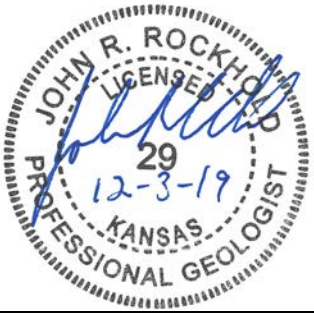
(913) 681-0030

December 2019

File No. 27217233.19

CERTIFICATIONS

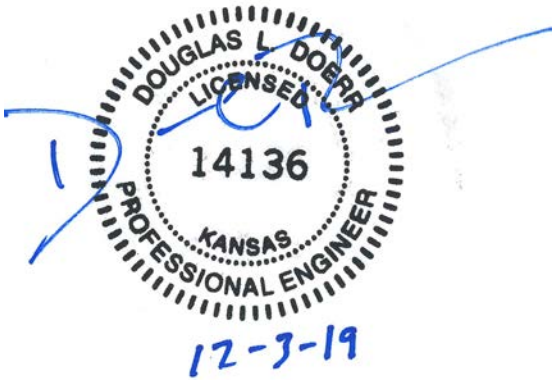
I, John R. Rockhold, being a qualified groundwater scientist and licensed Professional Geologist in the State of Kansas, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the Upper AQC Impoundment at the La Cygne Generating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

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Section **Page**

Appendices

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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 Upper 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 23, 2019. Review and validation of the results from the May 2019 Detection Monitoring Event was completed on July 5, 2019, 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 17, 2019 and August 23, 2019.

The completed statistical evaluation identified three Appendix III constituents above their respective prediction limit in monitoring wells MW-701, MW-704, and MW-706.

Constituent/Monitoring Well	*UPL	Observation May 23, 2019	1st Verification July 17, 2019	2nd Verification August 23, 2019
Calcium				
MW-701	39.71	41.6	45	39.9
Chloride				
MW-704	85.06	87.2	89.7	89.2
Sulfate				
MW-706	5	5.78	8.27	8.79

*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 confirmed three SSIs above the background prediction limits. These include calcium in upgradient monitoring well MW-701, chloride in monitoring well MW-704, and sulfate in monitoring well MW-706.

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 Upper 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 Upper 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 Upper AQC Impoundment at the time of sampling. The groundwater flow directions indicated are for the May 2019 groundwater monitoring event and are typical flow directions for this unit. As seen in the map, monitoring well MW-701 is located upgradient from the Upper AQC Impoundment indicating the SSI for calcium in MW-701 is not caused by a release from the Upper AQC Impoundment. This demonstrates that a source other than the Upper AQC Impoundment caused the SSI above background level for calcium, 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 sulfate for upgradient wells MW-701, MW-702, and MW-703 and downgradient well MW-706. Although the sulfate SSI was only identified in downgradient well MW-706 the box and whiskers plots show that it is below the sulfate range for an upgradient well (MW-701). The comparison indicates the sulfate level in upgradient well MW-701 is greater than the sulfate level in MW-706. This demonstrates that a source other than the Upper AQC Impoundment caused the SSI above background levels for sulfate, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Box and whiskers plots are provided in **Appendix B**.

Box and whiskers plots were prepared for chloride for upgradient wells MW-701, MW-702, and MW-703 and downgradient well MW-704. Although the chloride SSI was only identified in downgradient well MW-704 the box and whiskers plots show that it is below the chloride range for an upgradient well (MW-703). The comparison indicates the chloride level in upgradient well MW-703 is greater than the chloride level in MW-704. This demonstrates that a source other than the Upper AQC Impoundment caused the SSI above background levels for chloride, or that the SSI 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 sulfate were prepared for the CCR monitoring system upgradient wells MW-701, MW-702, and MW-703 and downgradient well MW-706. Although the sulfate SSI was only identified in downgradient well MW-706, the time series plots show that sulfate in MW-706 is below the sulfate range for an upgradient well (MW-701). The comparison indicates the sulfate level in upgradient well MW-701 is greater than the sulfate level in MW-706. This demonstrates that a source other than the Upper AQC Impoundment caused the sulfate SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Time series plots are provided in **Appendix C**.

Time series plots for chloride were prepared for the CCR monitoring system upgradient wells MW-701, MW-702, and MW-703 and downgradient well MW-704. Although the chloride SSI was only identified in downgradient well MW-704, the time series plots show that chloride in MW-704 is below the chloride range for an upgradient well (MW-703). The comparison indicates the chloride level in upgradient well MW-703 is greater than the chloride level in MW-704. This demonstrates that a source other than the Upper AQC Impoundment caused the chloride SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Time series plots are provided in **Appendix C**.

3.4 PIPER PLOTS

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

A piper diagram has two triangular plots on the right and left side of a 4-sided center field. The three major cations are plotted in the left triangle and anions in the right. Each of the three cation/anion variables, in milliequivalents, is divided by the sum of the three values, to produce a percent of total cation/anions. These percentages determine the location of the associated symbol. The data points in the center field

are located by extending the points in the lower triangles to the point of intersection. In order for a piper diagram to be produced, the selected data file must contain the following constituents: Sodium (Na), Potassium (K), Calcium (Ca), Magnesium (Mg), Chloride (Cl), Sulfate (SO4), Carbonate (CO3), and Bicarbonate (HCO3).

A piper diagram was generated for samples from upgradient wells MW-701 and MW-702 and from downgradient wells MW-704 and MW-706. The samples from downgradient wells MW-704 and MW-706 plot between the samples from upgradient wells MW-701 and MW-702 indicating similar geochemical characteristics to upgradient wells. Additionally of note, the difference between the upgradient wells indicates that natural variability occurs between relatively close upgradient wells and is likely to occur across the site. This demonstrates that a source other than the Upper AQC Impoundment caused the SSIs for chloride in MW-704 and sulfate in MW-706, or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The piper diagram plots are provided in **Appendix D**.

4 CONCLUSION

Our opinion is that a sufficient body of evidence is available and presented above to demonstrate that a source other than the Upper AQC Impoundment caused the SSIs for calcium, chloride and sulfate, 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 Upper AQC Impoundment may continue with the detection monitoring program under § 257.94.

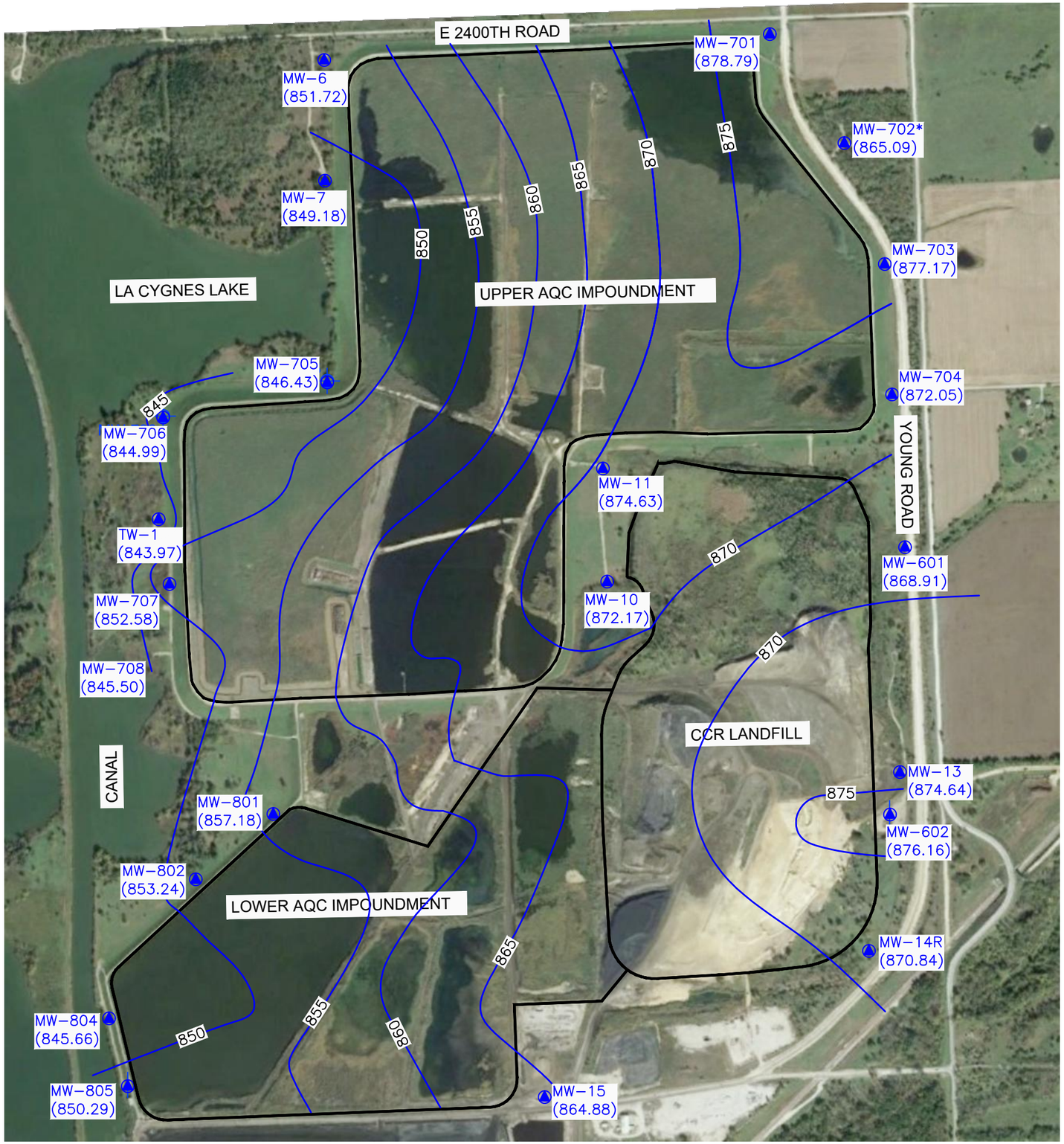
5 GENERAL COMMENTS

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

Appendix A

Figure 1



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

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.

N

800 0 800 1600

SCALE FEET

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

SHEET TITLE: POTENTIOMETRIC SURFACE MAP (MAY 2019) COMBINED AQC IMPOUNDMENT & LF

PROJECT TITLE: ALTERNATIVE SOURCE DEMONSTRATION

CLIENT: KANSAS CITY POWER & LIGHT COMPANY
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
7311 W. 130th St, Ste. 100
Overland Park, Kansas 66213
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO.	DSN. BY:	CHK. BY:	O/A RVW BY:
27217233.00	DAW	JF	JRR
DSN. BY: DAW			PROJ. MGR JRR

CADD FILE: LA CYGNE LF LAQC IMP & UAQC FIG 1_MAY 2019 - COMBINED.DWG

DATE: 11/1/19

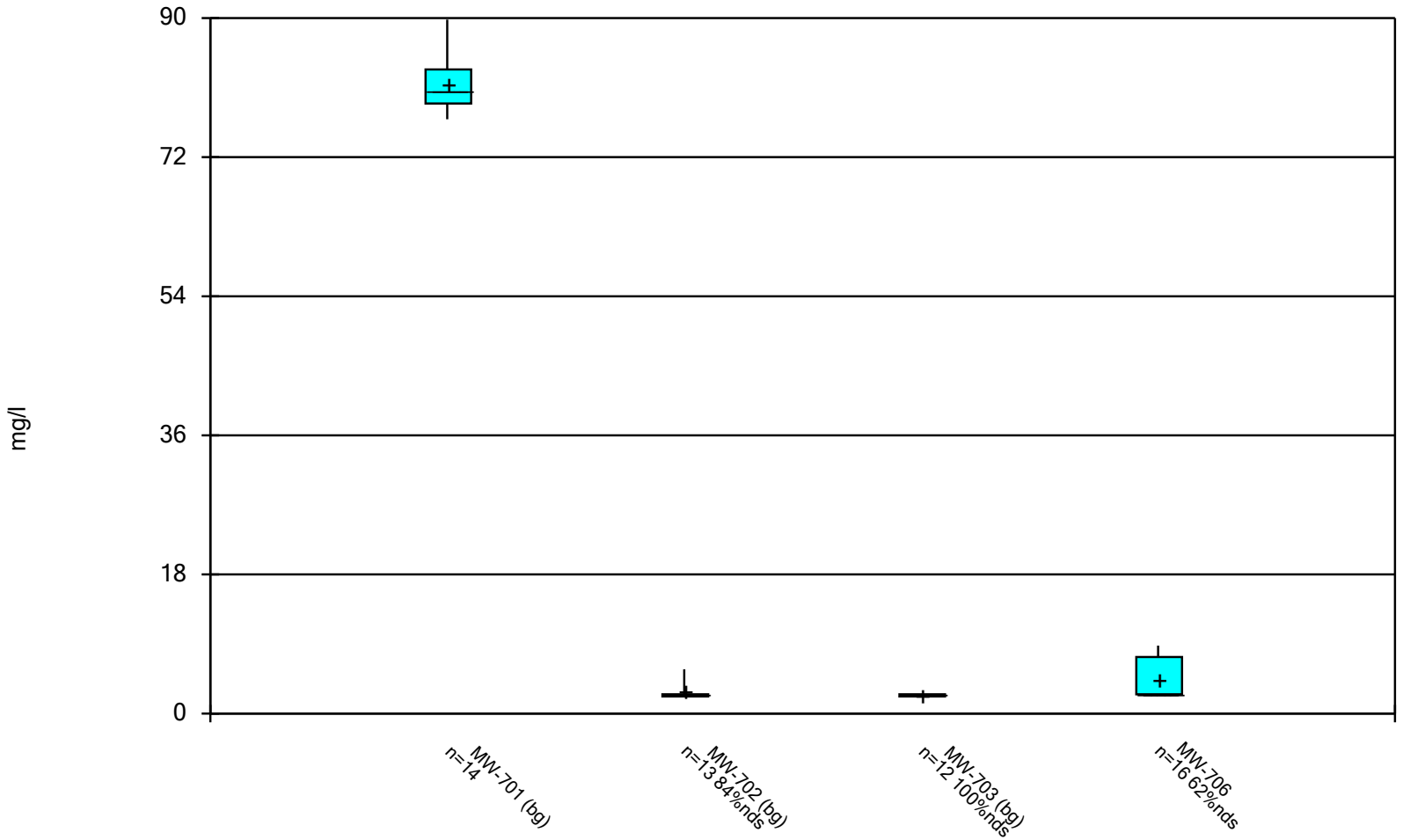
FIGURE NO. 1

N:\KCPL\Projects\Groundwater\DWG\La Cygne\2019\La Cygne LF LAQC Imp & UAQC Fig 1_MAY 2019 - COMBINED.dwg Dec 03, 2019 - 11:23am Layout Name: Fig 1 Combined By: 4470daw

Appendix B

Box and Whiskers Plots

Box & Whiskers Plot



Constituent: SULFATE Analysis Run 10/30/2019 11:25 AM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Box & Whiskers Plot

Constituent: SULFATE (mg/l) Analysis Run 10/30/2019 11:27 AM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

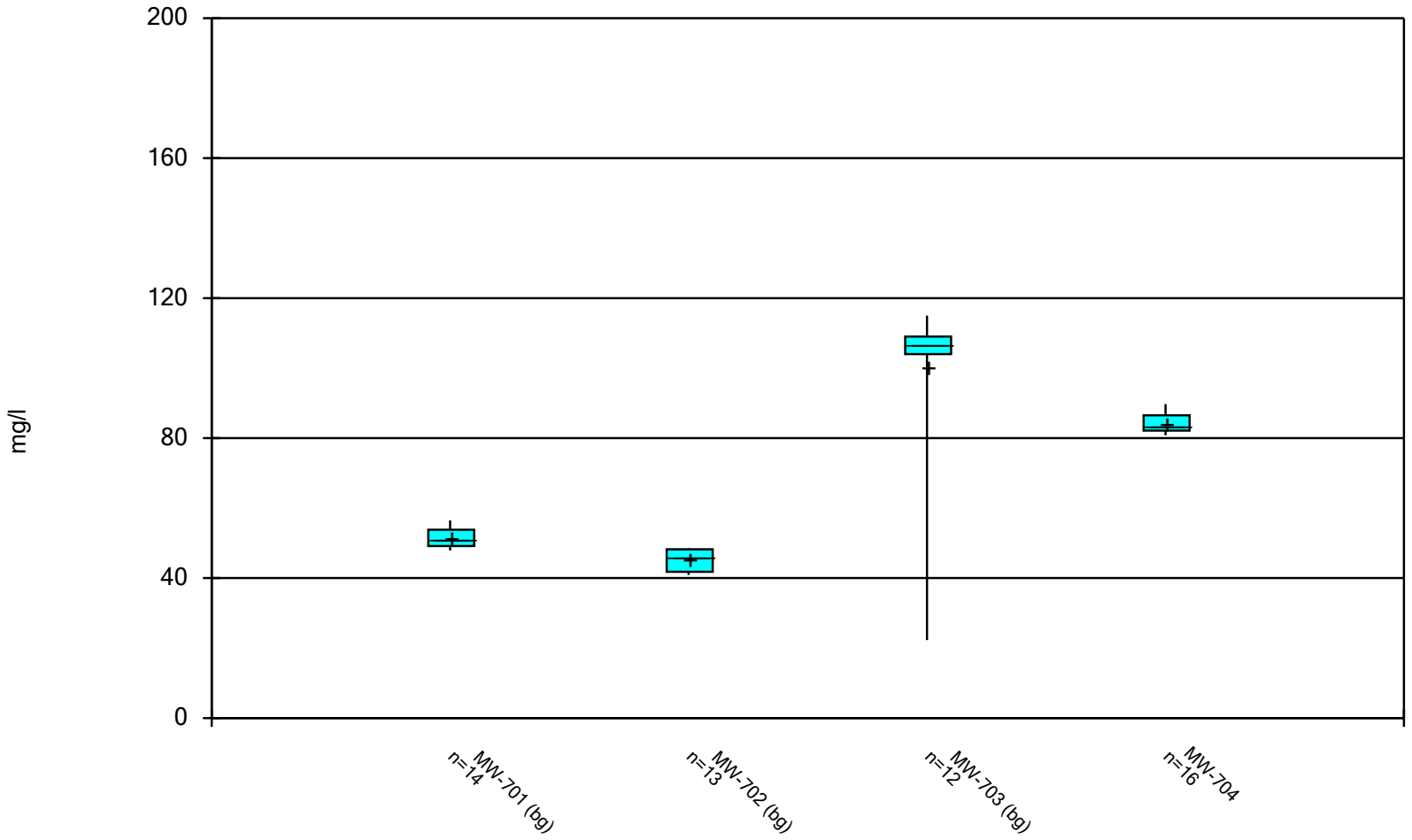
	MW-701 (bg)	MW-702 (bg)	MW-703 (bg)	MW-706
6/7/2016	76.9		<5	
6/8/2016		5.73		<5
8/9/2016	81.1	5.46	<5	<5
10/11/2016	80.3	<5	<5	<5
12/6/2016	80.9		<5	<5
12/8/2016		<5		
2/7/2017	89.8		<5	<5
2/8/2017		<5		
4/4/2017	83.8		<5	<5
4/5/2017		<5		
6/13/2017	80.6			<5
6/14/2017			<5	
6/15/2017		<5		
8/8/2017	80.8			
8/9/2017		<5		<5
8/10/2017			<5	
10/3/2017	80.6	<5		
10/4/2017				<5
10/5/2017			<5	
5/24/2018	78.6	<5	<5	<5
12/3/2018	79.1	<5	<5	
12/4/2018				7.69
1/14/2019		<5		
1/15/2019	83.3			7.73
3/11/2019				6.96
5/23/2019	78.8	<5	<5	5.78
7/17/2019	83.4 (i)			8.27
8/23/2019				8.79
Median	80.7	2.5	2.5	2.5
LowerQ.	78.95	2.5	2.5	2.5
UpperQ.	83.35	2.5	2.5	7.325
Min	76.9	2.5	2.5	2.5
Max	89.8	5.73	2.5	8.79
Mean	81.29	2.976	2.5	4.389

Box & Whiskers Plot

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 10/30/2019, 11:27 AM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
SULFATE (mg/l)	MW-701 (bg)	14	81.29	3.127	0.8356	80.7	76.9	89.8	0
SULFATE (mg/l)	MW-702 (bg)	13	2.976	1.164	0.3227	2.5	2.5	5.73	84.62
SULFATE (mg/l)	MW-703 (bg)	12	2.5	0	0	2.5	2.5	2.5	100
SULFATE (mg/l)	MW-706	16	4.389	2.591	0.6478	2.5	2.5	8.79	62.5

Box & Whiskers Plot



Constituent: CHLORIDE Analysis Run 10/30/2019 11:30 AM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Box & Whiskers Plot

Constituent: CHLORIDE (mg/l) Analysis Run 10/30/2019 11:31 AM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701 (bg)	MW-702 (bg)	MW-703 (bg)	MW-704
6/7/2016	56.5		103	82.5
6/8/2016		44.9		
8/9/2016	50.6	41.7	106	83.4
10/11/2016	49.1	41.8	105	80.8
12/6/2016	52.2		107	82.9
12/8/2016		46.7		
2/7/2017	49.2		109	82
2/8/2017		48.4		
4/4/2017	55.3		115	84.7
4/5/2017		48.4		
6/13/2017	54.1			81.8
6/14/2017			102	
6/15/2017		46.2		
8/8/2017	53.5			82.1
8/9/2017		48.1		
8/10/2017			22.3	
10/3/2017	51.5	48.5		85
10/5/2017			111	
5/24/2018	53	45.8	108	85.9
7/11/2018				87.1
8/16/2018				83.3
12/3/2018	49.4	40.9	106	82.2
1/14/2019		43		
1/15/2019	47.9			
5/23/2019	48.6	41.8	109	87.2
7/17/2019	50.7 (i)			89.7
8/23/2019				89.2
Median	51.1	45.8	106.5	83.35
LowerQ.	49.15	41.8	104	82.15
UpperQ.	53.8	48.25	109	86.5
Min	47.9	40.9	22.3	80.8
Max	56.5	48.5	115	89.7
Mean	51.54	45.09	100.3	84.36

Box & Whiskers Plot

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 10/30/2019, 11:31 AM

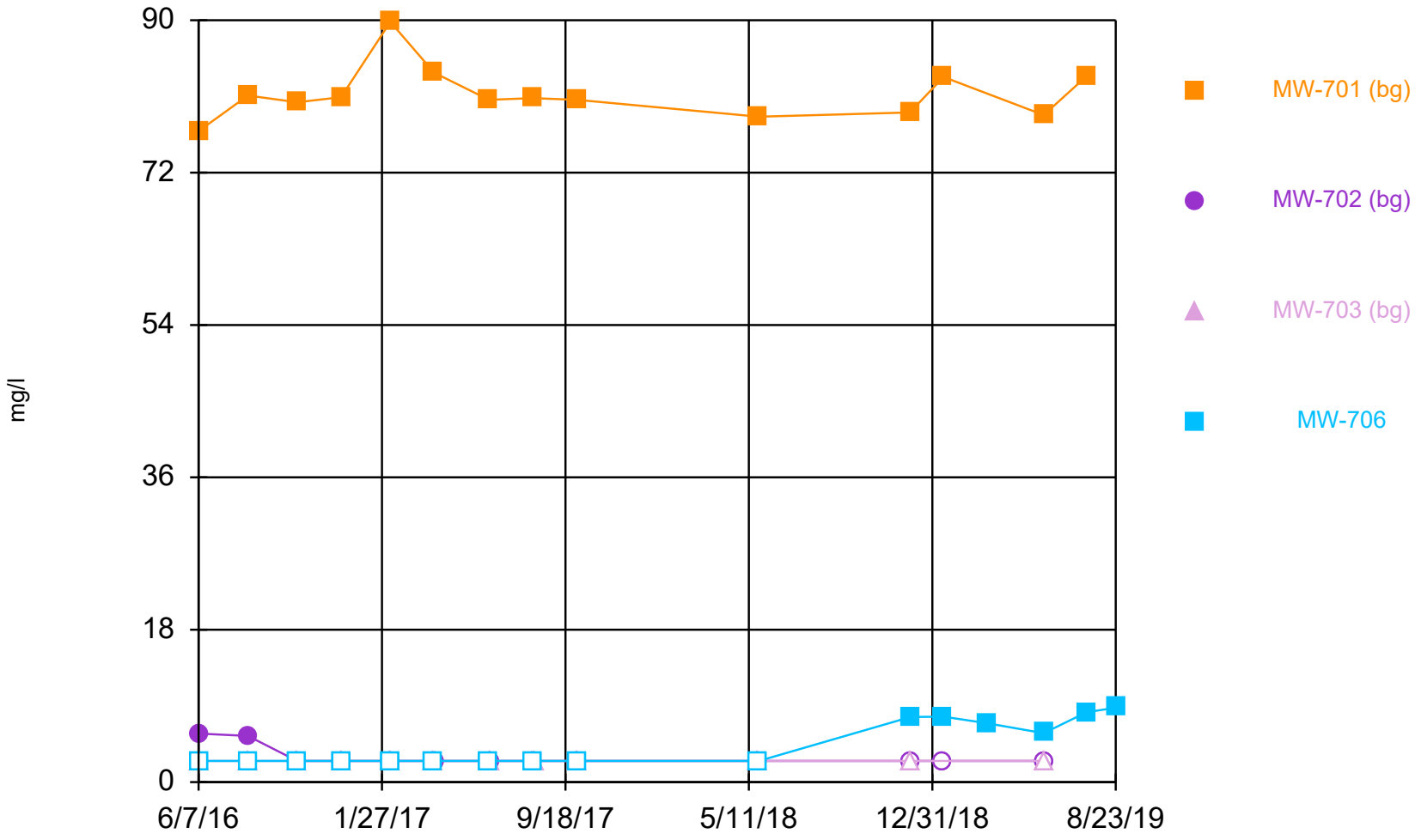
Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
CHLORIDE (mg/l)	MW-701 (bg)	14	51.54	2.649	0.7079	51.1	47.9	56.5	0
CHLORIDE (mg/l)	MW-702 (bg)	13	45.09	2.916	0.8087	45.8	40.9	48.5	0
CHLORIDE (mg/l)	MW-703 (bg)	12	100.3	24.8	7.16	106.5	22.3	115	0
CHLORIDE (mg/l)	MW-704	16	84.36	2.74	0.685	83.35	80.8	89.7	0

Appendix C

Time Series Plots

Hollow symbols indicate censored values.

Time Series



Constituent: SULFATE Analysis Run 10/30/2019 11:28 AM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

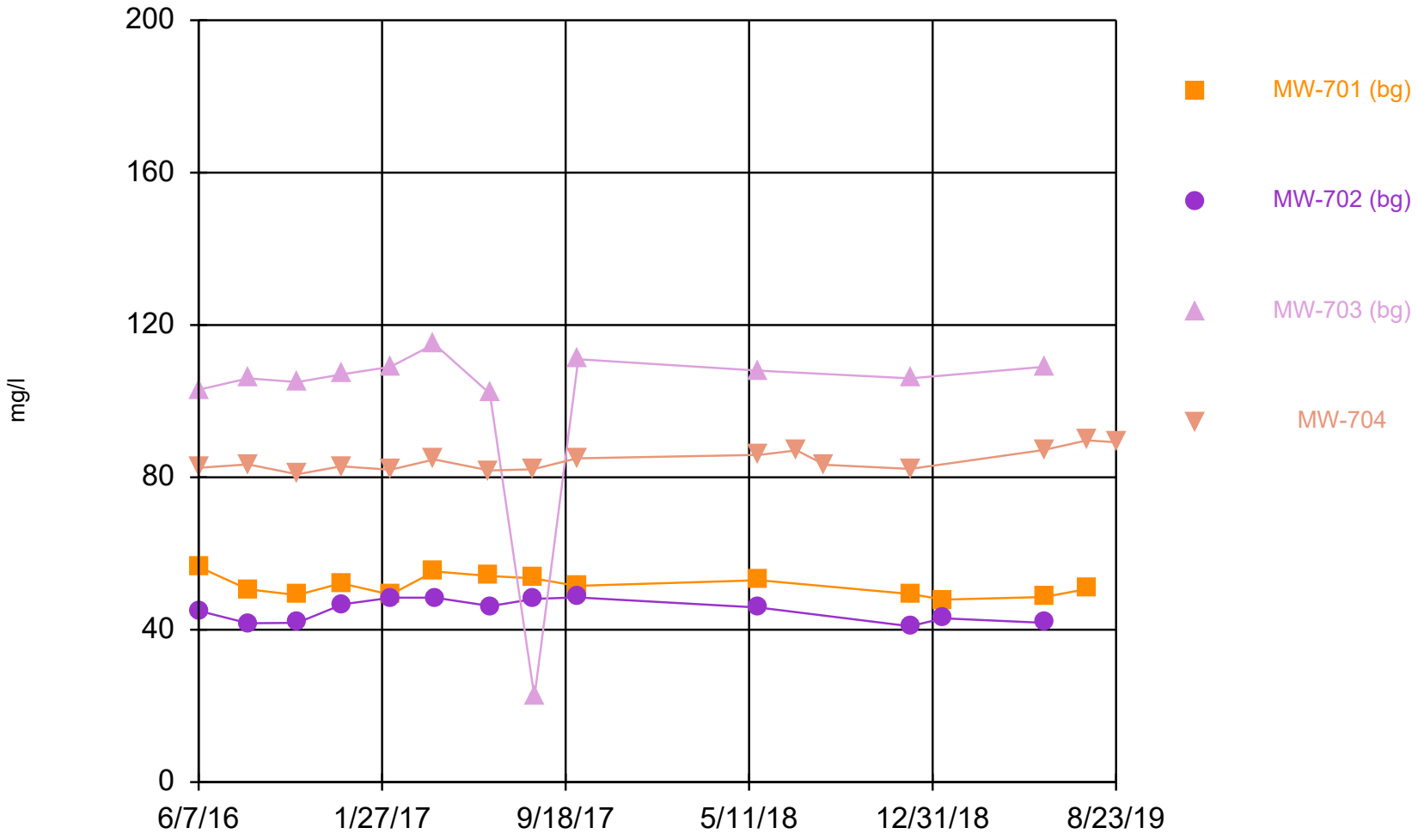
Time Series

Constituent: SULFATE (mg/l) Analysis Run 10/30/2019 11:30 AM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701 (bg)	MW-702 (bg)	MW-703 (bg)	MW-706
6/7/2016	76.9		<5	
6/8/2016		5.73		<5
8/9/2016	81.1	5.46	<5	<5
10/11/2016	80.3	<5	<5	<5
12/6/2016	80.9		<5	<5
12/8/2016		<5		
2/7/2017	89.8		<5	<5
2/8/2017		<5		
4/4/2017	83.8		<5	<5
4/5/2017		<5		
6/13/2017	80.6			<5
6/14/2017			<5	
6/15/2017		<5		
8/8/2017	80.8			
8/9/2017		<5		<5
8/10/2017			<5	
10/3/2017	80.6	<5		
10/4/2017				<5
10/5/2017			<5	
5/24/2018	78.6	<5	<5	<5
12/3/2018	79.1	<5	<5	
12/4/2018				7.69
1/14/2019		<5		
1/15/2019	83.3			7.73
3/11/2019				6.96
5/23/2019	78.8	<5	<5	5.78
7/17/2019	83.4 (i)			8.27
8/23/2019				8.79

Time Series



Constituent: CHLORIDE Analysis Run 10/30/2019 11:32 AM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Time Series

Constituent: CHLORIDE (mg/l) Analysis Run 10/30/2019 11:34 AM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

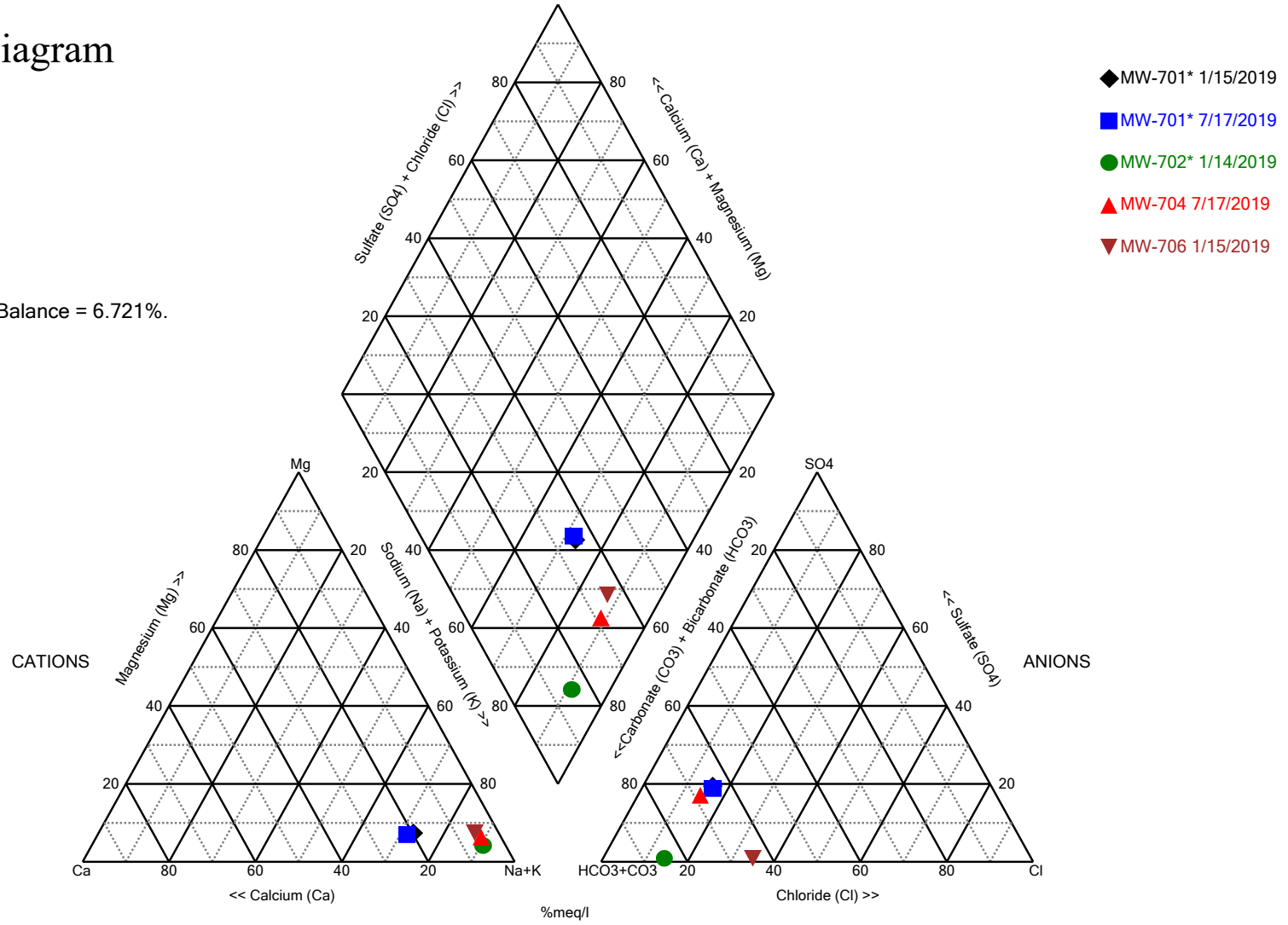
	MW-701 (bg)	MW-702 (bg)	MW-703 (bg)	MW-704
6/7/2016	56.5		103	82.5
6/8/2016		44.9		
8/9/2016	50.6	41.7	106	83.4
10/11/2016	49.1	41.8	105	80.8
12/6/2016	52.2		107	82.9
12/8/2016		46.7		
2/7/2017	49.2		109	82
2/8/2017		48.4		
4/4/2017	55.3		115	84.7
4/5/2017		48.4		
6/13/2017	54.1			81.8
6/14/2017			102	
6/15/2017		46.2		
8/8/2017	53.5			82.1
8/9/2017		48.1		
8/10/2017			22.3	
10/3/2017	51.5	48.5		85
10/5/2017			111	
5/24/2018	53	45.8	108	85.9
7/11/2018				87.1
8/16/2018				83.3
12/3/2018	49.4	40.9	106	82.2
1/14/2019		43		
1/15/2019	47.9			
5/23/2019	48.6	41.8	109	87.2
7/17/2019	50.7 (i)			89.7
8/23/2019				89.2

Appendix D

Piper Plots

Piper Diagram

Cation-Anion Balance = 6.721%.



Analysis Run 10/30/2019 11:45 AM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Piper Diagram

Analysis Run 10/30/2019 12:54 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Totals (ppm)	Na	K	Ca	Mg	Cl	SO4	HCO3	CO3
MW-701* 1/15/2019	169	3.11	40.2	8.79	47.9	83.3	336	10
MW-701* 7/17/2019	172	2.91	45	8.71	50.7	83.4	349	10
MW-702* 1/14/2019	230	3.14	11.2	5.24	43	2.5	461	10
MW-704 7/17/2019	442	5.85	21.5	15.8	89.7	156	790	10
MW-706 1/15/2019	442	6.52	24.7	19.5	238	7.73	769	10

Addendum 1

2019 Annual Groundwater Monitoring and Corrective Action Report Addendum 1

December 16, 2022
File No. 27217233.19

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: 2019 Annual Groundwater Monitoring and Corrective Action Report Addendum 1
Evergy Metro, Inc.
Upper AQC Impoundment
La Cygne Generating Station - La Cygne, Kansas

The Upper 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 2019 for the Upper AQC Impoundment was completed and placed in the facility's operating record on January 30, 2020, 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:

  - January 2019 – First verification sampling for the Fall 2018 detection monitoring sampling event.
  - March 2019 – Second verification sampling for the Fall 2018 detection monitoring sampling event.
  - May 2019 – Spring 2019 semiannual detection monitoring sampling event.
  - July 2019 – First verification sampling for the Spring 2019 detection monitoring sampling event.
  - August 2019 - Second verification sampling for the Spring 2019 detection monitoring sampling event.
  - November 2019 - Fall 2019 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 2019 included the following:

  - Fall 2018 semiannual detection monitoring statistical analyses.
  - Spring 2019 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 2019 - Spring 2019 semiannual detection monitoring sampling event.
  - November 2019 - Fall 2019 semiannual detection monitoring sampling event.

Jared Morrison
December 16, 2022

ATTACHMENT 1

Laboratory Analytical Reports

ATTACHMENT 1-1

January 2019 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 23, 2019

SCS Engineers - KS

Sample Delivery Group:	L1061523
Samples Received:	01/16/2019
Project Number:	27217233.18
Description:	KCPL - 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

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

MW-13 L1061523-01 GW

Collected by	Collected date/time	Received date/time
Jason R. Franks	01/14/19 16:25	01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1225451	1	01/22/19 14:30	01/22/19 14:30	ST
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 10:54	TRB

DUPLICATE 1 L1061523-02 GW

Collected by	Collected date/time	Received date/time
Jason R. Franks	01/14/19 16:25	01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1225451	1	01/22/19 15:16	01/22/19 15:16	ST
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 11:25	TRB

MW-14R L1061523-03 GW

Collected by	Collected date/time	Received date/time
Jason R. Franks	01/14/19 16:35	01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1225457	1	01/19/19 18:09	01/19/19 18:09	ELN
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 11:04	TRB

DUPLICATE 2 L1061523-04 GW

Collected by	Collected date/time	Received date/time
Jason R. Franks	01/14/19 16:40	01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1225451	1	01/22/19 15:32	01/22/19 15:32	ST
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 11:28	TRB

MW-15 L1061523-05 GW

Collected by	Collected date/time	Received date/time
Jason R. Franks	01/14/19 15:50	01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 11:30	TRB

MW-601 L1061523-06 GW

Collected by	Collected date/time	Received date/time
Jason R. Franks	01/14/19 16:00	01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1225463	1	01/22/19 19:04	01/22/19 19:04	ELN

DUPLICATE 3 L1061523-07 GW

Collected by	Collected date/time	Received date/time
Jason R. Franks	01/14/19 16:00	01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1225451	1	01/22/19 15:47	01/22/19 15:47	ST

MW-701 L1061523-08 GW

Collected by	Collected date/time	Received date/time
Jason R. Franks	01/15/19 12:05	01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 11:18	TRB

DUPLICATE 4 L1061523-09 GW

Collected by: Jason R. Franks | Collected date/time: 01/15/19 12:05 | Received date/time: 01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 11:33	TRB

MW-702 L1061523-10 GW

Collected by: Jason R. Franks | Collected date/time: 01/14/19 15:05 | Received date/time: 01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1225451	1	01/22/19 16:03	01/22/19 16:03	ST

MW-706 L1061523-11 GW

Collected by: Jason R. Franks | Collected date/time: 01/15/19 11:55 | Received date/time: 01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1225451	1	01/22/19 16:33	01/22/19 16:33	ST

MW-804 L1061523-12 GW

Collected by: Jason R. Franks | Collected date/time: 01/14/19 14:05 | Received date/time: 01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 11:36	TRB

MW-805 L1061523-13 GW

Collected by: Jason R. Franks | Collected date/time: 01/14/19 14:05 | Received date/time: 01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 11:38	TRB

MW-902 L1061523-14 GW

Collected by: Jason R. Franks | Collected date/time: 01/14/19 13:15 | Received date/time: 01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1224723	1	01/19/19 18:11	01/19/19 20:53	AJS

DUPLICATE 5 L1061523-15 GW

Collected by: Jason R. Franks | Collected date/time: 01/14/19 13:15 | Received date/time: 01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1224723	1	01/19/19 18:11	01/19/19 20:53	AJS

MW-903 L1061523-16 GW

Collected by: Jason R. Franks | Collected date/time: 01/14/19 13:15 | Received date/time: 01/16/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1224609	1	01/23/19 08:04	01/23/19 11:41	TRB

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	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	208		100	1	01/22/2019 14:30	WG1225451

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	539		200	1	01/23/2019 10:54	WG1224609

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	214		100	1	01/22/2019 15:16	WG1225451

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	558		200	1	01/23/2019 11:25	WG1224609

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	5960		1000	1	01/19/2019 18:09	WG1225457

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	859		200	1	01/23/2019 11:04	WG1224609

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	5960		1000	1	01/22/2019 15:32	WG1225451

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	884		200	1	01/23/2019 11:28	WG1224609

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	288		200	1	01/23/2019 11:30	WG1224609

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	5970		5000	1	01/22/2019 19:04	WG1225463

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	6650		5000	1	01/22/2019 15:47	WG1225451

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	40200		1000	1	01/23/2019 11:18	WG1224609

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	40500		1000	1	01/23/2019 11:33	WG1224609

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	1200		100	1	01/22/2019 16:03	WG1225451

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	7730		5000	1	01/22/2019 16:33	WG1225451

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1730		200	1	01/23/2019 11:36	WG1224609

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	473000		1000	1	01/23/2019 11:38	WG1224609

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	492000		10000	1	01/19/2019 20:53	WG1224723

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	490000		10000	1	01/19/2019 20:53	WG1224723

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	377000		1000	1	01/23/2019 11:41	WG1224609

Method Blank (MB)

(MB) R3377316-1 01/19/19 20:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

Laboratory Control Sample (LCS)

(LCS) R3377316-2 01/19/19 20:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8810000	100	85.0-115	

Method Blank (MB)

(MB) R3377912-1 01/22/19 10:37

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1061734-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1061734-03 01/22/19 19:38 • (DUP) R3377912-6 01/22/19 19:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	2790	2800	1	0.565		15
Fluoride	ND	89.4	1	0.673	J	15
Sulfate	104000	104000	1	0.162	E	15

L1061734-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1061734-03 01/23/19 09:13 • (DUP) R3377912-8 01/23/19 09:28

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	98700	98500	5	0.272		15

L1061523-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1061523-10 01/22/19 16:03 • (DUP) R3377912-5 01/22/19 16:18

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	44000	44000	1	0.114		15
Fluoride	1200	1210	1	0.612		15
Sulfate	ND	1690	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3377912-2 01/22/19 11:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	38600	96.4	80.0-120	
Fluoride	8000	7960	99.5	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R3377912-2 01/22/19 11:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	39000	97.4	80.0-120	

L1061734-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1061734-03 01/22/19 19:38 • (MS) R3377912-7 01/22/19 20:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	2790	53800	102	1	80.0-120	
Fluoride	5000	ND	5060	99.5	1	80.0-120	
Sulfate	50000	104000	151000	93.3	1	80.0-120	E

L1061523-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1061523-01 01/22/19 14:30 • (MS) R3377912-3 01/22/19 14:46 • (MSD) R3377912-4 01/22/19 15:01

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	12600	62900	62300	101	99.4	1	80.0-120			1.05	15
Fluoride	5000	208	4760	4680	91.0	89.4	1	80.0-120			1.69	15
Sulfate	50000	1140000	1150000	1150000	32.3	29.1	1	80.0-120	E V	E V	0.138	15

Method Blank (MB)

(MB) R3377661-1 01/19/19 17:17

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		51.9	1000

L1061779-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1061779-01 01/19/19 20:31 • (DUP) R3377661-5 01/19/19 20:41

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	18600	18700	1	0.287		15

L1061818-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1061818-01 01/20/19 00:08 • (DUP) R3377661-6 01/20/19 00:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	17600	17600	1	0.140		15

Laboratory Control Sample (LCS)

(LCS) R3377661-2 01/19/19 17:27

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	37900	94.9	80.0-120	

L1061523-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1061523-03 01/19/19 18:09 • (MS) R3377661-3 01/19/19 18:20 • (MSD) R3377661-4 01/19/19 18:31

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	5960	54400	54200	97.0	96.5	1	80.0-120			0.392	15

L1061818-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1061818-01 01/20/19 00:08 • (MS) R3377661-7 01/20/19 00:30

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Chloride	50000	17600	64900	94.7	1	80.0-120	

Method Blank (MB)

(MB) R3377995-1 01/22/19 17:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		77.4	5000

Laboratory Control Sample (LCS)

(LCS) R3377995-2 01/22/19 17:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	38400	96.0	80.0-120	

L1061523-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1061523-06 01/22/19 19:04 • (MS) R3377995-3 01/22/19 19:14 • (MSD) R3377995-4 01/22/19 19:25

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	5970	50000	50200	88.2	88.5	1	80.0-120			0.360	15

Method Blank (MB)

(MB) R3378022-1 01/23/19 10:46

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	20.0	J	12.6	200
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3378022-2 01/23/19 10:49 • (LCSD) R3378022-3 01/23/19 10:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	1010	999	101	99.9	80.0-120			1.37	20
Calcium	10000	9950	9750	99.5	97.5	80.0-120			1.99	20

L1061523-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1061523-01 01/23/19 10:54 • (MS) R3378022-5 01/23/19 10:59 • (MSD) R3378022-6 01/23/19 11:01

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	539	1570	1530	103	99.0	1	75.0-125			2.40	20
Calcium	10000	246000	255000	255000	92.7	89.0	1	75.0-125			0.148	20

L1061523-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1061523-03 01/23/19 11:04 • (MS) R3378022-7 01/23/19 11:06 • (MSD) R3378022-8 01/23/19 11:09

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	859	1890	1900	103	104	1	75.0-125			0.267	20
Calcium	10000	52900	67500	67700	145	148	1	75.0-125	V	V	0.305	20

L1061523-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1061523-08 01/23/19 11:18 • (MS) R3378022-9 01/23/19 11:20 • (MSD) R3378022-10 01/23/19 11:23

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	987	1970	1960	98.6	97.6	1	75.0-125			0.488	20
Calcium	10000	40200	48600	48600	84.0	83.8	1	75.0-125			0.0320	20

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.

Abbreviations and Definitions

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

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

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.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

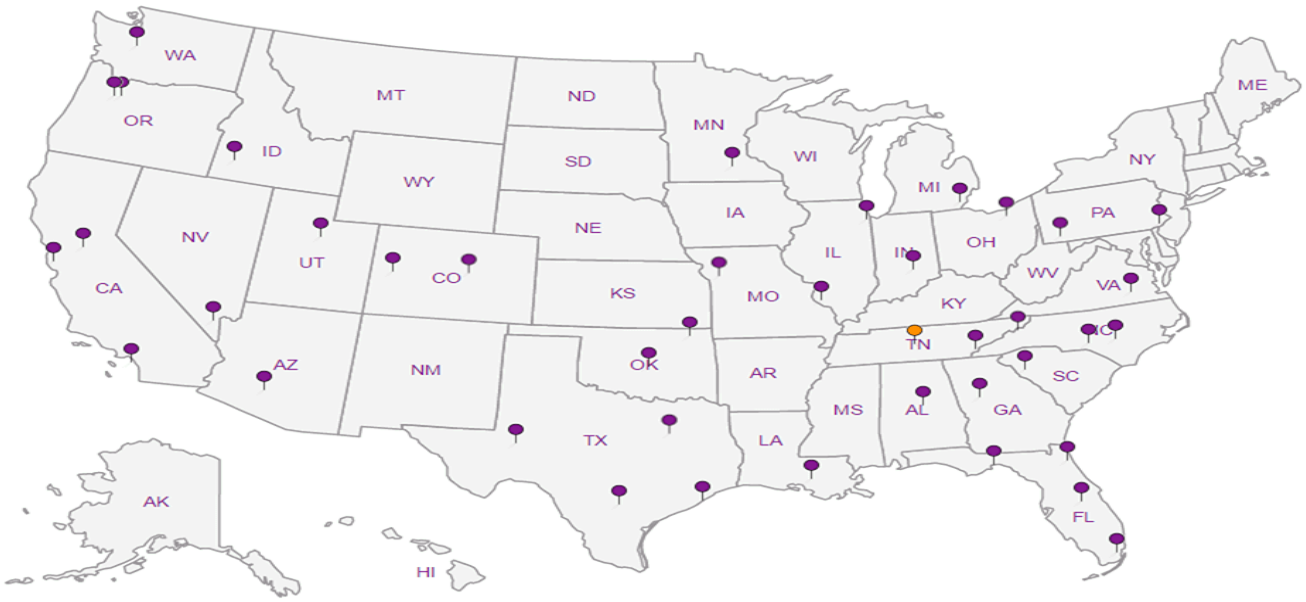
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Chain of Custody Page 1 of 3

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@kcpl.com;

Project Description: KCPL - LaCygne Generating Station

City/State Collected: La Cygne

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27217233.18

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

Date Results Needed

Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3	Calcium - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Fluoride 250mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	TDS 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-13	GRAB	GW	-	1/14/19	1625	2	X			X				-01
DUPLICATE 1		GW	-		1625	2	X			X				-02
MW13 MS/MSD		GW	-		1625	2	X			X				-01
MW-14R		GW	-		1635	2	X		X					-03
DUPLICATE 2		GW	-		1640	2	X		X					-04
MW14R MS/MSD		GW	-		1645	2	X		X					-03
MW-15		GW	-		1550	1	X							-05
MW-601		GW	-		1600	1					X			-06
DUPLICATE 3		GW	-		1600	1					X			-07
MW601 MS/MSD		GW	-		1600	1					X			-06

Analysis / Container / Preservative

L# L1061523
1066
Acctnum: AQUAOPKS
Template: T136276
Prelogin: P689385
TSR: 206 - Jeff Carr
PB:
Shipped Via:

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

* 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 # 4510 1661 7621

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	1/15/19	1430		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 27
				1.0+.1=1.1 AM
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 01/16/19 Time: 08:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Page 23 of

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

Email To: jfranks@scsengineers.com; jay.martin@kcpl.com;

Report to: Jason Franks

Project Description: KCPL - LaCygne Generating Station

City/State Collected: La Cygne, KS

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27217233.18

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

Date Results Needed

Quote #

Pres Chk: L2 L2

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3	Calcium - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	TDS 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-701	Grab	GW	-	1/15/19	1205	1		X						-08
DUPLICATE 4		GW	-	1/15/19	1205	1		X						-09
MW-701 MS/MSD		GW	-	1/15/19	1205	1		X						-08
MW-702		GW	-	1/14/19	1505	1				X				-10
MW-706		GW	-	1/15/19	1155	1					X			-11
MW-804		GW	-	1/14/19	1405	1	X							-12
MW-805		GW	-	1/14/19	1408	1		X						-13
MW-902		GW	-	1/14/19	1315	1						X		-14
DUPLICATE 5		GW	-	1/14/19	1315	1						X		-15
MW902 MS/MSD		GW	-	1/14/19	1315	1						X		-14

Chain of Custody

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L1061523

Table #

Acctnum: AQUAOPKS
Template: T136276
Prelogin: P689385
TSR: 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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	1/15/19	1430	
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: 1.0 °C Bottles Received: 27

Date: 01/16/19 Time: 08:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Chain of Custody Page 3 of 3

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@kcpl.com;

Project Description: KCPL - LaCygne Generating Station

City/State Collected: La Cygne, KS

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27217233.18

Lab Project # AQUAOPKS-LACYGNE

Collected by (print): JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):

Quote #

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

Date Results Needed

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3	Calcium - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-903	GRAB	GW	-	1/14/19	1315	1		X						-15

Analysis / Container / Preservative

L# L1061523

Table #

Acctnum: AQUAOPKS
Template: T136276
Prelogin: P689385
TSR: 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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jason R. Franks	1/15/19	1430	
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: 1.0 °C Bottles Received: 27

Date: 1/16/19 Time: 08:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

ATTACHMENT 1-2

March 2019 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

March 21, 2019

SCS Engineers - KS

Sample Delivery Group:	L1078452
Samples Received:	03/13/2019
Project Number:	27217233.18
Description:	KCPL - 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-13 L1078452-01 GW

Collected by: Whit Martin | Collected date/time: 03/11/19 13:50 | Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1251927	1	03/20/19 01:33	03/20/19 01:33	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1249634	1	03/16/19 14:14	03/20/19 17:07	CCE	Mt. Juliet, TN

DUPLICATE 1 L1078452-02 GW

Collected by: Whit Martin | Collected date/time: 03/11/19 13:50 | Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1251927	1	03/20/19 02:21	03/20/19 02:21	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1249634	1	03/16/19 14:14	03/20/19 18:13	CCE	Mt. Juliet, TN

MW-14R L1078452-03 GW

Collected by: Whit Martin | Collected date/time: 03/11/19 13:00 | Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1251930	1	03/20/19 01:39	03/20/19 01:39	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1249634	1	03/16/19 14:14	03/20/19 17:18	CCE	Mt. Juliet, TN

DUPLICATE 2 L1078452-04 GW

Collected by: Whit Martin | Collected date/time: 03/11/19 13:00 | Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1251927	1	03/20/19 02:37	03/20/19 02:37	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1249634	1	03/16/19 14:14	03/20/19 18:16	CCE	Mt. Juliet, TN

MW-601 L1078452-05 GW

Collected by: Whit Martin | Collected date/time: 03/11/19 11:55 | Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1251930	1	03/20/19 02:39	03/20/19 02:39	ELN	Mt. Juliet, TN

DUPLICATE 3 L1078452-06 GW

Collected by: Whit Martin | Collected date/time: 03/11/19 11:55 | Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1251927	1	03/20/19 03:09	03/20/19 03:09	ELN	Mt. Juliet, TN

MW-701 L1078452-07 GW

Collected by: Whit Martin | Collected date/time: 03/11/19 14:55 | Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1249634	1	03/16/19 14:14	03/20/19 17:32	CCE	Mt. Juliet, TN

DUPLICATE 4 L1078452-08 GW

Collected by: Whit Martin | Collected date/time: 03/11/19 14:55 | Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1249634	1	03/16/19 14:14	03/20/19 18:19	CCE	Mt. Juliet, TN

MW-706 L1078452-09 GW

Collected by: Whit Martin
Collected date/time: 03/11/19 15:50
Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1251927	1	03/20/19 03:56	03/20/19 03:56	ELN	Mt. Juliet, TN

MW-804 L1078452-10 GW

Collected by: Whit Martin
Collected date/time: 03/11/19 10:55
Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1249634	1	03/16/19 14:14	03/20/19 18:21	CCE	Mt. Juliet, TN

MW-805 L1078452-11 GW

Collected by: Whit Martin
Collected date/time: 03/11/19 10:15
Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1249634	1	03/16/19 14:14	03/20/19 18:24	CCE	Mt. Juliet, TN

MW-903 L1078452-12 GW

Collected by: Whit Martin
Collected date/time: 03/11/19 09:05
Received date/time: 03/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1249634	1	03/16/19 14:14	03/20/19 18:27	CCE	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	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	194		100	1	03/20/2019 01:33	WG1251927

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	470		200	1	03/20/2019 17:07	WG1249634

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	202		100	1	03/20/2019 02:21	WG1251927

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	475		200	1	03/20/2019 18:13	WG1249634

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4440		1000	1	03/20/2019 01:39	WG1251930

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	591		200	1	03/20/2019 17:18	WG1249634

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4740		1000	1	03/20/2019 02:37	WG1251927

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	604		200	1	03/20/2019 18:16	WG1249634

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	5890		5000	1	03/20/2019 02:39	WG1251930

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	5740		5000	1	03/20/2019 03:09	WG1251927

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	44200		1000	1	03/20/2019 17:32	WG1249634

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	44200		1000	1	03/20/2019 18:19	WG1249634

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	6960		5000	1	03/20/2019 03:56	WG1251927

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1740		200	1	03/20/2019 18:21	WG1249634

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	468000		1000	1	03/20/2019 18:24	WG1249634

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	375000		1000	1	03/20/2019 18:27	WG1249634

Method Blank (MB)

(MB) R3393205-1 03/19/19 18:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1078397-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1078397-03 03/19/19 18:56 • (DUP) R3393205-3 03/19/19 19:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4380	4380	1	0.0206		15
Fluoride	301	299	1	0.500		15
Sulfate	44200	44300	1	0.134		15

L1078452-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1078452-04 03/20/19 02:37 • (DUP) R3393205-10 03/20/19 02:53

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4740	4710	1	0.722		15
Fluoride	258	253	1	2.07		15
Sulfate	52100	52000	1	0.195		15

Laboratory Control Sample (LCS)

(LCS) R3393205-2 03/19/19 18:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40700	102	80.0-120	
Fluoride	8000	8300	104	80.0-120	
Sulfate	40000	41100	103	80.0-120	

L1078397-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1078397-03 03/19/19 18:56 • (MS) R3393205-4 03/19/19 19:27 • (MSD) R3393205-5 03/19/19 19:43

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	4380	55100	55700	101	103	1	80.0-120			1.19	15
Fluoride	5000	301	5350	5430	101	103	1	80.0-120			1.37	15
Sulfate	50000	44200	93500	94100	98.6	99.8	1	80.0-120			0.615	15

L1078397-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1078397-08 03/19/19 23:10 • (MS) R3393205-6 03/19/19 23:26 • (MSD) R3393205-7 03/19/19 23:42

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	29300	79400	79000	100	99.4	1	80.0-120			0.470	15
Fluoride	5000	210	5290	5280	102	101	1	80.0-120			0.231	15
Sulfate	50000	257000	288000	288000	62.2	62.4	1	80.0-120	E V	E V	0.0316	15

L1078452-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1078452-01 03/20/19 01:33 • (MS) R3393205-8 03/20/19 01:49 • (MSD) R3393205-9 03/20/19 02:05

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	15700	66200	66200	101	101	1	80.0-120			0.00423	15
Fluoride	5000	194	4910	4900	94.4	94.2	1	80.0-120			0.151	15
Sulfate	50000	1420000	1360000	1360000	0.000	0.000	1	80.0-120	E V	E V	0.0425	15

Method Blank (MB)

(MB) R3393348-1 03/20/19 00:36

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Sulfate	U		77.4	5000

L1078452-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1078452-03 03/20/19 01:39 • (DUP) R3393348-3 03/20/19 01:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4440	4440	1	0.00901		15
Sulfate	51600	51700	1	0.0116		15

Laboratory Control Sample (LCS)

(LCS) R3393348-2 03/20/19 00:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40000	99.9	80.0-120	
Sulfate	40000	40500	101	80.0-120	

L1078452-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1078452-03 03/20/19 01:39 • (MS) R3393348-4 03/20/19 02:09 • (MSD) R3393348-5 03/20/19 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	4440	55400	55600	102	102	1	80.0-120			0.206	15
Sulfate	50000	51600	102000	102000	100	101	1	80.0-120	E	E	0.167	15

L1078452-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1078452-05 03/20/19 02:39 • (MS) R3393348-6 03/20/19 02:54 • (MSD) R3393348-7 03/20/19 03:09

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	166000	209000	209000	84.5	84.2	1	80.0-120	E	E	0.0679	15
Sulfate	50000	5890	56200	56200	101	101	1	80.0-120			0.0114	15

Method Blank (MB)

(MB) R3393602-1 03/20/19 17:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3393602-2 03/20/19 17:02 • (LCSD) R3393602-3 03/20/19 17:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	991	982	99.1	98.2	80.0-120			0.996	20
Calcium	10000	10100	10100	101	101	80.0-120			0.241	20

L1078452-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1078452-01 03/20/19 17:07 • (MS) R3393602-5 03/20/19 17:13

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Boron	1000	470	1470	99.9	1	75.0-125	
Calcium	10000	310000	315000	51.6	1	75.0-125	V

L1078452-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1078452-03 03/20/19 17:18 • (MS) R3393602-7 03/20/19 17:21 • (MSD) R3393602-8 03/20/19 17:23

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	591	1590	1570	100	98.3	1	75.0-125			1.13	20
Calcium	10000	61300	70000	70400	86.6	90.9	1	75.0-125			0.616	20

L1078452-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1078452-07 03/20/19 17:32 • (MS) R3393602-9 03/20/19 17:34 • (MSD) R3393602-10 03/20/19 17:37

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	1020	1990	1990	97.4	97.6	1	75.0-125			0.0895	20
Calcium	10000	44200	53400	53800	92.6	96.1	1	75.0-125			0.641	20

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.

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).
V	The sample concentration is too high to evaluate accurate spike recoveries.

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.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

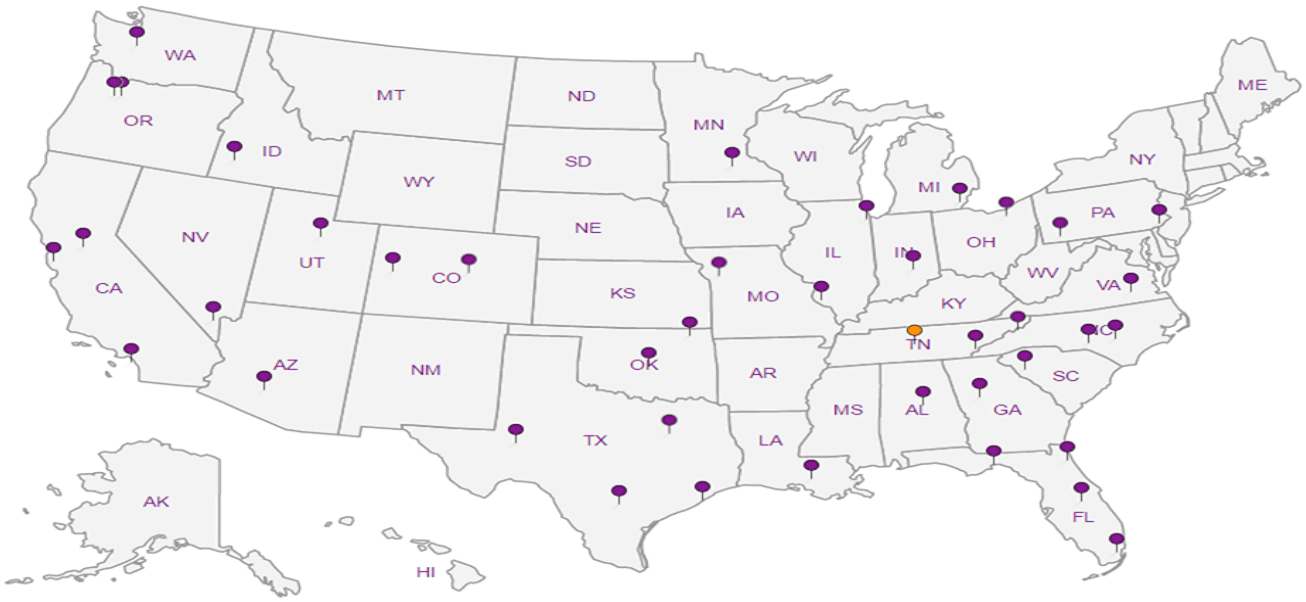
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



SCS Engineers - KS

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

Report to:
Jason Franks

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

Pres Chk

Email To: jfranks@scsengineers.com; jay.martin@kcpl.com;

Project Description: KCPL - LaCygne Generating Station

City/State Collected:

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27217233.18

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	Boron - 6010 250mlHDPE-HNO3 <2	Calcium - 6010 250mlHDPE-HNO3 <2	Chloride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-13	Grab	GW		3/11/19	1350	2	X			X			-01
DUPLICATE 1	Grab	GW		3/11/19	1350	2	X			X			-02
MW-13 MS/MSD	Grab	GW		3/11/19	1355	2	X			X			-01
MW-14R	Grab	GW		3/11/19	1300	2	X		X				-03
DUPLICATE 2	Grab	GW		3/11/19	1300	2	X		X				-04
MW-14R MS/MSD	Grab	GW		3/11/19	1305	2	X		X				-03
MW-601	Grab	GW		3/11/19	1155	1					X		-05
DUPLICATE 3	Grab	GW		3/11/19	1155	1					X		-06
MW-601 MS/MSD	Grab	GW		3/11/19	1200	1					X		-05
MW-701	Grab	GW		3/11/19	1455	1		X					-07

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1078452
1026

Acctnum: AQUAOPKS
Template: T136276
Prelogin: P698300
TSR: 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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Whit Martin	3/12/19	1555	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Mark T.

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.3 / 0.4 °C Bottles Received: 22

Date: 3/13 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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@kcpl.com;**

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

City/State Collected:

Phone: **913-681-0030**
Fax: **913-681-0012**

Client Project # **27217233.18**

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	Boron - 6010 250mlHDPE-HNO3	Calcium - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
DUPLICATE 4	Grab	GW		3/11/19	1455	1		X					-08
MW-701 MS/MSD	Grab	GW		3/11/19	1500	1		X					-07
MW-706	Grab	GW		3/11/19	1550	1					X		-09
MW-804	Grab	GW		3/11/19	1055	1	X						-10
MW-805	Grab	GW		3/11/19	1015	1		X					-11
MW-903	Grab	GW		3/11/19	0905	1		X					-12

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 1078452

Table #

Acctnum: **AQUAOPKS**

Template: **T136276**

Prelogin: **P698300**

TSR: **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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Whit Martin	3/12/19	1555	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Mike T.

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.3 °C Bottles Received: 22

Date: 3/13 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ATTACHMENT 1-3

May 2019 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 07, 2019

SCS Engineers - KS

Sample Delivery Group:	L1102792
Samples Received:	05/25/2019
Project Number:	27217233.19
Description:	KCPL - 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

MW-6 L1102792-01 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 10:50 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288048	1	05/30/19 13:49	05/30/19 14:40	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 06:28	06/06/19 06:28	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	5	06/06/19 06:39	06/06/19 06:39	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 14:36	CCE	Mt. Juliet, TN

MW-7 L1102792-02 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 11:25 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288048	1	05/30/19 13:49	05/30/19 14:40	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 06:50	06/06/19 06:50	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 14:39	CCE	Mt. Juliet, TN

MW-11 L1102792-03 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 17:10 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 07:12	06/06/19 07:12	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	5	06/06/19 07:23	06/06/19 07:23	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 14:41	CCE	Mt. Juliet, TN

MW-701 L1102792-04 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 18:00 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 07:34	06/06/19 07:34	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 14:44	CCE	Mt. Juliet, TN

MW-702 L1102792-05 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 12:55 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 08:17	06/06/19 08:17	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 14:47	CCE	Mt. Juliet, TN

MW-703 L1102792-06 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 13:30 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 08:50	06/06/19 08:50	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	5	06/06/19 09:01	06/06/19 09:01	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 14:49	CCE	Mt. Juliet, TN

MW-704 L1102792-07 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 18:05 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1291176	1	06/06/19 16:46	06/06/19 16:46	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1291176	5	06/06/19 17:34	06/06/19 17:34	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 12:52	CCE	Mt. Juliet, TN

MW-705 L1102792-08 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 12:05 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 09:12	06/06/19 09:12	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	5	06/06/19 09:23	06/06/19 09:23	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 14:52	CCE	Mt. Juliet, TN

MW-706 L1102792-09 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 12:50 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 09:34	06/06/19 09:34	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	5	06/06/19 09:45	06/06/19 09:45	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 14:55	CCE	Mt. Juliet, TN

MW-707B L1102792-10 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 14:10 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 10:18	06/06/19 10:18	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	100	06/06/19 10:29	06/06/19 10:29	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287651	1	05/29/19 15:30	05/30/19 15:11	CCE	Mt. Juliet, TN

MW-708 L1102792-11 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 14:55 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 10:40	06/06/19 10:40	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287647	1	05/30/19 07:28	05/31/19 21:40	CCE	Mt. Juliet, TN

TW-1 L1102792-12 GW

Collected by: Jason R. Franks | Collected date/time: 05/23/19 13:30 | Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288051	1	05/30/19 20:42	05/30/19 23:08	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 11:02	06/06/19 11:02	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287647	1	05/30/19 07:28	05/31/19 21:43	CCE	Mt. Juliet, TN

DUPLICATE 3 L1102792-13 GW

Collected by: Jason R. Franks
Collected date/time: 05/23/19 18:05
Received date/time: 05/25/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1288054	1	05/30/19 20:53	05/30/19 23:30	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	1	06/06/19 11:13	06/06/19 11:13	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1290621	5	06/06/19 12:18	06/06/19 12:18	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1287647	1	05/30/19 07:28	05/31/19 21:45	CCE	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1210000		25000	1	05/30/2019 14:40	WG1288048

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	204000		5000	5	06/06/2019 06:39	WG1290621
Fluoride	467		100	1	06/06/2019 06:28	WG1290621
Sulfate	154000		25000	5	06/06/2019 06:39	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1190		200	1	05/30/2019 14:36	WG1287651
Calcium	83700		1000	1	05/30/2019 14:36	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	936000		20000	1	05/30/2019 14:40	WG1288048

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	96500		1000	1	06/06/2019 06:50	WG1290621
Fluoride	1090		100	1	06/06/2019 06:50	WG1290621
Sulfate	ND		5000	1	06/06/2019 06:50	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1600		200	1	05/30/2019 14:39	WG1287651
Calcium	22100		1000	1	05/30/2019 14:39	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1000000		20000	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	121000		5000	5	06/06/2019 07:23	WG1290621
Fluoride	454		100	1	06/06/2019 07:12	WG1290621
Sulfate	142000		25000	5	06/06/2019 07:23	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	819		200	1	05/30/2019 14:41	WG1287651
Calcium	65400		1000	1	05/30/2019 14:41	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	582000		10000	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	48600		1000	1	06/06/2019 07:34	WG1290621
Fluoride	603		100	1	06/06/2019 07:34	WG1290621
Sulfate	78800		5000	1	06/06/2019 07:34	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	992		200	1	05/30/2019 14:44	WG1287651
Calcium	41600		1000	1	05/30/2019 14:44	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	530000		10000	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	41800		1000	1	06/06/2019 08:17	WG1290621
Fluoride	1210		100	1	06/06/2019 08:17	WG1290621
Sulfate	ND		5000	1	06/06/2019 08:17	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1550		200	1	05/30/2019 14:47	WG1287651
Calcium	5700		1000	1	05/30/2019 14:47	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	910000		20000	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	109000		5000	5	06/06/2019 09:01	WG1290621
Fluoride	1340		100	1	06/06/2019 08:50	WG1290621
Sulfate	ND		5000	1	06/06/2019 08:50	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1860		200	1	05/30/2019 14:49	WG1287651
Calcium	19300		1000	1	05/30/2019 14:49	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1230000		20000	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	87200		1000	1	06/06/2019 16:46	WG1291176
Fluoride	828		100	1	06/06/2019 16:46	WG1291176
Sulfate	153000		25000	5	06/06/2019 17:34	WG1291176

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	2030		200	1	05/30/2019 12:52	WG1287651
Calcium	21900		1000	1	05/30/2019 12:52	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	980000		20000	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	135000		5000	5	06/06/2019 09:23	WG1290621
Fluoride	852		100	1	06/06/2019 09:12	WG1290621
Sulfate	37000		5000	1	06/06/2019 09:12	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	2180		200	1	05/30/2019 14:52	WG1287651
Calcium	28500		1000	1	05/30/2019 14:52	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1230000		25000	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	253000		5000	5	06/06/2019 09:45	WG1290621
Fluoride	985		100	1	06/06/2019 09:34	WG1290621
Sulfate	5780		5000	1	06/06/2019 09:34	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	2090		200	1	05/30/2019 14:55	WG1287651
Calcium	23200		1000	1	05/30/2019 14:55	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	8310000		100000	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	194000		100000	100	06/06/2019 10:29	WG1290621
Fluoride	276		100	1	06/06/2019 10:18	WG1290621
Sulfate	5530000		500000	100	06/06/2019 10:29	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1960		200	1	05/30/2019 15:11	WG1287651
Calcium	418000		1000	1	05/30/2019 15:11	WG1287651

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	651000		13300	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	43400		1000	1	06/06/2019 10:40	WG1290621
Fluoride	495		100	1	06/06/2019 10:40	WG1290621
Sulfate	9180		5000	1	06/06/2019 10:40	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1310		200	1	05/31/2019 21:40	WG1287647
Calcium	28600		1000	1	05/31/2019 21:40	WG1287647

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1050000		20000	1	05/30/2019 23:08	WG1288051

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	41800		1000	1	06/06/2019 11:02	WG1290621
Fluoride	365		100	1	06/06/2019 11:02	WG1290621
Sulfate	62900		5000	1	06/06/2019 11:02	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1470		200	1	05/31/2019 21:43	WG1287647
Calcium	24100		1000	1	05/31/2019 21:43	WG1287647

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1240000		25000	1	05/30/2019 23:30	WG1288054

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	85600		1000	1	06/06/2019 11:13	WG1290621
Fluoride	764		100	1	06/06/2019 11:13	WG1290621
Sulfate	152000		25000	5	06/06/2019 12:18	WG1290621

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1990		200	1	05/31/2019 21:45	WG1287647
Calcium	21400		1000	1	05/31/2019 21:45	WG1287647

Method Blank (MB)

(MB) R3417281-1 05/30/19 14:40

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1102792-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1102792-02 05/30/19 14:40 • (DUP) R3417281-3 05/30/19 14:40

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	936000	944000	1	0.851		5

Laboratory Control Sample (LCS)

(LCS) R3417281-2 05/30/19 14:40

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8930000	101	85.0-115	

Method Blank (MB)

(MB) R3417315-1 05/30/19 23:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1102792-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1102792-12 05/30/19 23:08 • (DUP) R3417315-3 05/30/19 23:08

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1050000	1050000	1	0.191		5

Laboratory Control Sample (LCS)

(LCS) R3417315-2 05/30/19 23:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8500000	96.6	85.0-115	

Method Blank (MB)

(MB) R3417295-1 05/30/19 23:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1102793-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1102793-05 05/30/19 23:30 • (DUP) R3417295-3 05/30/19 23:30

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	621000	617000	1	0.646		5

Laboratory Control Sample (LCS)

(LCS) R3417295-2 05/30/19 23:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8840000	100	85.0-115	

Method Blank (MB)

(MB) R3418444-1 06/06/19 03:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1102791-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1102791-08 06/06/19 04:50 • (DUP) R3418444-5 06/06/19 05:01

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	34200	34200	1	0.0410		15
Fluoride	816	812	1	0.455		15
Sulfate	ND	0.000	1	0.000		15

L1102792-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1102792-05 06/06/19 08:17 • (DUP) R3418444-6 06/06/19 08:28

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	41800	40800	1	2.50		15
Fluoride	1210	1220	1	0.255		15
Sulfate	ND	2370	1	2.78	J	15

Laboratory Control Sample (LCS)

(LCS) R3418444-2 06/06/19 03:14

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40200	100	80.0-120	
Fluoride	8000	8280	104	80.0-120	
Sulfate	40000	40600	101	80.0-120	

L1102791-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1102791-07 06/06/19 04:07 • (MS) R3418444-3 06/06/19 04:17 • (MSD) R3418444-4 06/06/19 04:28

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	89400	136000	136000	92.4	93.0	1	80.0-120	E	E	0.201	15
Fluoride	5000	922	6150	6160	104	105	1	80.0-120			0.242	15
Sulfate	50000	ND	51700	51800	96.6	96.8	1	80.0-120			0.190	15

L1102792-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1102792-05 06/06/19 08:17 • (MS) R3418444-7 06/06/19 08:39

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	41800	89200	94.8	1	80.0-120	
Fluoride	5000	1210	6480	105	1	80.0-120	
Sulfate	50000	ND	51600	98.4	1	80.0-120	

Method Blank (MB)

(MB) R3418770-1 06/06/19 15:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1102793-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1102793-04 06/06/19 18:38 • (DUP) R3418770-7 06/06/19 19:26

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	33400	33600	1	0.590		15
Fluoride	382	383	1	0.497		15
Sulfate	81700	82100	1	0.565		15

L1103234-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1103234-05 06/06/19 22:36 • (DUP) R3418770-8 06/06/19 22:52

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5450	5470	1	0.496		15
Fluoride	214	217	1	1.21		15
Sulfate	15700	15800	1	0.658		15

Laboratory Control Sample (LCS)

(LCS) R3418770-2 06/06/19 16:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40300	101	80.0-120	
Fluoride	8000	8470	106	80.0-120	
Sulfate	40000	40000	100	80.0-120	

L1102792-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1102792-07 06/06/19 16:46 • (MS) R3418770-3 06/06/19 17:02 • (MSD) R3418770-4 06/06/19 17:18

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	87200	134000	135000	94.4	95.2	1	80.0-120	E	E	0.302	15
Fluoride	5000	828	6030	6060	104	105	1	80.0-120			0.501	15
Sulfate	50000	170000	213000	214000	87.1	88.2	1	80.0-120	E	E	0.265	15

L1102793-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1102793-01 06/06/19 17:50 • (MS) R3418770-5 06/06/19 18:06 • (MSD) R3418770-6 06/06/19 18:22

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	22800	73000	70400	101	95.2	1	80.0-120			3.68	15
Fluoride	5000	489	5650	5430	103	98.8	1	80.0-120			3.98	15
Sulfate	50000	21000	72100	69400	102	96.8	1	80.0-120			3.81	15

Method Blank (MB)

(MB) R3417060-1 05/31/19 20:31

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	15.3	J	12.6	200
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3417060-2 05/31/19 20:33 • (LCSD) R3417060-3 05/31/19 20:36

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	969	963	96.9	96.3	80.0-120			0.679	20
Calcium	10000	9660	9570	96.6	95.7	80.0-120			0.924	20

L1102671-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1102671-01 05/31/19 20:38 • (MS) R3417060-5 05/31/19 20:43 • (MSD) R3417060-6 05/31/19 20:46

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	83.4	1080	1070	99.3	98.5	1	75.0-125			0.717	20
Calcium	10000	89400	98900	98900	94.3	94.9	1	75.0-125			0.0558	20

Method Blank (MB)

(MB) R3416282-1 05/30/19 12:44

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	67.5	J	46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3416282-2 05/30/19 12:47 • (LCSD) R3416282-3 05/30/19 12:49

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	985	974	98.5	97.4	80.0-120			1.11	20
Calcium	10000	9970	9920	99.7	99.2	80.0-120			0.512	20

L1102792-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1102792-07 05/30/19 12:52 • (MS) R3416282-5 05/30/19 12:57 • (MSD) R3416282-6 05/30/19 13:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	2030	2950	2960	92.2	93.1	1	75.0-125			0.281	20
Calcium	10000	21900	31200	31500	92.2	95.2	1	75.0-125			0.960	20

L1102793-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1102793-01 05/30/19 15:03 • (MS) R3416282-7 05/30/19 15:05 • (MSD) R3416282-8 05/30/19 15:08

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	1180	2120	2150	94.5	97.4	1	75.0-125			1.38	20
Calcium	10000	52300	60900	60800	85.5	85.2	1	75.0-125			0.0488	20

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.

Abbreviations and Definitions

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

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

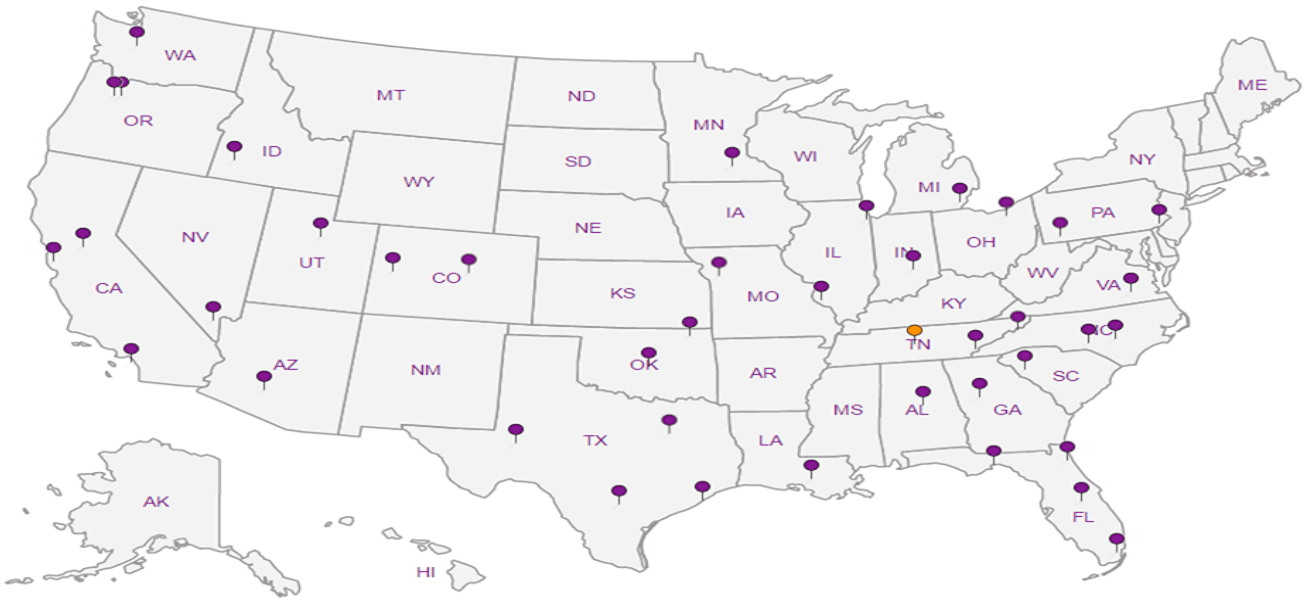
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



SCS Engineers - KS

8575 West 110th Street, Ste. 100
Overland Park, KS 66210

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

Pres Chk

Report to: Jason Franks

Email To: jfranks@scsengineers.com; jay.martin@kcpl.com;

Project Description: KCPL - LaCygne Generating Station

City/State Collected: La Cygne, Kansas

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27217233.19

Lab Project # AQUAOPKS-LACYGNE

Collected by (print): Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature): Jason R. Franks

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

Chain of Custody Page 1 of 2

ESC LAB SCIENCES
a subsidiary of Pace Analytical

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L1102792
J155

Acctnum: AQUAOPKS
Template: T136290
Prelogin:
TSR: 206 - Jeff Carr
PB:
Shipped Via:

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)
							Analysis / Container / Preservative	2									
MW-6	Grab	GW	NA	05/23/19	1050	3	X	X	X								-01
MW-7	Grab	GW	NA	05/23/19	1125	3	X	X	X								02
MW-11	Grab	GW	NA	05/23/19	1710	3	X	X	X								03
MW-701	Grab	GW	NA	05/23/19	1800	3	X	X	X								04
MW-702	Grab	GW	NA	05/23/19	1255	3	X	X	X								05
MW-703	Grab	GW	NA	05/23/19	1330	3	X	X	X								06
MW-704	Grab	GW	NA	05/23/19	1805	3	X	X	X								07
MW-705	Grab	GW	NA	05/23/19	1205	3	X	X	X								08
MW-706	Grab	GW	NA	05/23/19	1250	3	X	X	X								09
MW-707B	Grab	GW	NA	05/23/19	1410	3	X	X	X								10

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

Remarks:

RAD SCREEN: <0.5 mR/hr

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier SWA

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Jason R. Franks	5/24/19	1500	5-24-19 1500	Ø	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.1 °C Bottles Received: 42	
Allen Nelson	5/24/19	1600			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/25/19 Time: 0800	Hold: Condition: NCF / OK
	5/24/19	1700	SWA		

SCS Engineers - KS

8575 West 110th Street, Ste. 100
Overland Park, KS 66210

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

Pres Chk

Report to: **Jason Franks**

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

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

City/State Collected: **La Cygne, Kansas**

Phone: **913-681-0030**
Fax: **913-681-0012**

Client Project # **27217233.19**

Lab Project # **AQUAOPKS-LACYGNE**

Collected by (print): **Jason R. Franks**

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

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-708	Grab	GW	NA	05/23/19	1455	3	X	X	X		11
TW-1	Grab	GW	NA	05/23/19	1330	3	X	X	X		12
DUPLICATE 3	Grab	GW	NA	05/23/19	1805	3	X	X	X		13
704 MS/MSD	Grab	GW	NA	05/23/19	1810	3	X	X	X		07

Chain of Custody Page 2 of 2

ESC LAB SCIENCES
a subsidiary of Mansfield
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L #

Table #

Acctnum: **AQUAOPKS**

Template: **T136290**

Prelogin:

TSR: **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:

RAD SCREEN: <0.5 mR/hr

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier SWA

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Jason R. Franke	5/24/19	1500	5-24-19 1501	Ø
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
Allan Nelson	5/24/19	1600		1.1 2 1.1 42
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
	5/24/19	1700	SWA	5/25/19 0800

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ATTACHMENT 1-4

July 2019 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 25, 2019

SCS Engineers - KS

Sample Delivery Group:	L1120582
Samples Received:	07/19/2019
Project Number:	27217233.19
Description:	KCPL - 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 L1120582-01 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 10:35 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1316426	1	07/24/19 15:58	07/24/19 15:58	ST	Mt. Juliet, TN

DUPLICATE 1 L1120582-02 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 10:35 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1316426	1	07/24/19 16:57	07/24/19 16:57	ST	Mt. Juliet, TN

MW-601 L1120582-03 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 11:20 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1316426	1	07/24/19 17:12	07/24/19 17:12	ST	Mt. Juliet, TN

MW-701 L1120582-04 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 12:45 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1314696	1	07/22/19 11:47	07/23/19 20:12	EL	Mt. Juliet, TN

MW-704 L1120582-05 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 12:05 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1316426	1	07/24/19 18:12	07/24/19 18:12	ST	Mt. Juliet, TN

MW-706 L1120582-06 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 13:55 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1316426	1	07/24/19 18:27	07/24/19 18:27	ST	Mt. Juliet, TN

MW-707B L1120582-07 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 13:10 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1316426	50	07/24/19 18:42	07/24/19 18:42	ST	Mt. Juliet, TN

DUPLICATE 3 L1120582-08 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 13:15 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1316426	100	07/25/19 01:38	07/25/19 01:38	LDC	Mt. Juliet, TN

MW-804 L1120582-09 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 12:07 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1314696	1	07/22/19 11:47	07/23/19 19:22	EL	Mt. Juliet, TN

DUPLICATE 2 L1120582-10 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 12:15 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1314696	1	07/22/19 11:47	07/23/19 20:21	EL	Mt. Juliet, TN

MW-805 L1120582-11 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 11:20 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1314696	1	07/22/19 11:47	07/23/19 20:24	EL	Mt. Juliet, TN

MW-903 L1120582-12 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 09:45 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1314696	1	07/22/19 11:47	07/23/19 19:33	EL	Mt. Juliet, TN

DUPLICATE 4 L1120582-13 GW

Collected by: Whit Martin | Collected date/time: 07/17/19 09:45 | Received date/time: 07/19/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1314696	1	07/22/19 11:47	07/23/19 20:27	EL	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	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6140		1000	1	07/24/2019 15:58	WG1316426

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6010		1000	1	07/24/2019 16:57	WG1316426

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	5750		5000	1	07/24/2019 17:12	WG1316426

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	45000		1000	1	07/23/2019 20:12	WG1314696

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	89700		1000	1	07/24/2019 18:12	WG1316426

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	8270		5000	1	07/24/2019 18:27	WG1316426

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	4920000	V	250000	50	07/24/2019 18:42	WG1316426

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	4880000		500000	100	07/25/2019 01:38	WG1316426

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1710	O1	200	1	07/23/2019 19:22	WG1314696

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1720		200	1	07/23/2019 20:21	WG1314696

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	550		200	1	07/23/2019 20:24	WG1314696

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	373000	V	1000	1	07/23/2019 19:33	WG1314696

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	379000		1000	1	07/23/2019 20:27	WG1314696

Method Blank (MB)

(MB) R3433988-1 07/24/19 14:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Sulfate	U		77.4	5000

L1120582-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1120582-01 07/24/19 15:58 • (DUP) R3433988-3 07/24/19 16:13

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6140	5950	1	3.25		15
Sulfate	59300	59300	1	0.0944		15

L1120583-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1120583-09 07/24/19 22:25 • (DUP) R3433988-8 07/24/19 22:40

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	25600	25700	1	0.319		15

L1120583-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1120583-09 07/25/19 02:08 • (DUP) R3433988-9 07/25/19 02:23

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	1140000	1200000	20	5.12		15

Laboratory Control Sample (LCS)

(LCS) R3433988-2 07/24/19 15:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40200	100	80.0-120	
Sulfate	40000	41600	104	80.0-120	

L1120582-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1120582-01 07/24/19 15:58 • (MS) R3433988-4 07/24/19 16:27 • (MSD) R3433988-5 07/24/19 16:42

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	6140	56400	56200	100	100	1	80.0-120			0.223	15
Sulfate	50000	59300	106000	106000	93.3	93.5	1	80.0-120	E	E	0.132	15

L1120582-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1120582-07 07/24/19 18:42 • (MS) R3433988-6 07/24/19 18:57 • (MSD) R3433988-7 07/24/19 19:12

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	1000	198000	2750000	2730000	5110	5070	50	80.0-120	J5	J5	0.672	15
Sulfate	1000	4920000	7170000	7140000	4510	4450	50	80.0-120	E V	E V	0.422	15

Method Blank (MB)

(MB) R3433521-1 07/23/19 19:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433521-2 07/23/19 19:16 • (LCSD) R3433521-3 07/23/19 19:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	1020	1020	102	102	80.0-120			0.807	20
Calcium	10000	10100	10200	101	102	80.0-120			0.807	20

L1120582-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1120582-09 07/23/19 19:22 • (MS) R3433521-5 07/23/19 19:27 • (MSD) R3433521-6 07/23/19 19:30

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	1710	2700	2680	99.5	97.9	1	75.0-125			0.600	20
Calcium	10000	66300	75700	75100	93.8	87.9	1	75.0-125			0.781	20

L1120582-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1120582-12 07/23/19 19:33 • (MS) R3433521-7 07/23/19 19:35 • (MSD) R3433521-8 07/23/19 19:38

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	%	%		%			%	%
Boron	1000	539	1550	1570	102	103	1	75.0-125			1.15	20
Calcium	10000	373000	378000	380000	47.5	77.4	1	75.0-125	V		0.788	20

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).
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

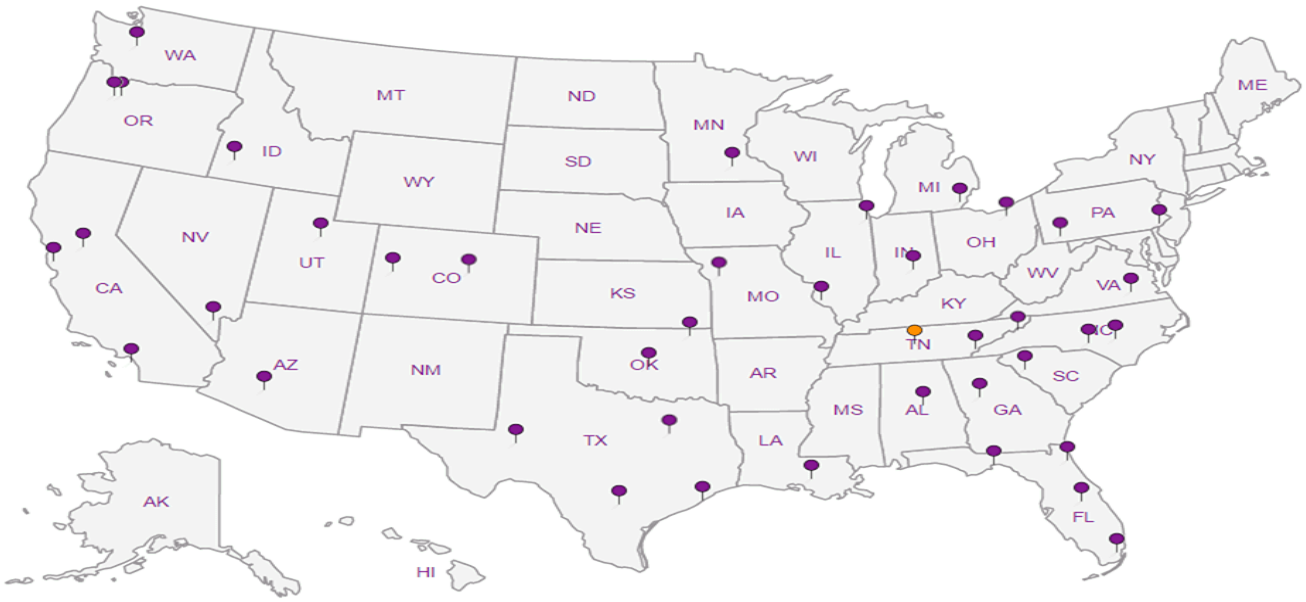
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



SCS Engineers - KS

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

Report to:
Jason Franks

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

Email To: jfranks@scsengineers.com; jay.martin@kcpl.com;

Project Description: KCPL - LaCygne Generating Station

City/State Collected:

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27217233.19

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

Chain of Custody Page 1 of 2

National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L1120582
H094

Acctnum: AQUAOPKS
Template: T136276
Prelogin: P719479
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	Boron - 6010 250mlHDPE-HNO3	Calcium - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-14R	Grab	GW		7/17/19	1035	1				X			-01
DUPLICATE 1	Grab	GW		7/17/19	1035	1				X			02
MW-14R MS/MSD	Grab	GW		7/17/19	1040	1				X			01
MW-601	Grab	GW		7/17/19	1120	1					X		03
MW-701	Grab	GW		7/17/19	1245	1			X				04
MW-704	Grab	GW		7/17/19	1205	1				X			05
MW-706	Grab	GW		7/17/19	1355	1					X		06
MW-707B	Grab	GW		7/17/19	1310	1					X		07
DUPLICATE 3	Grab	GW		7/17/19	1315	1					X		08
MW-707B MS/MSD	Grab	GW		7/17/19	1320	1					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 J SWA

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR
Whit Martin	7-18-19	1419	[signature] 7-18-19 1420	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
[signature]	7-18-19	1800		5.6-5.7 17
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			[signature]	7/19/19 8:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

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

Report to: Jason Franks

Email To: jfranks@scsengineers.com; jay.martin@kcpl.com;

Project Description: KCPL - LaCygne Generating Station

City/State Collected:

Phone: 913-681-0030
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Lab Project # AQUAOPKS-LACYGNE

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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

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3	Calcium - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-804	Grab	GW		7/17/19	1207	1	X					-08
DUPLICATE 2	Grab	GW		7/17/19	1215	1	X					09
MW-804 MS/MSD	Grab	GW		7/17/19	1210	1	X					08
MW-805	Grab	GW		7/17/19	1120	1	X					10
MW-903	Grab	GW		7/17/19	0945	1		X				11
DUPLICATE 4	Grab	GW		7/17/19	0945	1		X				10
MW-903 MS/MSD	Grab	GW		7/17/19	0950	1		X				

Chain of Custody Page 2 of 2

National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L #

Table #

Acctnum: AQUAOPKS

Template: T136276

Prelogin: P719479

TSR: 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

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	7/18/19	1419	Cedan Nelson	7-18-19 1420	
Cedan Nelson	7-18-19	1800		Temp: °C Bottles Received: 5.6+1=5.7 15 5c	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK

ATTACHMENT 1-5

August 2019 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 03, 2019

SCS Engineers - KS

Sample Delivery Group:	L1132586
Samples Received:	08/24/2019
Project Number:	27217233.19
Description:	KCPL - LaCygne Generating Station

Report To:

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

Entire Report Reviewed By:

Jason Romer
Project Manager

MW-14R L1132586-01 GW

Collected by: Jason Franks | Collected date/time: 08/23/19 12:25 | Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1334824	1	08/26/19 19:31	08/26/19 19:31	LDC	Mt. Juliet, TN

DUPLICATE 1 L1132586-02 GW

Collected by: Jason Franks | Collected date/time: 08/23/19 12:25 | Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1334824	1	08/26/19 20:57	08/26/19 20:57	LDC	Mt. Juliet, TN

MW-601 L1132586-03 GW

Collected by: Jason Franks | Collected date/time: 08/23/19 13:05 | Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1334824	1	08/27/19 09:07	08/27/19 09:07	LDC	Mt. Juliet, TN

MW-701 L1132586-04 GW

Collected by: Jason Franks | Collected date/time: 08/23/19 11:50 | Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1334773	1	08/26/19 09:59	08/27/19 11:40	EL	Mt. Juliet, TN

MW-704 L1132586-05 GW

Collected by: Jason Franks | Collected date/time: 08/23/19 11:20 | Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1334824	5	08/26/19 21:26	08/26/19 21:26	LDC	Mt. Juliet, TN

MW-706 L1132586-06 GW

Collected by: Jason Franks | Collected date/time: 08/23/19 10:40 | Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1334824	1	08/26/19 21:41	08/26/19 21:41	LDC	Mt. Juliet, TN

DUPLICATE 3 L1132586-07 GW

Collected by: Jason Franks | Collected date/time: 08/23/19 10:40 | Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1334824	1	08/27/19 09:21	08/27/19 09:21	LDC	Mt. Juliet, TN

MW-804 L1132586-08 GW

Collected by: Jason Franks | Collected date/time: 08/22/19 16:05 | Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1334773	1	08/26/19 09:59	08/27/19 10:33	EL	Mt. Juliet, TN

DUPLICATE 2 L1132586-09 GW

Collected by: Jason Franks
Collected date/time: 08/22/19 16:05
Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1334773	1	08/26/19 09:59	08/27/19 11:43	EL	Mt. Juliet, TN

MW-805 L1132586-10 GW

Collected by: Jason Franks
Collected date/time: 08/22/19 15:35
Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1334773	1	08/26/19 09:59	08/27/19 11:46	EL	Mt. Juliet, TN

MW-903 L1132586-11 GW

Collected by: Jason Franks
Collected date/time: 08/22/19 15:00
Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1334773	1	08/26/19 09:59	08/27/19 10:44	EL	Mt. Juliet, TN

DUPLICATE 4 L1132586-12 GW

Collected by: Jason Franks
Collected date/time: 08/22/19 15:00
Received date/time: 08/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1334774	1	08/28/19 12:40	08/28/19 23:51	EL	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.

Jason Romer
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6080		1000	1	08/26/2019 19:31	WG1334824

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6080		1000	1	08/26/2019 20:57	WG1334824

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	6320		5000	1	08/27/2019 09:07	WG1334824

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	39900		1000	1	08/27/2019 11:40	WG1334773

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	89200		5000	5	08/26/2019 21:26	WG1334824

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	8790		5000	1	08/26/2019 21:41	WG1334824

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	8550		5000	1	08/27/2019 09:21	WG1334824

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1630		200	1	08/27/2019 10:33	WG1334773

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1640		200	1	08/27/2019 11:43	WG1334773

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	537		200	1	08/27/2019 11:46	WG1334773

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	366000	V	1000	1	08/27/2019 10:44	WG1334773

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	358000	O1 V	1000	1	08/28/2019 23:51	WG1334774

Method Blank (MB)

(MB) R3444477-1 08/26/19 14:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Sulfate	U		77.4	5000

L1132563-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1132563-07 08/26/19 16:09 • (DUP) R3444477-3 08/26/19 16:24

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	38700	38400	1	0.568		15
Sulfate	86800	86700	1	0.133		15

L1132586-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1132586-01 08/26/19 19:31 • (DUP) R3444477-4 08/26/19 19:45

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6080	6030	1	0.755		15
Sulfate	60600	60400	1	0.232		15

Laboratory Control Sample (LCS)

(LCS) R3444477-2 08/26/19 15:10

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39500	98.8	80.0-120	
Sulfate	40000	39700	99.2	80.0-120	

L1132586-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1132586-01 08/26/19 19:31 • (MS) R3444477-5 08/26/19 20:00 • (MSD) R3444477-6 08/26/19 20:14

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	6080	52700	52900	93.2	93.7	1	80.0-120			0.414	15
Sulfate	50000	60600	99100	98900	77.0	76.7	1	80.0-120	J6	J6	0.128	15

L1132586-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1132586-06 08/26/19 21:41 • (MS) R3444477-7 08/26/19 21:55 • (MSD) R3444477-8 08/26/19 22:10

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	249000	283000	284000	68.8	69.7	1	80.0-120	E V	E V	0.154	15
Sulfate	50000	8790	51600	51800	85.6	86.1	1	80.0-120			0.464	15

Method Blank (MB)

(MB) R3444820-1 08/27/19 10:26

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3444820-2 08/27/19 10:28 • (LCSD) R3444820-3 08/27/19 10:31

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	1000	980	100	98.0	80.0-120			2.04	20
Calcium	10000	10100	9800	101	98.0	80.0-120			2.82	20

L1132586-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1132586-08 08/27/19 10:33 • (MS) R3444820-5 08/27/19 10:39 • (MSD) R3444820-6 08/27/19 10:41

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	1630	2630	2650	100	102	1	75.0-125			0.830	20
Calcium	10000	60300	73100	73700	128	134	1	75.0-125	V	V	0.767	20

L1132586-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1132586-11 08/27/19 10:44 • (MS) R3444820-7 08/27/19 10:46 • (MSD) R3444820-8 08/27/19 10:49

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	510	1530	1520	102	101	1	75.0-125			0.0864	20
Calcium	10000	366000	371000	368000	50.2	20.9	1	75.0-125	V	V	0.792	20

Method Blank (MB)

(MB) R3445287-1 08/28/19 23:42

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3445287-2 08/28/19 23:45 • (LCSD) R3445287-3 08/28/19 23:48

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Calcium	10000	9530	9600	95.3	96.0	80.0-120			0.785	20

L1132586-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1132586-12 08/28/19 23:51 • (MS) R3445287-5 08/28/19 23:56 • (MSD) R3445287-6 08/28/19 23:59

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	358000	360000	364000	15.4	62.6	1	75.0-125	V	V	1.30	20

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).
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

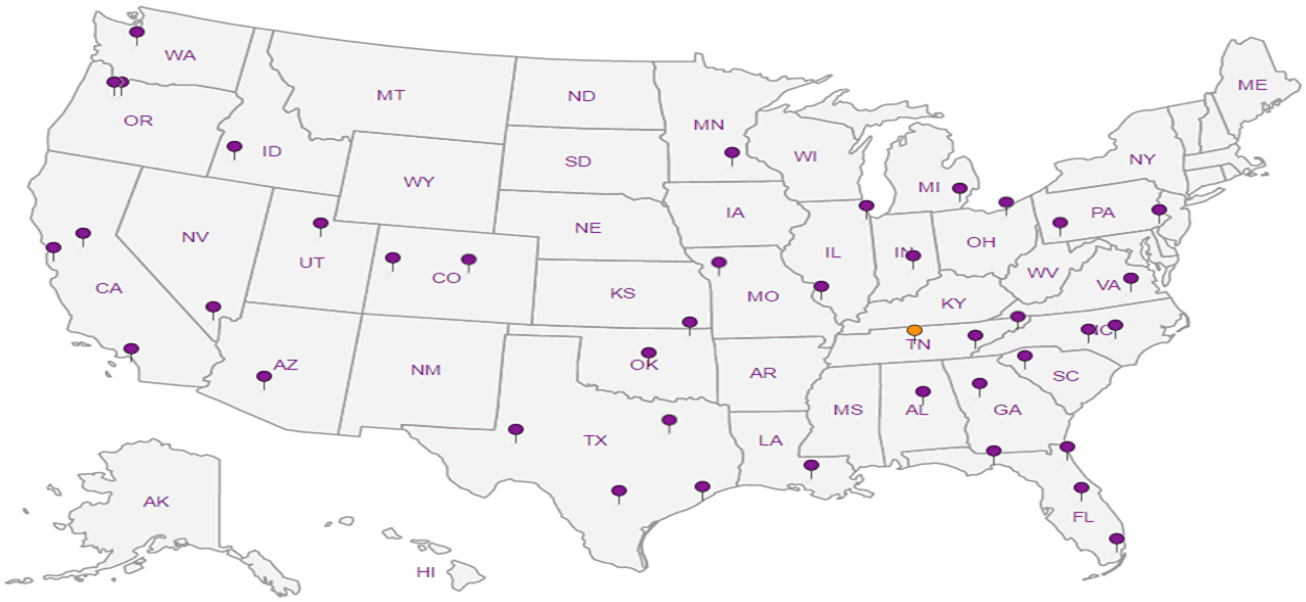
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



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@kcpl.com;

Project Description: KCPL - LaCygne Generating Stat

City/State Collected: LaCygne KS

Please Circle: PT MT CT ET

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27217233.19

Lab Project # AQUAOPKS-LACYGNE

Collected by (print): JASON 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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3 (2)	Calcium - 6010 250mlHDPE-HNO3 (2)	Chloride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-14R	GRAB	GW		8/23/19	1225	1			X			-1
DUPLICATE 1		GW			1225	1			X			-2
MW-14R MS/MSD		GW			1225	1			X			
MW-601		GW			1305	1				X		-3
MW-701		GW			1150	1		X				-4
MW-704		GW			1120	1			X			-5
MW-706		GW			1040	1				X		-6
DUPLICATE 3		GW			1040	1				X		-7
MW-706 MS/MSD		GW			1040	1				X		
MW-804		GW		8/22/19	1605	1	X					-8

* 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 # 4510 1661 8644

Chain of Custody Page 1 of 2

National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1132586

D120

Acctnum: AQUAOPKS

Template: T136276

Prelogin: P725643

PM: 206 - Jeff Carr

PB:

Shipped Via:

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: 8/23/19	Time: 1436	Received by: (Signature)	8-23-19 1436
Relinquished by : (Signature)	Date: 8/23/19	Time: 1800	Received by: (Signature)	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	

Trip Blank Received: Yes / No (6) HCL / MeoH TBR

Temp: A38F °C 4.3±0=4.3 Bottles Received: 16

Date: 8/24 Time: 0245

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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@kcpl.com;

Project Description: KCPL - LaCygne Generating Stat

City/State Collected: LA Cygne, KS

Please Circle: PT MT CT ET

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27217233.19

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	Boron - 6010 250mlHDPE-HNO3	Calcium - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
DUPLICATE 2	GRAB	GW		8/22/19	1605	1	X					- 9
MW-804 MS/MSD		GW			1605	1	X					
MW-805		GW			1535	1	X					- 10
MW-903		GW			1500	1		X				- 11
DUPLICATE 4		GW			1500	1		X				- 12
MW-903 MS/MSD		GW			1500	1		X				

Chain of Custody Page 2 of 2

National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1132586

Table #

Acctnum: AQUAOPKS

Template: T136276

Prelogin: P725643

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
	8/23/19	1436	8-23-19 1436	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.7 °C Bottles Received: 16
	8/23/19	1800		4.7+0=4.3
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				8/24 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ATTACHMENT 1-6

November 2019 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 18, 2019

SCS Engineers - KS

Sample Delivery Group:	L1159238
Samples Received:	11/09/2019
Project Number:	27217233.19
Description:	Energy - 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

MW-6 L1159238-01 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 11:10 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378171	1	11/10/19 18:30	11/10/19 19:05	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 00:56	11/14/19 00:56	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	5	11/14/19 01:09	11/14/19 01:09	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:01	TRB	Mt. Juliet, TN

MW-7 L1159238-02 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 11:52 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378171	1	11/10/19 18:30	11/10/19 19:05	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 01:22	11/14/19 01:22	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:04	TRB	Mt. Juliet, TN

MW-11 L1159238-03 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 13:00 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378171	1	11/10/19 18:30	11/10/19 19:05	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 01:48	11/14/19 01:48	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	5	11/14/19 02:02	11/14/19 02:02	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:06	TRB	Mt. Juliet, TN

MW-701 L1159238-04 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 10:55 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378171	1	11/10/19 18:30	11/10/19 19:05	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 02:15	11/14/19 02:15	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:09	TRB	Mt. Juliet, TN

MW-702 L1159238-05 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 11:05 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378171	1	11/10/19 18:30	11/10/19 19:05	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 03:22	11/14/19 03:22	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:12	TRB	Mt. Juliet, TN

MW-703 L1159238-06 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 11:55 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378171	1	11/10/19 18:30	11/10/19 19:05	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 03:48	11/14/19 03:48	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	5	11/14/19 04:01	11/14/19 04:01	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:15	TRB	Mt. Juliet, TN

MW-704 L1159238-07 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 11:35 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378171	1	11/10/19 18:30	11/10/19 19:05	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 04:14	11/14/19 04:14	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	5	11/14/19 10:33	11/14/19 10:33	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 10:24	TRB	Mt. Juliet, TN

MW-705 L1159238-08 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 13:42 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378171	1	11/10/19 18:30	11/10/19 19:05	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 10:20	11/14/19 10:20	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	5	11/14/19 05:07	11/14/19 05:07	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:23	TRB	Mt. Juliet, TN

MW-706 L1159238-09 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 13:25 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378584	1	11/11/19 14:56	11/11/19 17:01	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 05:20	11/14/19 05:20	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	5	11/14/19 05:59	11/14/19 05:59	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:26	TRB	Mt. Juliet, TN

MW-707B L1159238-10 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 14:23 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378584	1	11/11/19 14:56	11/11/19 17:01	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	100	11/14/19 06:25	11/14/19 06:25	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	2	11/14/19 11:13	11/14/19 11:13	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:29	TRB	Mt. Juliet, TN

MW-708 L1159238-11 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 14:15 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378584	1	11/11/19 14:56	11/11/19 17:01	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 06:38	11/14/19 06:38	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:32	TRB	Mt. Juliet, TN

TW-1 L1159238-12 GW

Collected by: Jason R. Franks | Collected date/time: 11/07/19 13:35 | Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378584	1	11/11/19 14:56	11/11/19 17:01	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 06:51	11/14/19 06:51	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:35	TRB	Mt. Juliet, TN

DUPLICATE 3 L1159238-13 GW

Collected by: Jason R. Franks
Collected date/time: 11/07/19 11:40
Received date/time: 11/09/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1378584	1	11/11/19 14:56	11/11/19 17:01	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	1	11/14/19 07:04	11/14/19 07:04	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1379679	5	11/14/19 11:26	11/14/19 11:26	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1380942	1	11/15/19 14:32	11/16/19 11:38	TRB	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1090000		20000	1	11/10/2019 19:05	WG1378171

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	197000		5000	5	11/14/2019 01:09	WG1379679
Fluoride	615		100	1	11/14/2019 00:56	WG1379679
Sulfate	136000		25000	5	11/14/2019 01:09	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1150		200	1	11/16/2019 11:01	WG1380942
Calcium	79700		1000	1	11/16/2019 11:01	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	848000		20000	1	11/10/2019 19:05	WG1378171

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	96200		1000	1	11/14/2019 01:22	WG1379679
Fluoride	1340		100	1	11/14/2019 01:22	WG1379679
Sulfate	ND		5000	1	11/14/2019 01:22	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1590		200	1	11/16/2019 11:04	WG1380942
Calcium	20000		1000	1	11/16/2019 11:04	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	908000		20000	1	11/10/2019 19:05	WG1378171

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	122000		5000	5	11/14/2019 02:02	WG1379679
Fluoride	561		100	1	11/14/2019 01:48	WG1379679
Sulfate	191000		25000	5	11/14/2019 02:02	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	846		200	1	11/16/2019 11:06	WG1380942
Calcium	58200		1000	1	11/16/2019 11:06	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	521000		10000	1	11/10/2019 19:05	WG1378171

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	46200		1000	1	11/14/2019 02:15	WG1379679
Fluoride	703		100	1	11/14/2019 02:15	WG1379679
Sulfate	83700		5000	1	11/14/2019 02:15	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	952		200	1	11/16/2019 11:09	WG1380942
Calcium	40400		1000	1	11/16/2019 11:09	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	193000		10000	1	11/10/2019 19:05	WG1378171

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	40700		1000	1	11/14/2019 03:22	WG1379679
Fluoride	1580		100	1	11/14/2019 03:22	WG1379679
Sulfate	ND		5000	1	11/14/2019 03:22	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1410		200	1	11/16/2019 11:12	WG1380942
Calcium	2730		1000	1	11/16/2019 11:12	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	866000		20000	1	11/10/2019 19:05	WG1378171

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	111000		5000	5	11/14/2019 04:01	WG1379679
Fluoride	1560		100	1	11/14/2019 03:48	WG1379679
Sulfate	ND		5000	1	11/14/2019 03:48	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1820		200	1	11/16/2019 11:15	WG1380942
Calcium	17600		1000	1	11/16/2019 11:15	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1110000		20000	1	11/10/2019 19:05	WG1378171

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	84500		1000	1	11/14/2019 04:14	WG1379679
Fluoride	953		100	1	11/14/2019 04:14	WG1379679
Sulfate	163000		25000	5	11/14/2019 10:33	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1970		200	1	11/16/2019 10:24	WG1380942
Calcium	21000		1000	1	11/16/2019 10:24	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	914000		20000	1	11/10/2019 19:05	WG1378171

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	134000		5000	5	11/14/2019 05:07	WG1379679
Fluoride	1050		100	1	11/14/2019 10:20	WG1379679
Sulfate	37900		5000	1	11/14/2019 10:20	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	2110		200	1	11/16/2019 11:23	WG1380942
Calcium	26700		1000	1	11/16/2019 11:23	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1160000		25000	1	11/11/2019 17:01	WG1378584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	240000		5000	5	11/14/2019 05:59	WG1379679
Fluoride	1180		100	1	11/14/2019 05:20	WG1379679
Sulfate	9680		5000	1	11/14/2019 05:20	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	2090		200	1	11/16/2019 11:26	WG1380942
Calcium	22500		1000	1	11/16/2019 11:26	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	7920000		100000	1	11/11/2019 17:01	WG1378584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	169000		2000	2	11/14/2019 11:13	WG1379679
Fluoride	442		200	2	11/14/2019 11:13	WG1379679
Sulfate	5330000		500000	100	11/14/2019 06:25	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1860		200	1	11/16/2019 11:29	WG1380942
Calcium	386000		1000	1	11/16/2019 11:29	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	607000		13300	1	11/11/2019 17:01	WG1378584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	45000		1000	1	11/14/2019 06:38	WG1379679
Fluoride	601		100	1	11/14/2019 06:38	WG1379679
Sulfate	10100		5000	1	11/14/2019 06:38	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1340		200	1	11/16/2019 11:32	WG1380942
Calcium	27700		1000	1	11/16/2019 11:32	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	956000		20000	1	11/11/2019 17:01	WG1378584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	40100		1000	1	11/14/2019 06:51	WG1379679
Fluoride	411		100	1	11/14/2019 06:51	WG1379679
Sulfate	61900		5000	1	11/14/2019 06:51	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1420		200	1	11/16/2019 11:35	WG1380942
Calcium	23300		1000	1	11/16/2019 11:35	WG1380942

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1130000		20000	1	11/11/2019 17:01	WG1378584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	87100		1000	1	11/14/2019 07:04	WG1379679
Fluoride	976		100	1	11/14/2019 07:04	WG1379679
Sulfate	159000		25000	5	11/14/2019 11:26	WG1379679

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1940		200	1	11/16/2019 11:38	WG1380942
Calcium	21000		1000	1	11/16/2019 11:38	WG1380942

Method Blank (MB)

(MB) R3470717-1 11/10/19 19:05

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000

L1159236-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1159236-05 11/10/19 19:05 • (DUP) R3470717-3 11/10/19 19:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	900000	890000	1	1.12		5

L1159238-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1159238-08 11/10/19 19:05 • (DUP) R3470717-4 11/10/19 19:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	914000	958000	1	4.70		5

Laboratory Control Sample (LCS)

(LCS) R3470717-2 11/10/19 19:05

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Dissolved Solids	8800000	8410000	95.6	85.0-115	

Method Blank (MB)

(MB) R3470931-1 11/11/19 17:01

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	3000	J	2820	10000

L1159238-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1159238-10 11/11/19 17:01 • (DUP) R3470931-3 11/11/19 17:01

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	7920000	8210000	1	3.60		5

Laboratory Control Sample (LCS)

(LCS) R3470931-2 11/11/19 17:01

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8210000	93.3	85.0-115	

Method Blank (MB)

(MB) R3472157-1 11/14/19 00:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	130	J	51.9	1000
Fluoride	U		9.90	100
Sulfate	111	J	77.4	5000

L1159238-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1159238-04 11/14/19 02:15 • (DUP) R3472157-3 11/14/19 02:28

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	46200	45800	1	0.895		15
Fluoride	703	700	1	0.314		15
Sulfate	83700	83300	1	0.434		15

L1159509-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1159509-05 11/14/19 09:02 • (DUP) R3472157-8 11/14/19 10:07

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3380	3360	1	0.610		15
Fluoride	205	209	1	1.98		15
Sulfate	10300	10000	1	2.45		15

Laboratory Control Sample (LCS)

(LCS) R3472157-2 11/14/19 00:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	38500	96.3	80.0-120	
Fluoride	8000	7740	96.8	80.0-120	
Sulfate	40000	38700	96.8	80.0-120	

L1159238-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1159238-07 11/14/19 04:14 • (MS) R3472157-4 11/14/19 04:28 • (MSD) R3472157-5 11/14/19 04:41

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	84500	130000	131000	91.3	92.1	1	80.0-120	E	E	0.320	15
Fluoride	5000	953	5980	6020	100	101	1	80.0-120			0.692	15
Sulfate	50000	159000	200000	202000	82.4	86.0	1	80.0-120	E	E	0.894	15

L1159509-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1159509-05 11/14/19 09:02 • (MS) R3472157-7 11/14/19 09:28

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	3380	51000	95.2	1	80.0-120	
Fluoride	5000	205	4980	95.4	1	80.0-120	
Sulfate	50000	10300	52800	85.1	1	80.0-120	

Method Blank (MB)

(MB) R3472655-1 11/16/19 10:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	12.9	J	12.6	200
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3472655-2 11/16/19 10:18 • (LCSD) R3472655-3 11/16/19 10:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron	1000	961	955	96.1	95.5	80.0-120			0.614	20
Calcium	10000	9400	9520	94.0	95.2	80.0-120			1.22	20

L1159238-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1159238-07 11/16/19 10:24 • (MS) R3472655-5 11/16/19 10:29 • (MSD) R3472655-6 11/16/19 10:32

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 %
Boron	1000	1970	2910	2890	94.4	92.7	1	75.0-125			0.592	20
Calcium	10000	21000	30200	30000	92.4	89.7	1	75.0-125			0.914	20

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

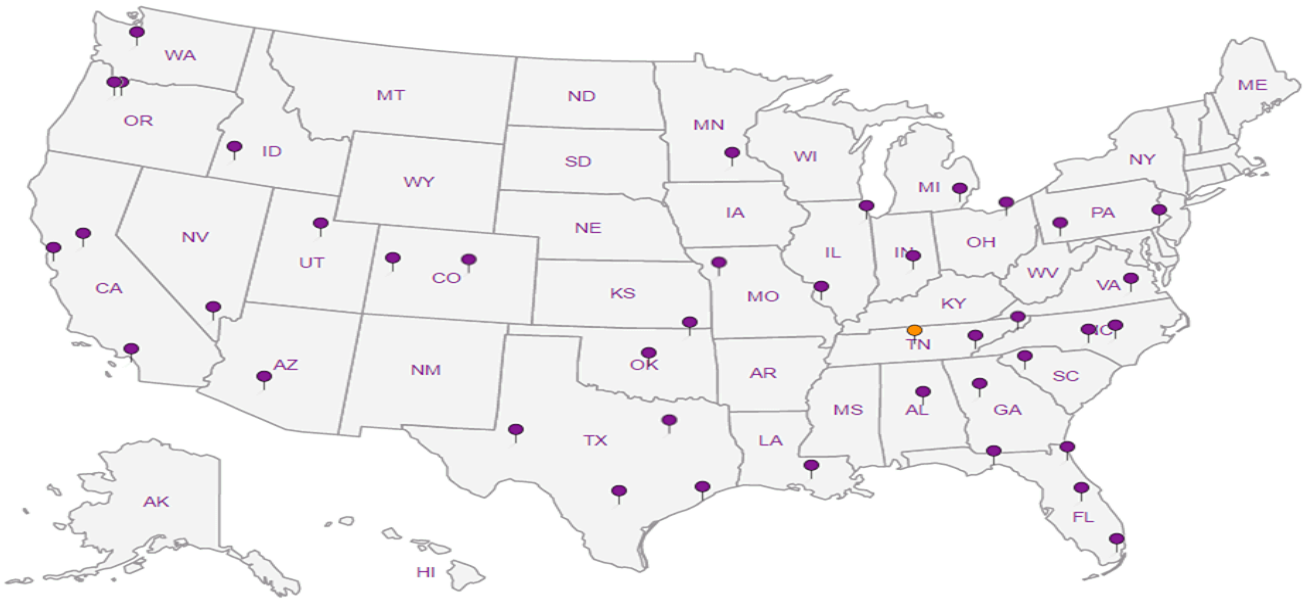
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



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@kcpl.com;

Project: EVERGY
Description: KCPL - LaCygne Generating Stat

City/State Collected: LaCygne KS

Please Circle: PT MT CT ET

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27217233.19

Lab Project # AQUAOPKS-LACYGNE

Collected by (print): JASON K. 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

Chain of Custody Page 1 of 2

National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1159238
B228

Acctnum: AQUAOPKS
Template: T150678
Prelogin: P736953
PM: 206 - Jeff Carr
PB:

Shipped Via:

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-6	GRAB	GW	—	11/7/19	1110	3	X	X	X		-01
MW-7		GW	—		1152	3	X	X	X		-02
MW-11		GW	—		1300	3	X	X	X		-03
MW-701		GW	—		1055	3	X	X	X		-04
MW-702		GW	—		1105	3	X	X	X		-05
MW-703		GW	—		1155	3	X	X	X		-06
MW-704		GW	—		1135	3	X	X	X		-07
MW-705		GW	—		1342	3	X	X	X		-08
MW-706		GW	—		1325	3	X	X	X		-09
MW-707B		GW	—		1423	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 #

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

	Date:	Time:		
Relinquished by : (Signature)	11/8/19	1547	Received by: (Signature)	11-8-19 1547
Relinquished by : (Signature)	11/8/19	1800	Received by: (Signature)	
Relinquished by : (Signature)			Received for lab by: (Signature)	

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 2.3-2=2.1 °C Bottles Received: A3 OK 39

Date: 11/9 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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@kcpl.com;

Project: EVERGY
Description: KCPL - LaCygne Generating Stat
City/State Collected: LaCygne, KS
Please Circle: PT MT CT ET

Phone: 913-681-0030
Fax: 913-681-0012

Client Project #: 27217233.19
Lab Project #: AQUAOPKS-LACYGNE

Collected by (print): JASON R. FRANKS
Collected by (signature):
Immediately Packed on Ice N ___ Y ___

Site/Facility ID #
P.O. #
Quote #

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day
Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

National Center for Testing & Innovation
1206S Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1159238
Table #
Acctnum: AQUAOPKS
Template: T150678
Prelogin: P736953
PM: 206 - Jeff Carr
PB:
Shipped Via:

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-708	GRAB	GW	—	11/7/19	1415	3	X	X	X		-11
TW-1		GW	—		1335	3	X	X	X		-12
DUPLICATE 3		GW	—		1140	3	X	X	X		-13
704 MS/MSD		GW	—		1145	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 #

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
	11/8/19	1547	11-8-19 1547	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
	11/8/19	1800		2.3-2=2.1 A3 CK 39
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				11/9 0845

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

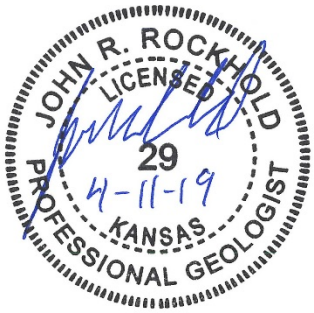
ATTACHMENT 2

Statistical Analyses

ATTACHMENT 2-1

Fall 2018 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM



April 11, 2019

To: La Cygne Generating Station
25166 East 2200 Road
La Cygne, Kansas 66040
Kansas City Power & Light Company

From: SCS Engineers

RE: Determination of Statistically Significant Increases –
Upper AQC Impoundment
Fall 2018 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Upper 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 December 3 or 4, 2018. Review and validation of the results from the December 2018 Detection Monitoring Event was completed on January 12, 2019, 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 January 14 or 15, 2019 and March 11, 2019.

The completed statistical evaluation identified two Appendix III constituents above their respective prediction limit in monitoring wells MW-701 and MW-706.

The prediction limit for calcium in upgradient monitoring well MW-701 is 39.71 mg/L. The detection monitoring sample was reported at 44.8 mg/L. The first verification re-sample was collected on January 15, 2019 with a result of 40.2 mg/L. The second verification re-sample was collected on March 11, 2019 with a result of 44.2 mg/L.

The prediction limit for sulfate in monitoring well MW-706 is 5.00 mg/L. The detection monitoring sample was reported at 7.69 mg/L. The first verification re-sample was collected on January 15, 2019 with a result of 7.73 mg/L. The second verification re-sample was collected on March 11, 2019 with a result of 6.96 mg/L.

Therefore, in accordance with the Statistical Method Certification, the detection monitoring sample for calcium from upgradient monitoring well MW-701, and sulfate from monitoring well MW-706 exceeds their respective prediction limit and are confirmed SSIs over background.

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

calcium in upgradient monitoring well MW-701, and for sulfate in monitoring well MW-706.

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 result, 1st verification re-sample result (when applicable), 2nd verification re-sample result (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
Upper AQC Impoundment
April 11, 2019

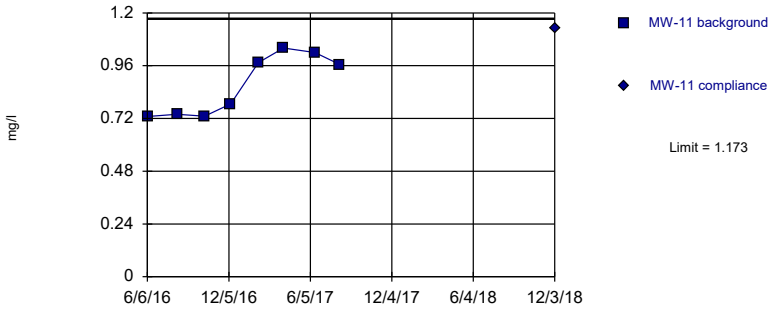
ATTACHMENT 1

Sanitas™ Output

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.8729, Std. Dev.=0.1388, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8122, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

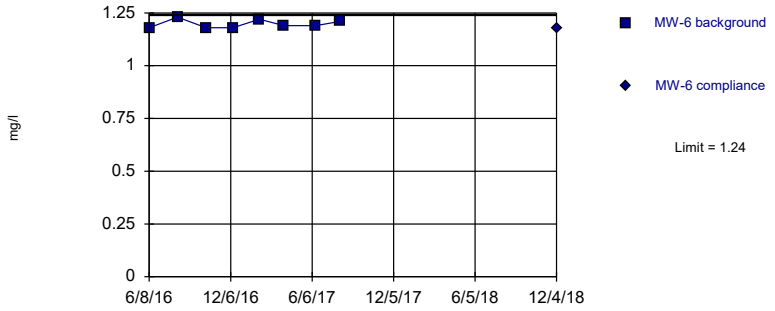
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.198, Std. Dev.=0.01982, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8429, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

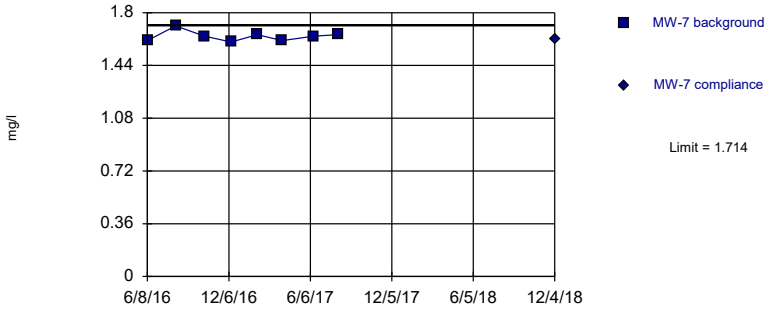
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.639, Std. Dev.=0.03482, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8755, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

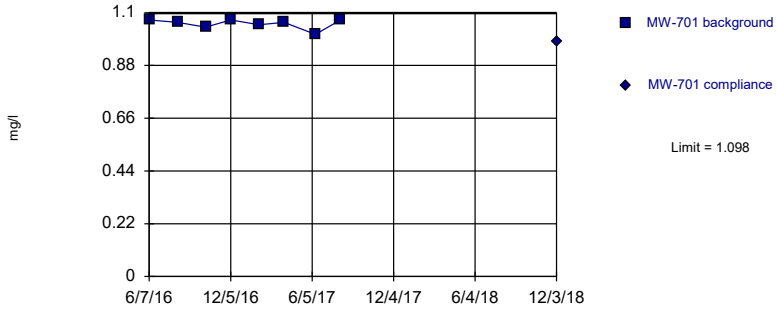
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.054, Std. Dev.=0.02066, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8132, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	0.729	
8/11/2016	0.739	
10/12/2016	0.73	
12/9/2016	0.786	
2/9/2017	0.974	
4/6/2017	1.04	
6/15/2017	1.02	
8/10/2017	0.965	
12/3/2018		1.13

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	1.18	
8/10/2016	1.23	
10/13/2016	1.18	
12/12/2016	1.18	
2/9/2017	1.22	
4/5/2017	1.19	
6/15/2017	1.19	
8/9/2017	1.21	
12/4/2018		1.18

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	1.61	
8/10/2016	1.71	
10/13/2016	1.64	
12/12/2016	1.6	
2/8/2017	1.65	
4/5/2017	1.61	
6/15/2017	1.64	
8/9/2017	1.65	
12/4/2018		1.62

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

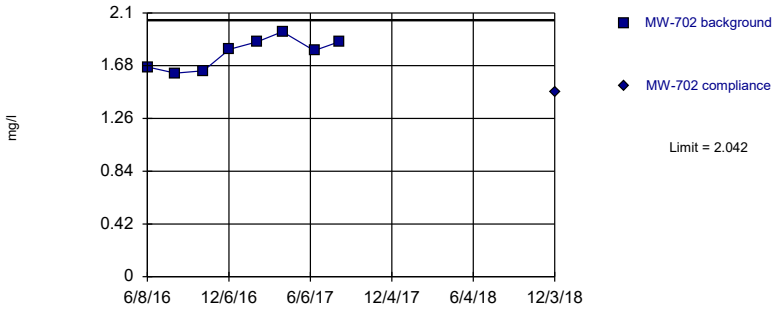
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701
6/7/2016	1.07	
8/9/2016	1.06	
10/11/2016	1.04	
12/6/2016	1.07	
2/7/2017	1.05	
4/4/2017	1.06	
6/13/2017	1.01	
8/8/2017	1.07	
12/3/2018		0.979

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.779, Std. Dev.=0.1217, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9144, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

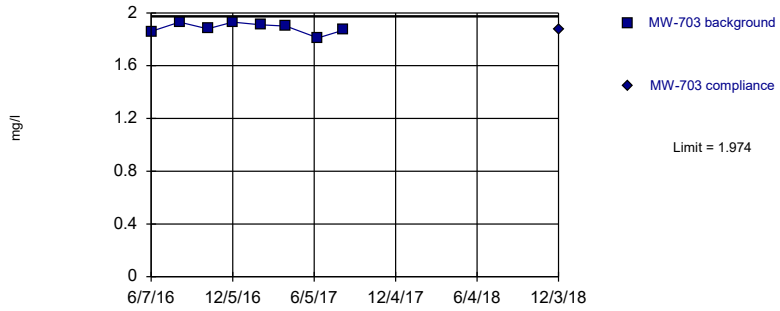
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.886, Std. Dev.=0.04033, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9292, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

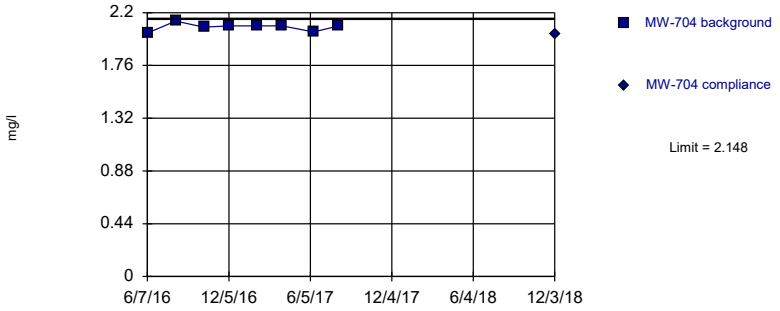
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.08, Std. Dev.=0.03162, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.871, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

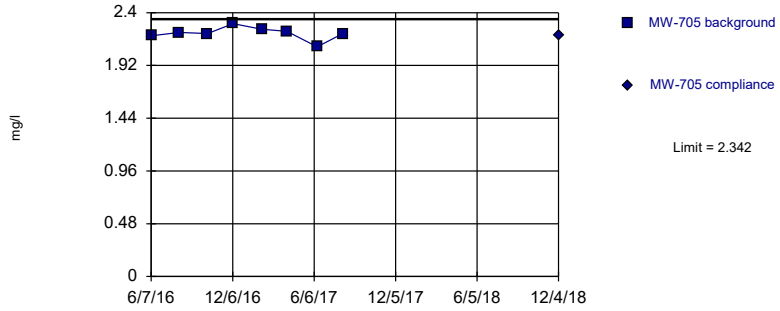
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.213, Std. Dev.=0.0597, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9033, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	1.67	
8/9/2016	1.62	
10/11/2016	1.64	
12/8/2016	1.81	
2/8/2017	1.87	
4/5/2017	1.95	
6/15/2017	1.8	
8/9/2017	1.87	
12/3/2018		1.47

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	1.86	
8/9/2016	1.93	
10/11/2016	1.88	
12/6/2016	1.93	
2/7/2017	1.91	
4/4/2017	1.9	
6/14/2017	1.81	
8/10/2017	1.87	
12/3/2018		1.87

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	2.03	
8/9/2016	2.13	
10/11/2016	2.08	
12/6/2016	2.09	
2/7/2017	2.09	
4/4/2017	2.09	
6/13/2017	2.04	
8/8/2017	2.09	
12/3/2018		2.02

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

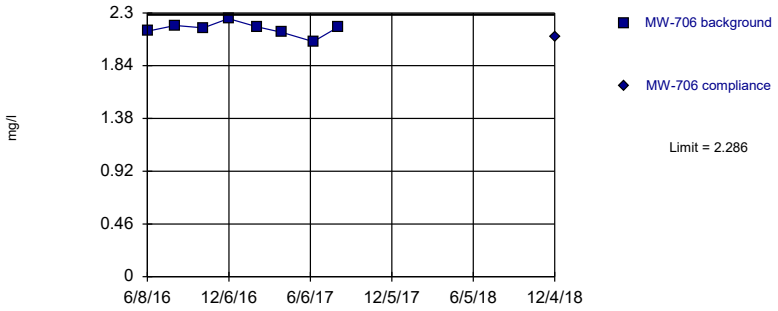
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	2.19	
8/9/2016	2.22	
10/11/2016	2.21	
12/7/2016	2.3	
2/9/2017	2.25	
4/6/2017	2.23	
6/13/2017	2.09	
8/9/2017	2.21	
12/4/2018		2.19

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.161, Std. Dev.=0.05768, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.935, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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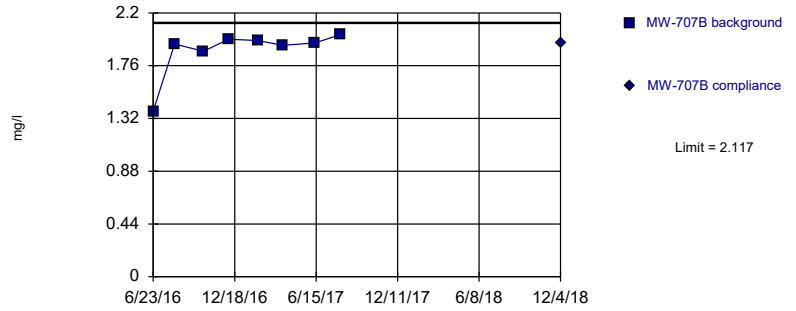
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^6 transformation): Mean=49.71, Std. Dev.=18.62, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7725, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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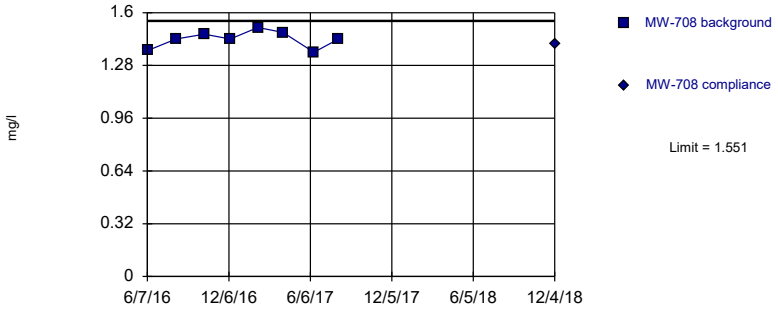
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.439, Std. Dev.=0.05167, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9157, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

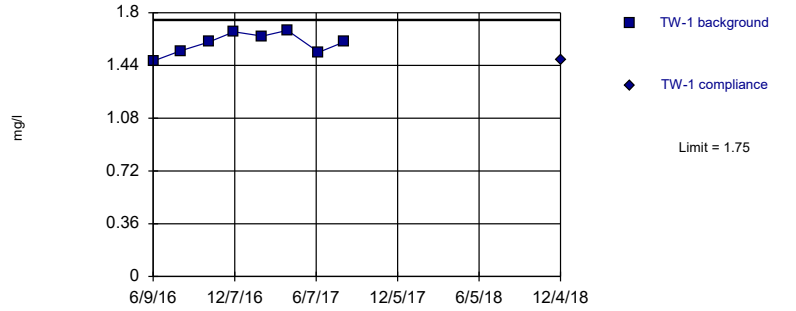
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.591, Std. Dev.=0.07338, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.946, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	2.14	
8/9/2016	2.19	
10/11/2016	2.17	
12/6/2016	2.25	
2/7/2017	2.18	
4/4/2017	2.13	
6/13/2017	2.05	
8/9/2017	2.18	
12/4/2018		2.09

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	1.38	
8/9/2016	1.94	
10/11/2016	1.88	
12/6/2016	1.98	
2/7/2017	1.97	
4/4/2017	1.93	
6/13/2017	1.95	
8/8/2017	2.02	
12/4/2018		1.95

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	1.37	
8/10/2016	1.44	
10/12/2016	1.47	
12/9/2016	1.44	
2/9/2017	1.51	
4/6/2017	1.48	
6/14/2017	1.36	
8/8/2017	1.44	
12/4/2018		1.41

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

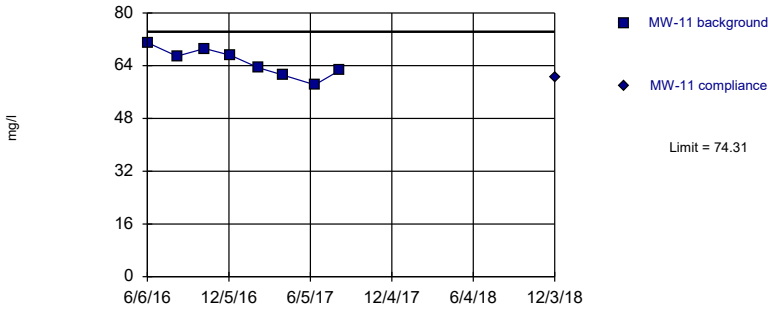
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	1.47	
8/9/2016	1.54	
10/11/2016	1.6	
12/6/2016	1.67	
2/7/2017	1.64	
4/4/2017	1.68	
6/13/2017	1.53	
8/8/2017	1.6	
12/4/2018		1.48

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=64.94, Std. Dev.=4.333, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9701, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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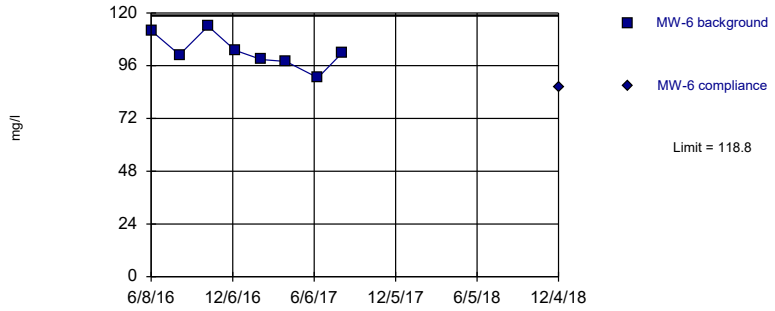
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=102.4, Std. Dev.=7.597, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9384, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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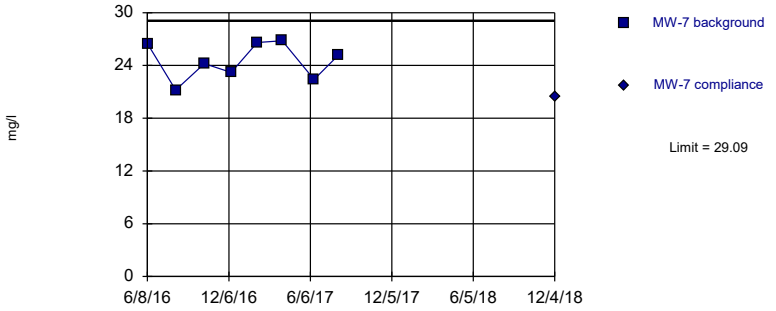
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=24.51, Std. Dev.=2.114, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9151, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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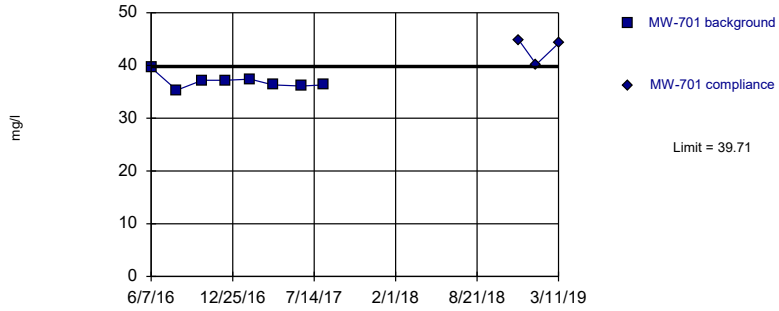
Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=36.93, Std. Dev.=1.289, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8917, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	71	
8/11/2016	66.9	
10/12/2016	69.2	
12/9/2016	67.1	
2/9/2017	63.4	
4/6/2017	61.1	
6/15/2017	58.2	
8/10/2017	62.6	
12/3/2018		60.4

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	112	
8/10/2016	101	
10/13/2016	114	
12/12/2016	103	
2/9/2017	98.8	
4/5/2017	97.9	
6/15/2017	90.5	
8/9/2017	102	
12/4/2018		86.3

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	26.5	
8/10/2016	21.2	
10/13/2016	24.2	
12/12/2016	23.2	
2/8/2017	26.6	
4/5/2017	26.8	
6/15/2017	22.4	
8/9/2017	25.2	
12/4/2018		20.5

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

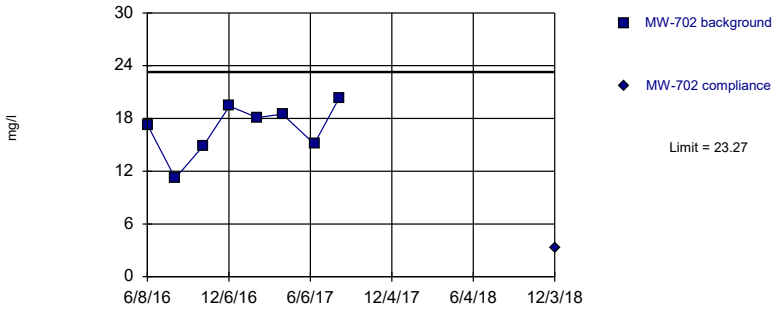
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701	
6/7/2016	39.6		
8/9/2016	35.3		
10/11/2016	37.2		
12/6/2016	37.2		
2/7/2017	37.4		
4/4/2017	36.3		
6/13/2017	36.1		
8/8/2017	36.3		
12/3/2018		44.8	
1/15/2019		40.2	1st verification re-sample
3/11/2019		44.2	2nd verification re-sample

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=16.85, Std. Dev.=2.968, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9287, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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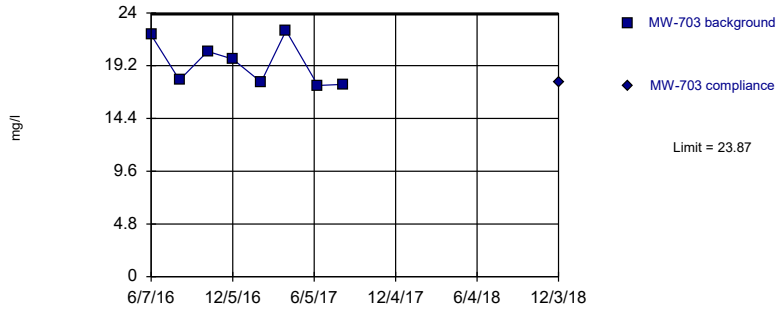
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=19.4, Std. Dev.=2.066, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8516, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

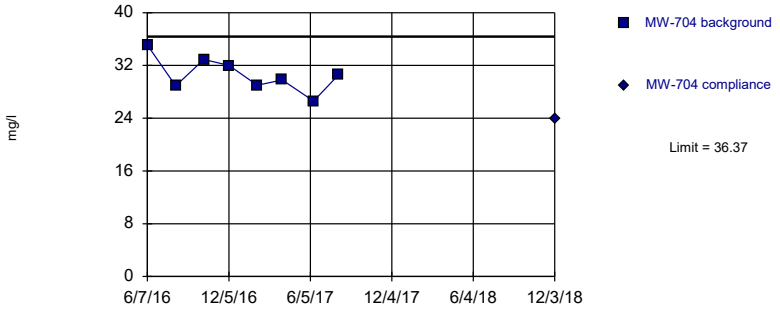
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.61, Std. Dev.=2.662, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9818, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

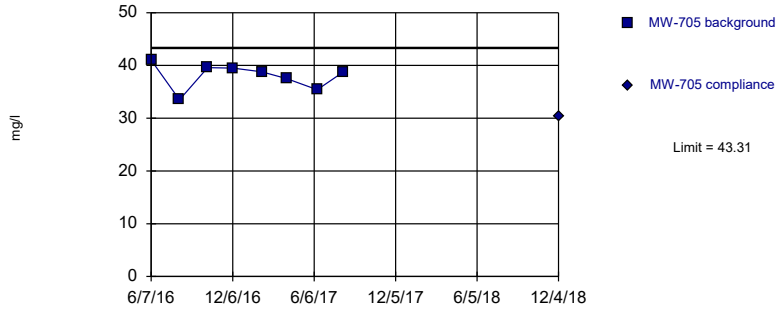
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=38, Std. Dev.=2.455, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9174, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	17.3	
8/9/2016	11.2	
10/11/2016	14.9	
12/8/2016	19.4	
2/8/2017	18.1	
4/5/2017	18.5	
6/15/2017	15.1	
8/9/2017	20.3	
12/3/2018		3.24

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	22	
8/9/2016	17.9	
10/11/2016	20.5	
12/6/2016	19.8	
2/7/2017	17.7	
4/4/2017	22.4	
6/14/2017	17.4	
8/10/2017	17.5	
12/3/2018		17.7

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	35.1	
8/9/2016	28.9	
10/11/2016	32.9	
12/6/2016	32	
2/7/2017	29	
4/4/2017	29.8	
6/13/2017	26.6	
8/8/2017	30.6	
12/3/2018		24

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

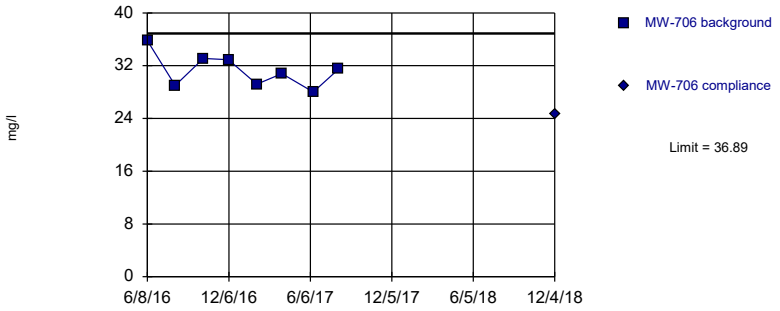
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	41	
8/9/2016	33.5	
10/11/2016	39.6	
12/7/2016	39.5	
2/9/2017	38.8	
4/6/2017	37.5	
6/13/2017	35.4	
8/9/2017	38.7	
12/4/2018		30.3

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=31.29, Std. Dev.=2.589, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9571, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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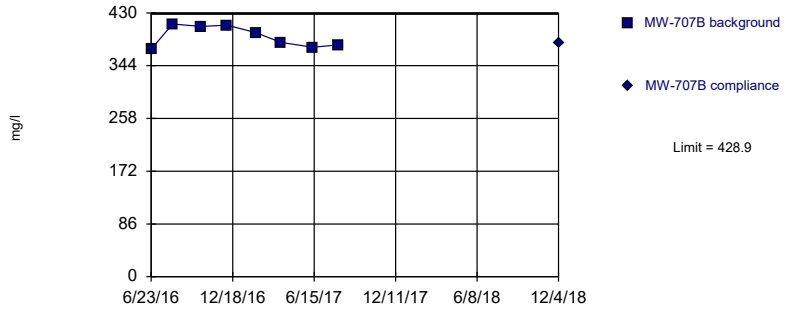
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=391.6, Std. Dev.=17.22, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8632, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

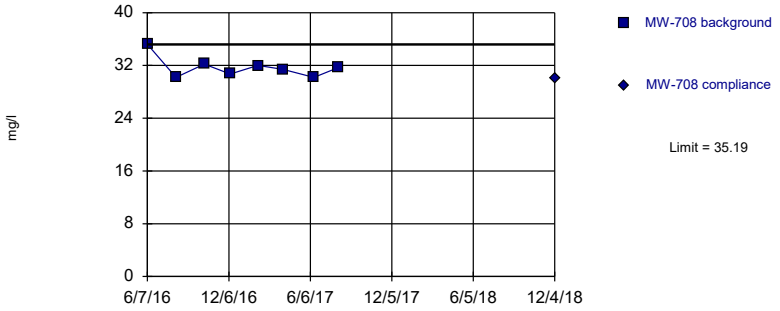
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=31.7, Std. Dev.=1.612, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8376, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

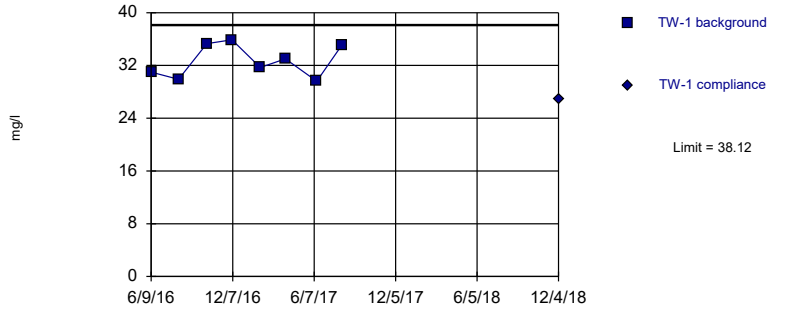
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=32.69, Std. Dev.=2.513, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9007, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	35.8	
8/9/2016	29	
10/11/2016	33.1	
12/6/2016	32.9	
2/7/2017	29.2	
4/4/2017	30.8	
6/13/2017	28	
8/9/2017	31.5	
12/4/2018		24.7

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	371	
8/9/2016	412	
10/11/2016	408	
12/6/2016	410	
2/7/2017	398	
4/4/2017	382	
6/13/2017	374	
8/8/2017	378	
12/4/2018		381

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	35.2	
8/10/2016	30.2	
10/12/2016	32.2	
12/9/2016	30.7	
2/9/2017	32	
4/6/2017	31.4	
6/14/2017	30.2	
8/8/2017	31.7	
12/4/2018		30.1

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

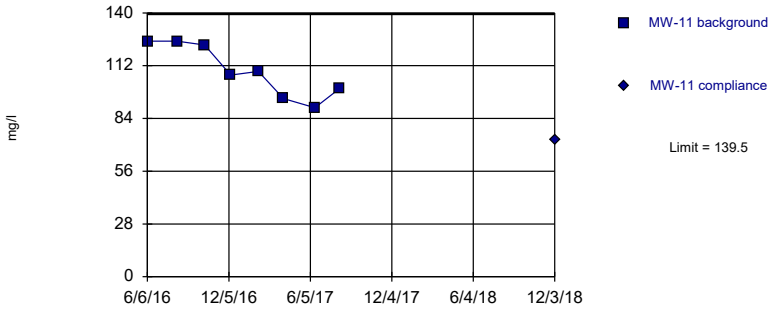
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	31	
8/9/2016	29.9	
10/11/2016	35.3	
12/6/2016	35.9	
2/7/2017	31.7	
4/4/2017	33	
6/13/2017	29.6	
8/8/2017	35.1	
12/4/2018		26.8

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.2, Std. Dev.=14.02, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8974, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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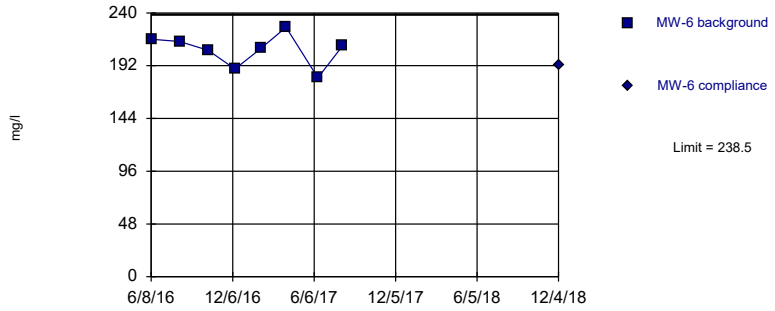
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=206.4, Std. Dev.=14.82, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9335, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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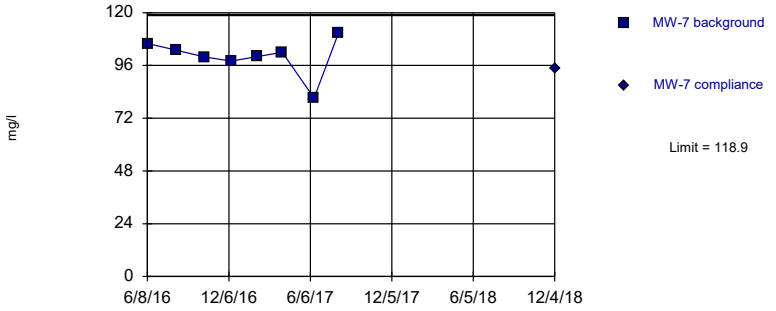
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=100.1, Std. Dev.=8.679, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8538, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

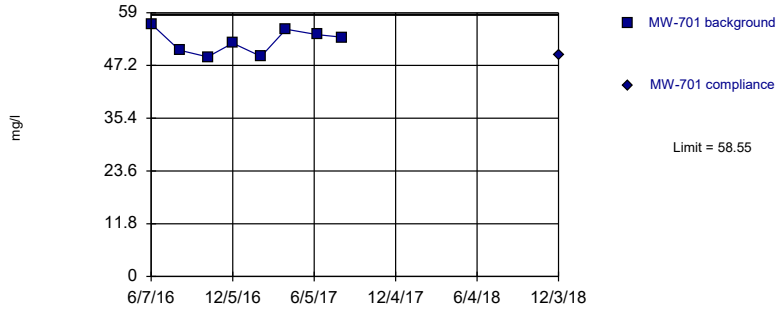
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=52.56, Std. Dev.=2.765, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9397, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	125	
8/11/2016	125	
10/12/2016	123	
12/9/2016	107	
2/9/2017	109	
4/6/2017	94.5	
6/15/2017	89.7	
8/10/2017	100	
12/3/2018		72.6

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	216	
8/10/2016	214	
10/13/2016	206	
12/12/2016	189	
2/9/2017	208	
4/5/2017	227	
6/15/2017	181	
8/9/2017	210	
12/4/2018		193

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	106	
8/10/2016	103	
10/13/2016	99.9	
12/12/2016	98	
2/8/2017	100	
4/5/2017	102	
6/15/2017	81.2	
8/9/2017	111	
12/4/2018		94.6

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

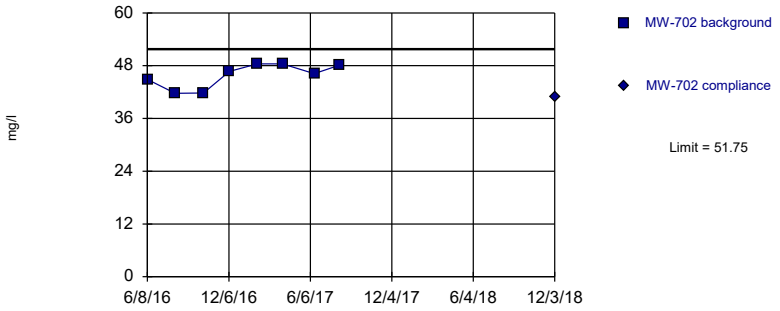
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701
6/7/2016	56.5	
8/9/2016	50.6	
10/11/2016	49.1	
12/6/2016	52.2	
2/7/2017	49.2	
4/4/2017	55.3	
6/13/2017	54.1	
8/8/2017	53.5	
12/3/2018		49.4

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=45.78, Std. Dev.=2.762, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.848, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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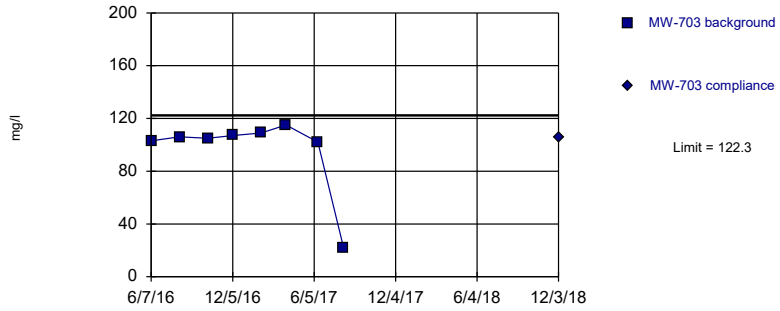
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^4 transformation): Mean=1.1e8, Std. Dev.=5.1e7, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7984, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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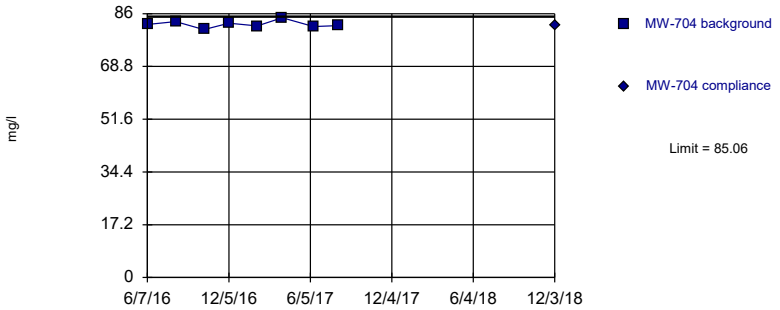
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=82.53, Std. Dev.=1.171, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9669, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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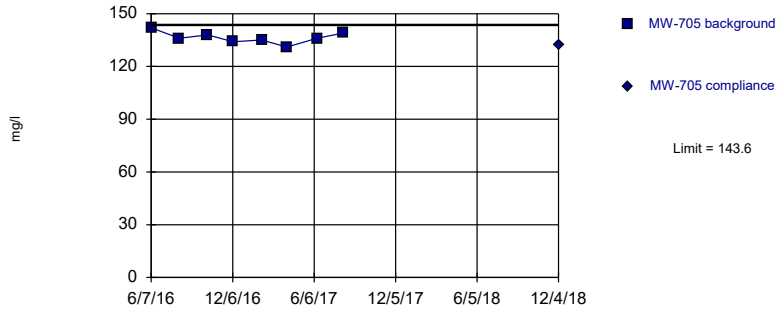
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=136.4, Std. Dev.=3.335, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9859, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	44.9	
8/9/2016	41.7	
10/11/2016	41.8	
12/8/2016	46.7	
2/8/2017	48.4	
4/5/2017	48.4	
6/15/2017	46.2	
8/9/2017	48.1	
12/3/2018		40.9

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	103	
8/9/2016	106	
10/11/2016	105	
12/6/2016	107	
2/7/2017	109	
4/4/2017	115	
6/14/2017	102	
8/10/2017	22.3	
12/3/2018		106

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	82.5	
8/9/2016	83.4	
10/11/2016	80.8	
12/6/2016	82.9	
2/7/2017	82	
4/4/2017	84.7	
6/13/2017	81.8	
8/8/2017	82.1	
12/3/2018		82.2

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

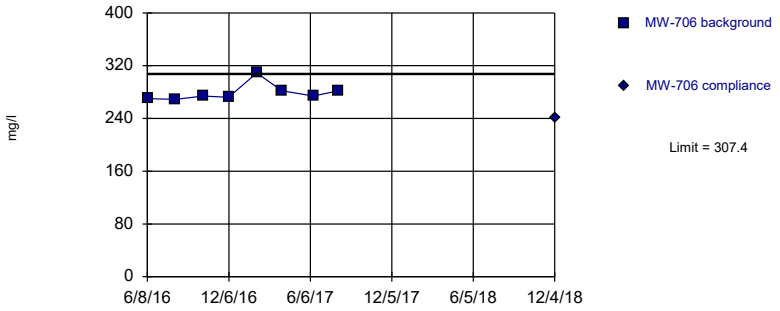
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	142	
8/9/2016	136	
10/11/2016	138	
12/7/2016	134	
2/9/2017	135	
4/6/2017	131	
6/13/2017	136	
8/9/2017	139	
12/4/2018		132

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=5.63, Std. Dev.=0.04529, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7525, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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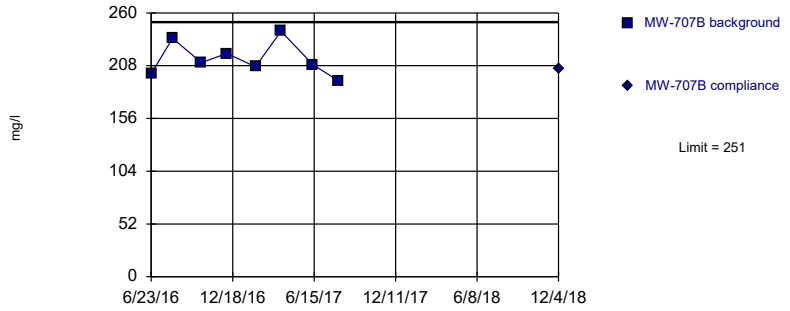
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=214.6, Std. Dev.=16.81, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9395, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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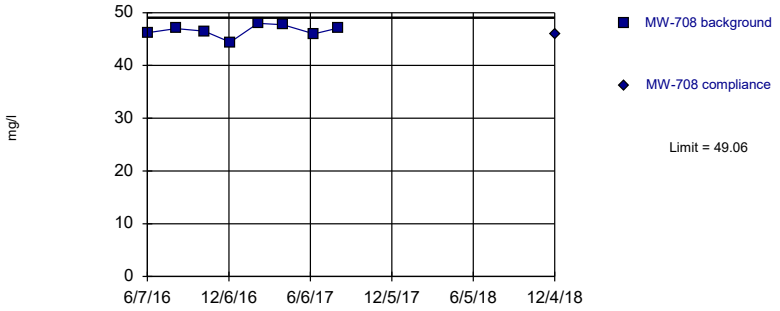
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=46.61, Std. Dev.=1.131, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9408, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

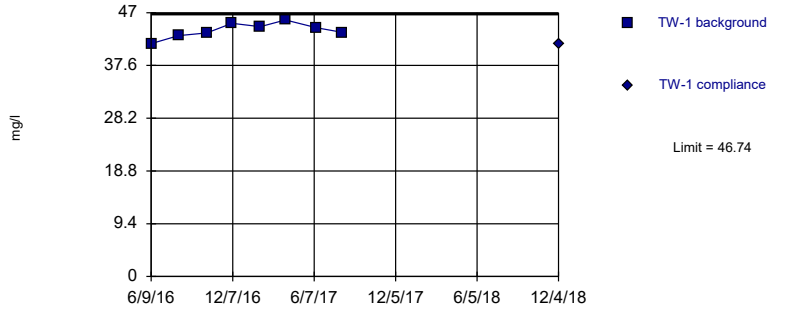
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=43.86, Std. Dev.=1.329, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9768, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	270	
8/9/2016	269	
10/11/2016	274	
12/6/2016	272	
2/7/2017	309	
4/4/2017	282	
6/13/2017	274	
8/9/2017	282	
12/4/2018		241

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	200	
8/9/2016	235	
10/11/2016	211	
12/6/2016	220	
2/7/2017	207	
4/4/2017	242	
6/13/2017	209	
8/8/2017	193	
12/4/2018		205

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	46.2	
8/10/2016	47	
10/12/2016	46.5	
12/9/2016	44.4	
2/9/2017	48	
4/6/2017	47.7	
6/14/2017	46	
8/8/2017	47.1	
12/4/2018		46

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

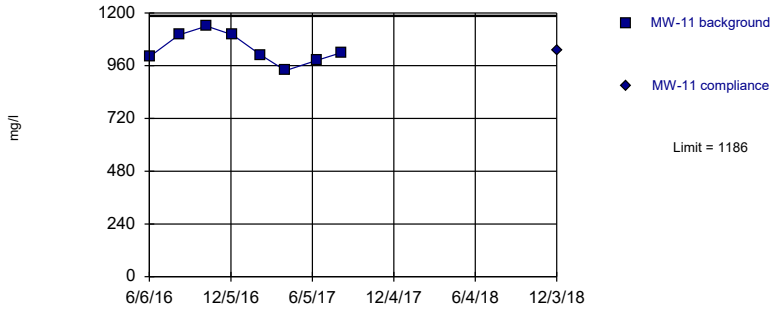
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	41.5	
8/9/2016	42.9	
10/11/2016	43.4	
12/6/2016	45.1	
2/7/2017	44.5	
4/4/2017	45.7	
6/13/2017	44.3	
8/8/2017	43.5	
12/4/2018		41.4

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1037, Std. Dev.=69.22, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9334, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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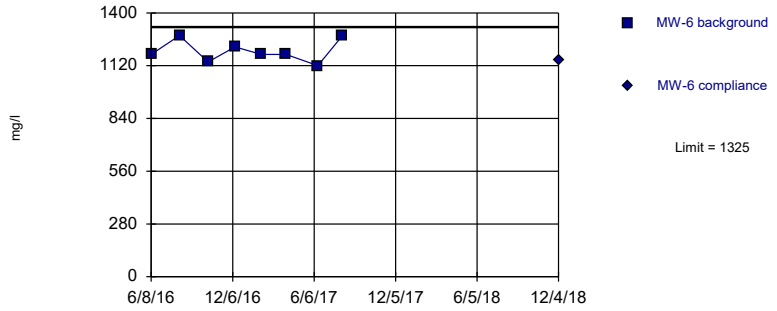
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1198, Std. Dev.=58.98, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9008, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

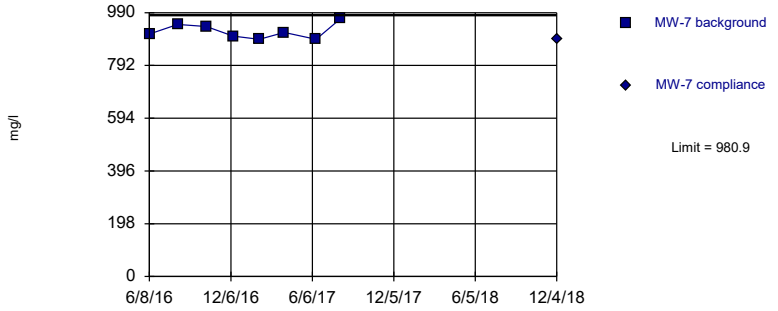
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=920, Std. Dev.=28.14, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.923, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

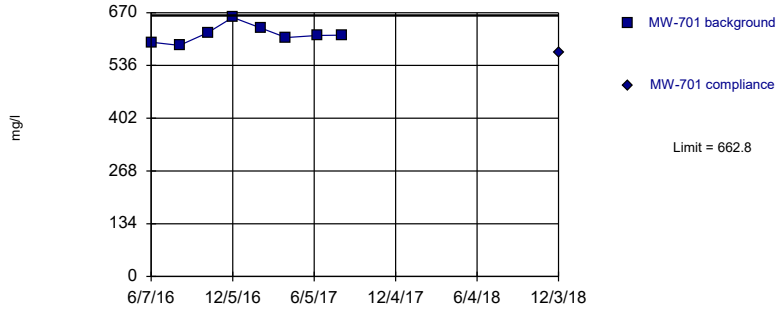
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=615.3, Std. Dev.=21.98, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9443, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	1000	
8/11/2016	1100	
10/12/2016	1140	
12/9/2016	1100	
2/9/2017	1010	
4/6/2017	938	
6/15/2017	984	
8/10/2017	1020	
12/3/2018		1030

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	1180	
8/10/2016	1280	
10/13/2016	1140	
12/12/2016	1220	
2/9/2017	1180	
4/5/2017	1180	
6/15/2017	1120	
8/9/2017	1280	
12/4/2018		1150

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	910	
8/10/2016	946	
10/13/2016	938	
12/12/2016	902	
2/8/2017	890	
4/5/2017	916	
6/15/2017	890	
8/9/2017	968	
12/4/2018		890

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

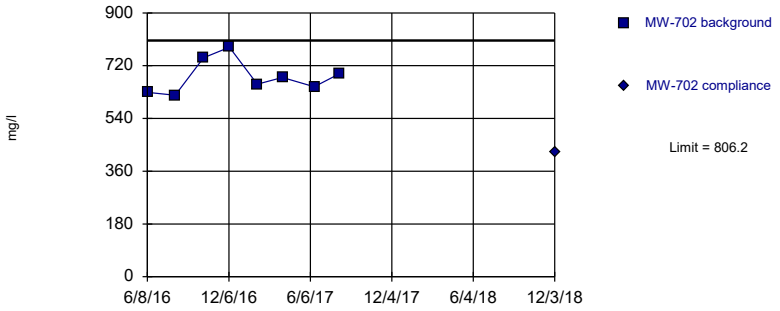
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701
6/7/2016	595	
8/9/2016	587	
10/11/2016	619	
12/6/2016	658	
2/7/2017	631	
4/4/2017	607	
6/13/2017	612	
8/8/2017	613	
12/3/2018		569

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=681.9, Std. Dev.=57.43, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9175, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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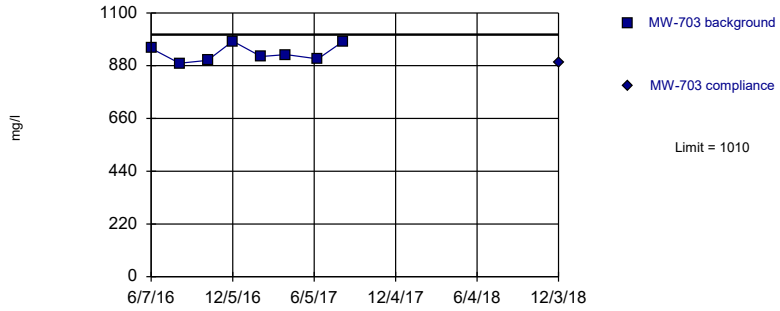
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=932.5, Std. Dev.=35.6, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8952, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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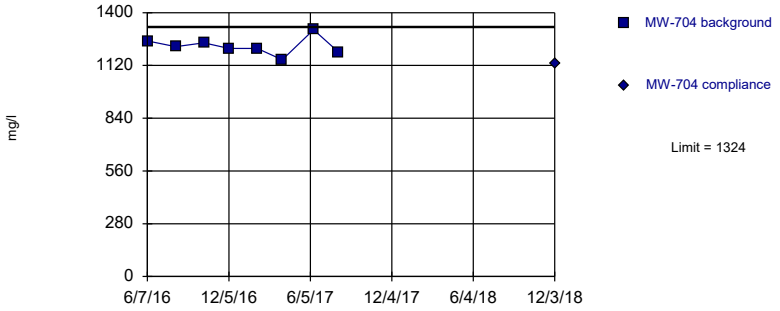
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1223, Std. Dev.=46.83, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9634, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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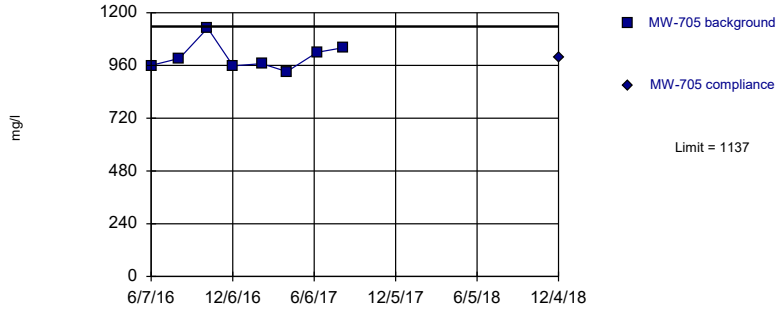
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1000, Std. Dev.=63.22, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8876, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	629	
8/9/2016	619	
10/11/2016	747	
12/8/2016	783	
2/8/2017	657	
4/5/2017	680	
6/15/2017	648	
8/9/2017	692	
12/3/2018		423

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	952	
8/9/2016	890	
10/11/2016	902	
12/6/2016	982	
2/7/2017	918	
4/4/2017	926	
6/14/2017	908	
8/10/2017	982	
12/3/2018		892

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	1250	
8/9/2016	1220	
10/11/2016	1240	
12/6/2016	1210	
2/7/2017	1210	
4/4/2017	1150	
6/13/2017	1310	
8/8/2017	1190	
12/3/2018		1130

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

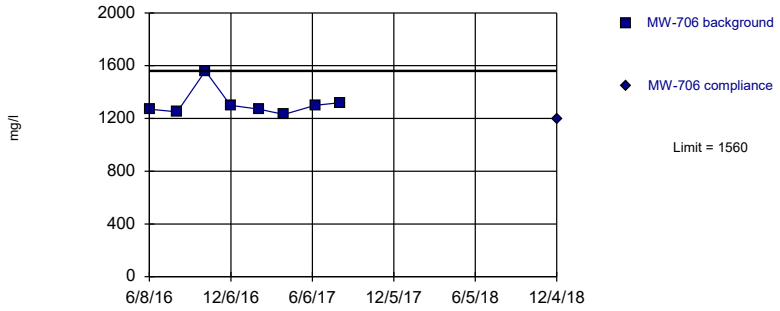
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	960	
8/9/2016	992	
10/11/2016	1130	
12/7/2016	958	
2/9/2017	968	
4/6/2017	932	
6/13/2017	1020	
8/9/2017	1040	
12/4/2018		994

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 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

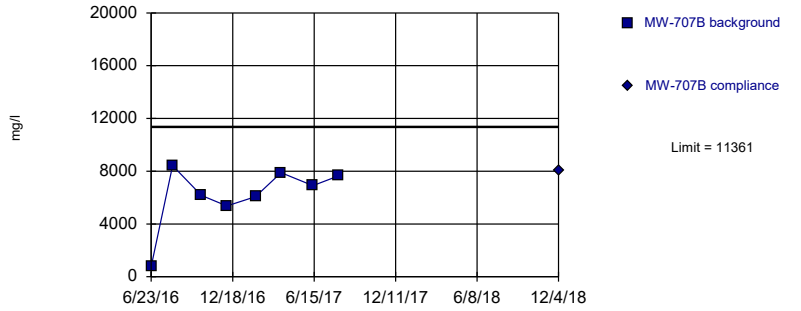
Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:34 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6154, Std. Dev.=2406, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8136, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

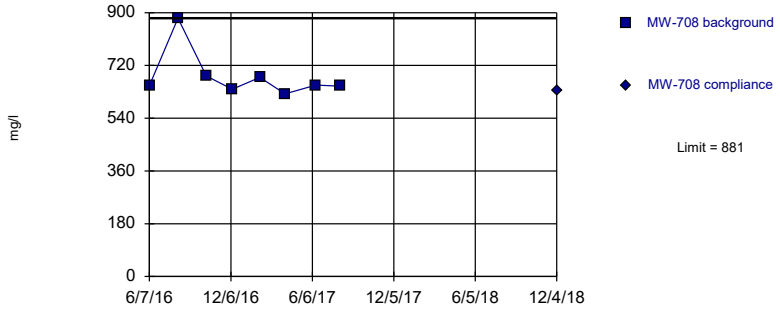
Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

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 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

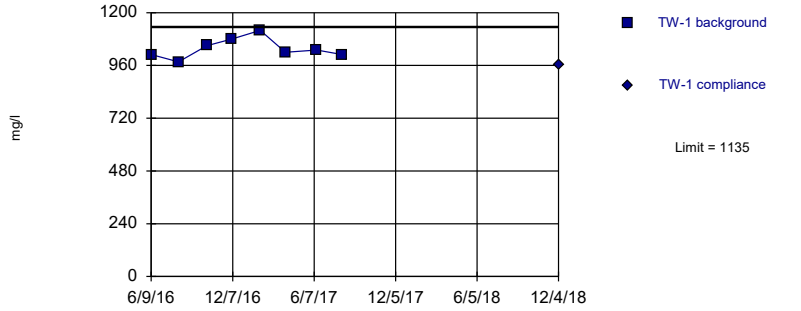
Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1037, Std. Dev.=45.39, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9463, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	1270	
8/9/2016	1250	
10/11/2016	1560	
12/6/2016	1300	
2/7/2017	1270	
4/4/2017	1230	
6/13/2017	1300	
8/9/2017	1320	
12/4/2018		1200

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	770	
8/9/2016	8420	
10/11/2016	6160	
12/6/2016	5370	
2/7/2017	6070	
4/4/2017	7890	
6/13/2017	6910	
8/8/2017	7640	
12/4/2018		8080

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	651	
8/10/2016	881	
10/12/2016	684	
12/9/2016	639	
2/9/2017	679	
4/6/2017	623	
6/14/2017	653	
8/8/2017	649	
12/4/2018		633

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

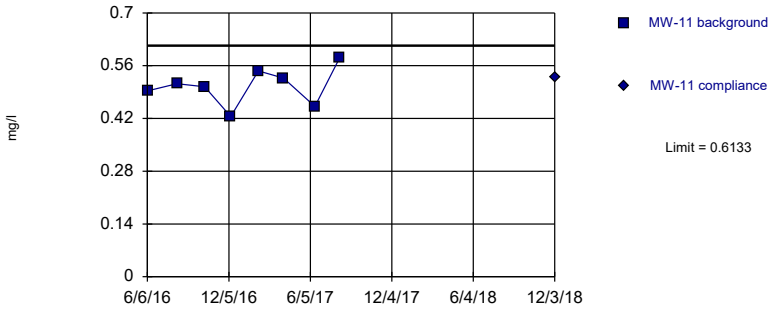
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	1010	
8/9/2016	976	
10/11/2016	1050	
12/6/2016	1080	
2/7/2017	1120	
4/4/2017	1020	
6/13/2017	1030	
8/8/2017	1010	
12/4/2018		962

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5051, Std. Dev.=0.05, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9828, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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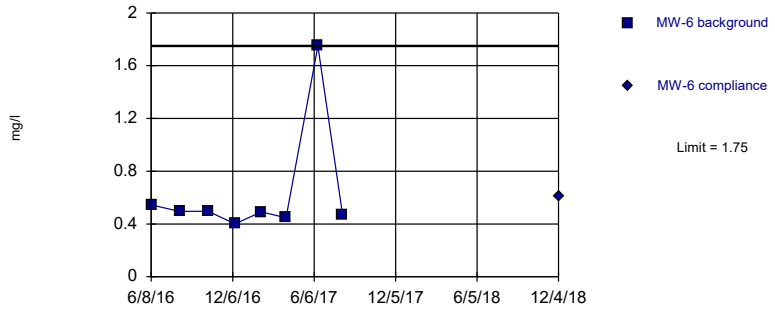
Within Limit

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 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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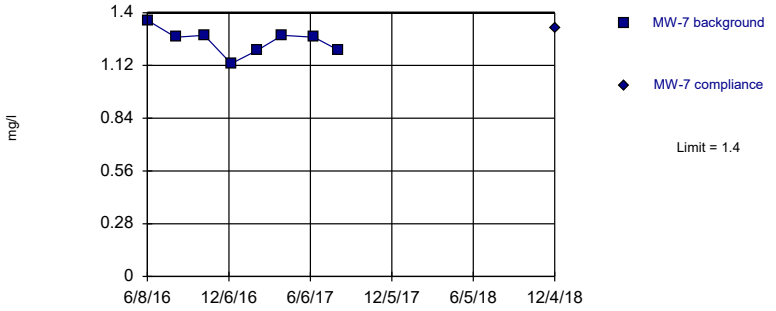
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.249, Std. Dev.=0.06978, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9342, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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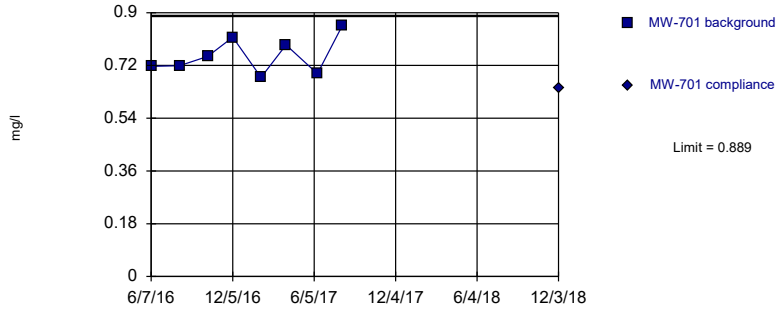
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.7526, Std. Dev.=0.06303, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9378, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	0.493	
8/11/2016	0.512	
10/12/2016	0.504	
12/9/2016	0.425	
2/9/2017	0.546	
4/6/2017	0.527	
6/15/2017	0.452	
8/10/2017	0.582	
12/3/2018		0.529

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	0.545	
8/10/2016	0.495	
10/13/2016	0.497	
12/12/2016	0.401	
2/9/2017	0.492	
4/5/2017	0.447	
6/15/2017	1.75	
8/9/2017	0.473	
12/4/2018		0.612

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	1.36	
8/10/2016	1.27	
10/13/2016	1.28	
12/12/2016	1.13	
2/8/2017	1.2	
4/5/2017	1.28	
6/15/2017	1.27	
8/9/2017	1.2	
12/4/2018		1.32

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

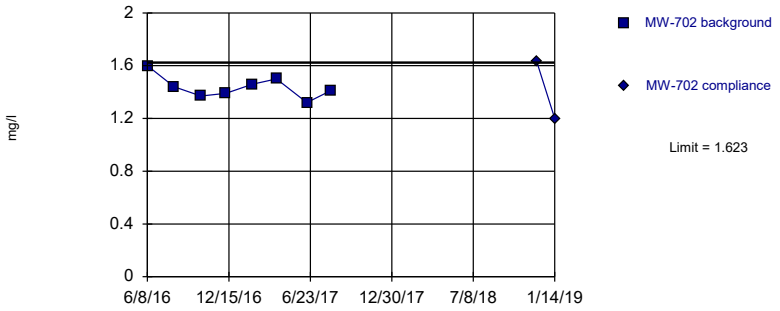
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701
6/7/2016	0.717	
8/9/2016	0.719	
10/11/2016	0.751	
12/6/2016	0.816	
2/7/2017	0.679	
4/4/2017	0.79	
6/13/2017	0.692	
8/8/2017	0.857	
12/3/2018		0.642

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.436, Std. Dev.=0.08634, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9655, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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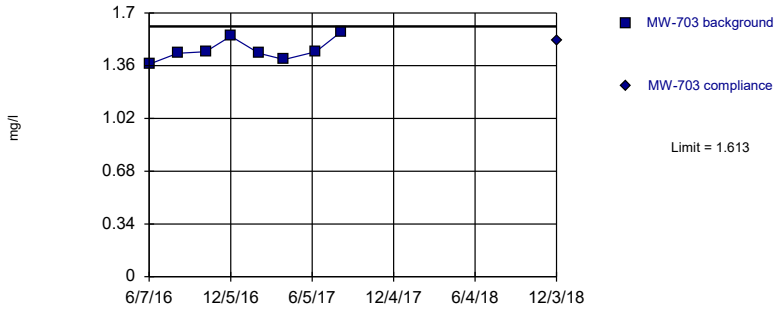
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.46, Std. Dev.=0.07091, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8886, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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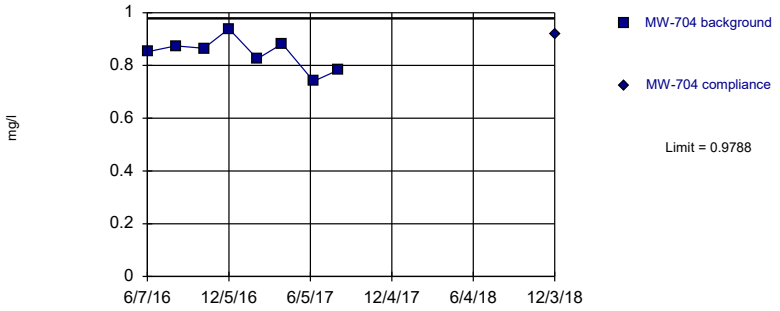
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.845, Std. Dev.=0.06183, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9688, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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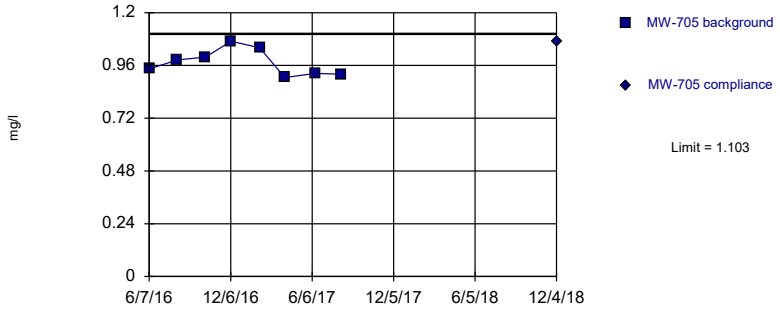
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.9733, Std. Dev.=0.06017, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.924, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702	
6/8/2016	1.6		
8/9/2016	1.44		
10/11/2016	1.37		
12/8/2016	1.39		
2/8/2017	1.46		
4/5/2017	1.5		
6/15/2017	1.32		
8/9/2017	1.41		
12/3/2018		1.63	
1/14/2019		1.2	1st verification re-sample

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	1.37	
8/9/2016	1.44	
10/11/2016	1.45	
12/6/2016	1.55	
2/7/2017	1.44	
4/4/2017	1.4	
6/14/2017	1.45	
8/10/2017	1.58	
12/3/2018		1.52

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	0.852	
8/9/2016	0.874	
10/11/2016	0.865	
12/6/2016	0.939	
2/7/2017	0.825	
4/4/2017	0.882	
6/13/2017	0.74	
8/8/2017	0.783	
12/3/2018		0.918

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

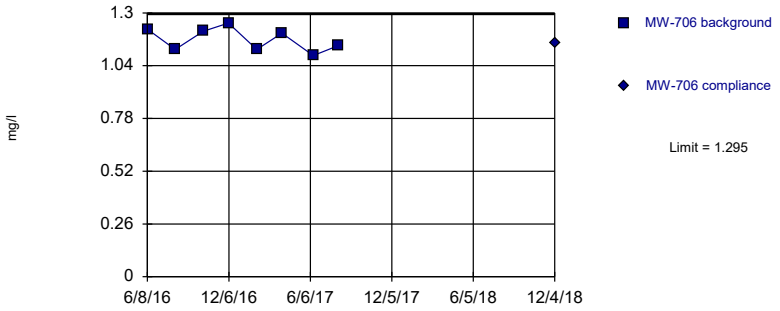
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	0.944	
8/9/2016	0.985	
10/11/2016	0.998	
12/7/2016	1.07	
2/9/2017	1.04	
4/6/2017	0.905	
6/13/2017	0.924	
8/9/2017	0.92	
12/4/2018		1.07

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.169, Std. Dev.=0.05817, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9188, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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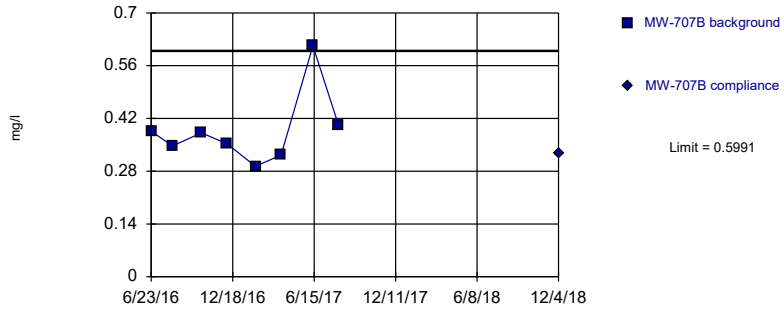
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3874, Std. Dev.=0.09784, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7695, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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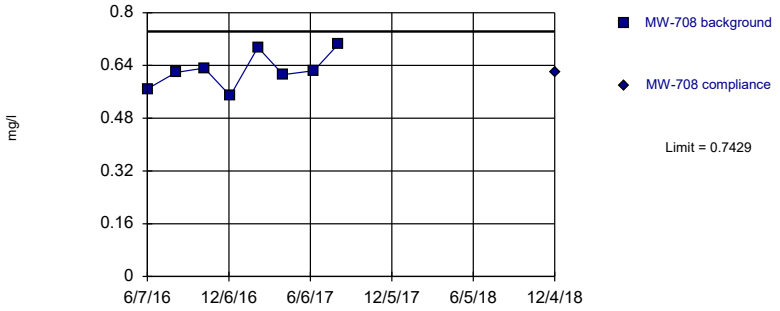
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.6255, Std. Dev.=0.05427, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9324, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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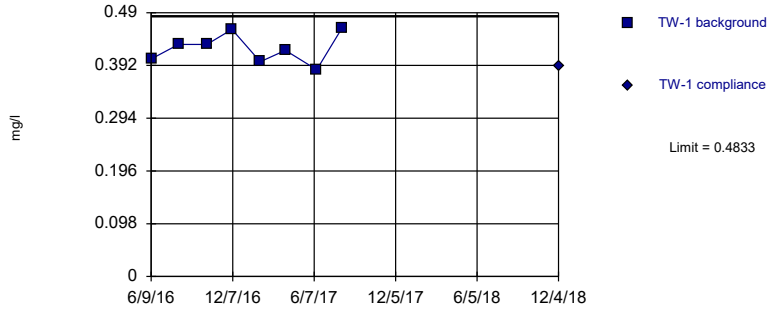
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4236, Std. Dev.=0.0276, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.943, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	1.22	
8/9/2016	1.12	
10/11/2016	1.21	
12/6/2016	1.25	
2/7/2017	1.12	
4/4/2017	1.2	
6/13/2017	1.09	
8/9/2017	1.14	
12/4/2018		1.15

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	0.386	
8/9/2016	0.347	
10/11/2016	0.382	
12/6/2016	0.353	
2/7/2017	0.293	
4/4/2017	0.323	
6/13/2017	0.613	
8/8/2017	0.402	
12/4/2018		0.328

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	0.569	
8/10/2016	0.619	
10/12/2016	0.632	
12/9/2016	0.548	
2/9/2017	0.695	
4/6/2017	0.612	
6/14/2017	0.624	
8/8/2017	0.705	
12/4/2018		0.618

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

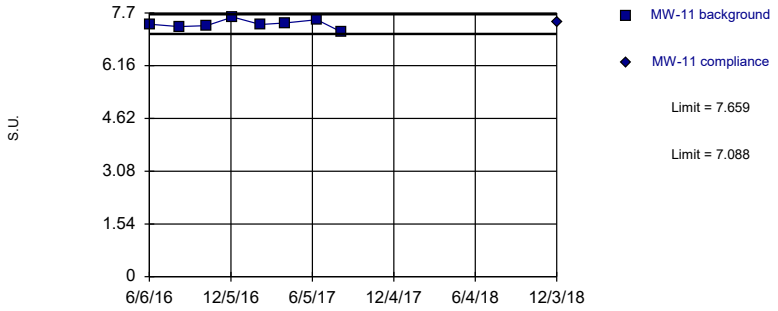
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	0.404	
8/9/2016	0.431	
10/11/2016	0.431	
12/6/2016	0.459	
2/7/2017	0.399	
4/4/2017	0.42	
6/13/2017	0.384	
8/8/2017	0.461	
12/4/2018		0.39

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.374, Std. Dev.=0.132, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9705, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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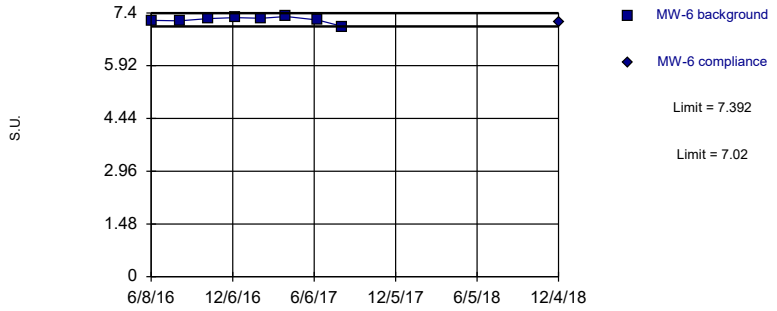
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.206, Std. Dev.=0.08585, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.86, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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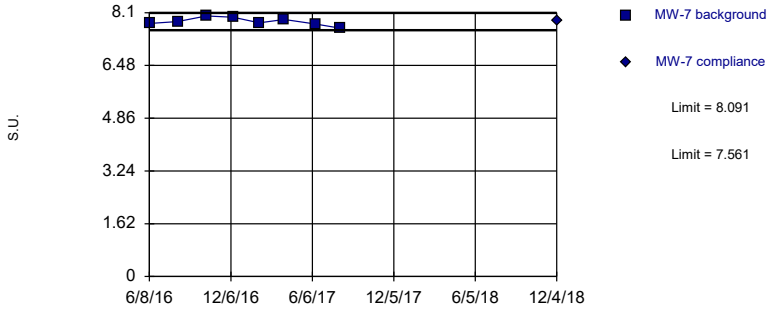
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.826, Std. Dev.=0.1225, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9728, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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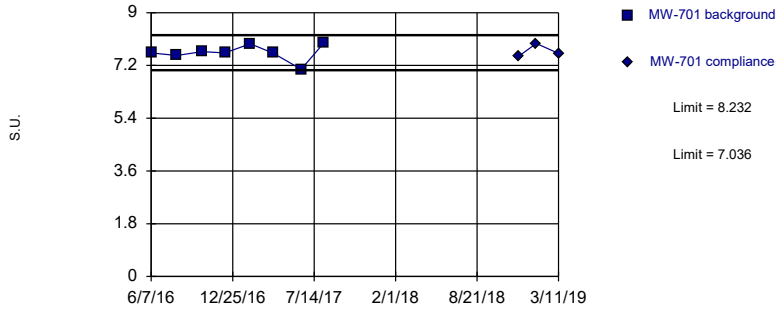
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.634, Std. Dev.=0.2765, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8642, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	7.37	
8/11/2016	7.3	
10/12/2016	7.33	
12/9/2016	7.58	
2/9/2017	7.36	
4/6/2017	7.41	
6/15/2017	7.5	
8/10/2017	7.14	
12/3/2018		7.42

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	7.19	
8/10/2016	7.18	
10/13/2016	7.24	
12/12/2016	7.27	
2/9/2017	7.25	
4/5/2017	7.3	
6/15/2017	7.2	
8/9/2017	7.02	
12/4/2018		7.13

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	7.77	
8/10/2016	7.83	
10/13/2016	8	
12/12/2016	7.96	
2/8/2017	7.79	
4/5/2017	7.89	
6/15/2017	7.75	
8/9/2017	7.62	
12/4/2018		7.85

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

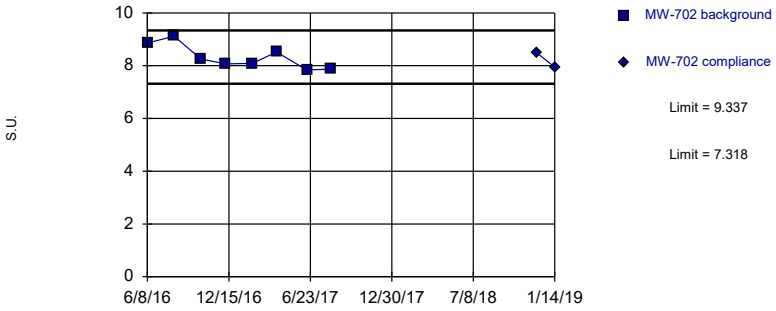
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701	
6/7/2016	7.63		
8/9/2016	7.54		
10/11/2016	7.67		
12/6/2016	7.63		
2/7/2017	7.94		
4/4/2017	7.62		
6/13/2017	7.07		
8/8/2017	7.97		
12/3/2018		7.52	
1/15/2019		7.95	extra sample
3/11/2019		7.61	extra sample

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=8.328, Std. Dev.=0.4667, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9062, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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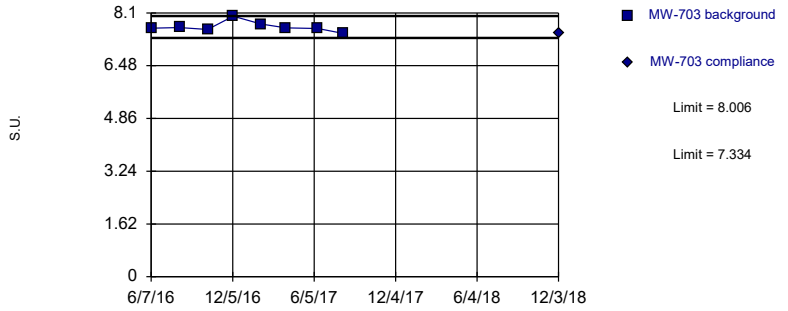
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.67, Std. Dev.=0.1553, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.857, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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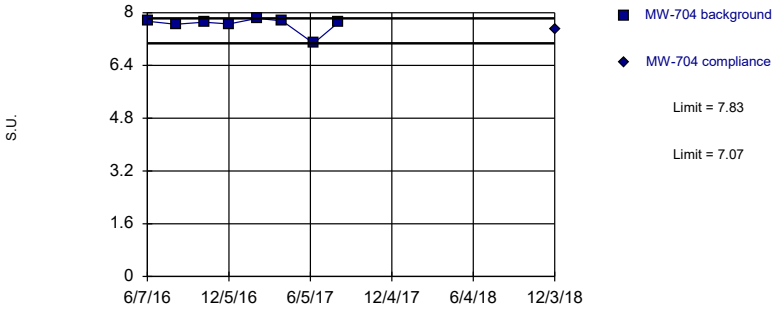
Within Limits

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 8 background values. Well-constituent pair annual alpha = 0.02358. Individual comparison alpha = 0.01182 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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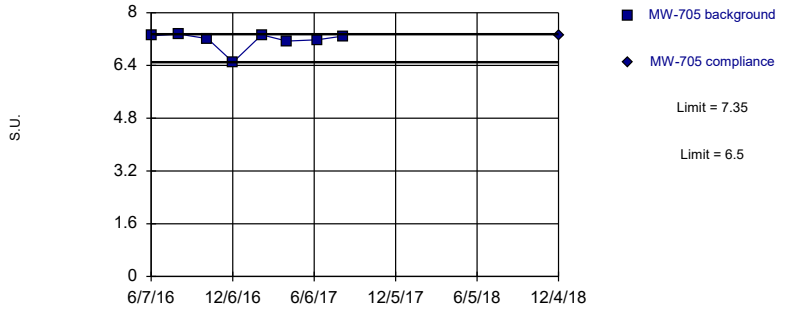
Within Limits

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 8 background values. Well-constituent pair annual alpha = 0.02358. Individual comparison alpha = 0.01182 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702	
6/8/2016	8.86		
8/9/2016	9.12		
10/11/2016	8.25		
12/8/2016	8.07		
2/8/2017	8.09		
4/5/2017	8.52		
6/15/2017	7.84		
8/9/2017	7.87		
12/3/2018		8.49	
1/14/2019		7.95	extra sample

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	7.63	
8/9/2016	7.65	
10/11/2016	7.59	
12/7/2016	8	
2/7/2017	7.76	
4/4/2017	7.64	
6/14/2017	7.62	
8/10/2017	7.47	
12/3/2018		7.46

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	7.74	
8/9/2016	7.65	
10/11/2016	7.71	
12/6/2016	7.66	
2/7/2017	7.83	
4/4/2017	7.75	
6/13/2017	7.07	
8/8/2017	7.71	
12/3/2018		7.49

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

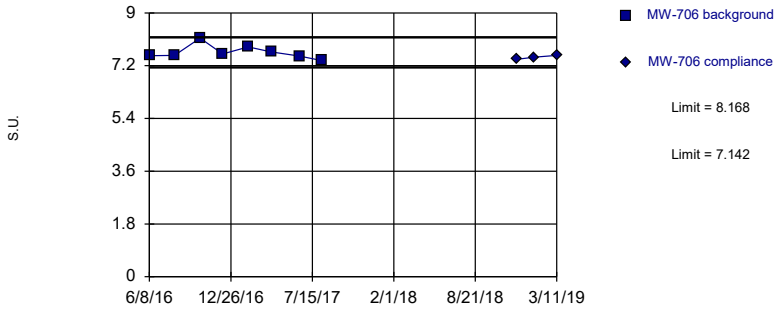
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	7.3	
8/9/2016	7.35	
10/11/2016	7.21	
12/7/2016	6.5	
2/9/2017	7.33	
4/6/2017	7.14	
6/13/2017	7.18	
8/9/2017	7.29	
12/4/2018		7.32

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.655, Std. Dev.=0.2372, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8826, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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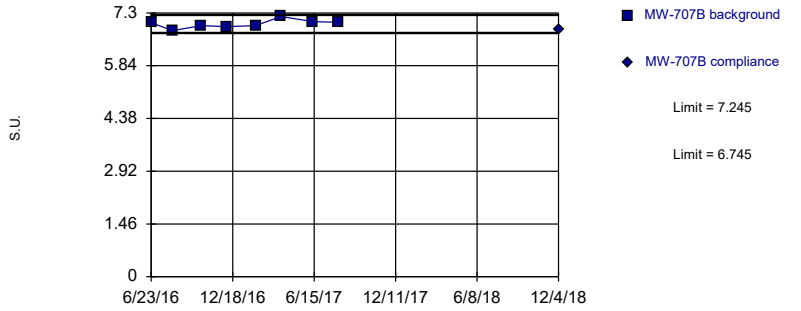
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.995, Std. Dev.=0.1155, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9668, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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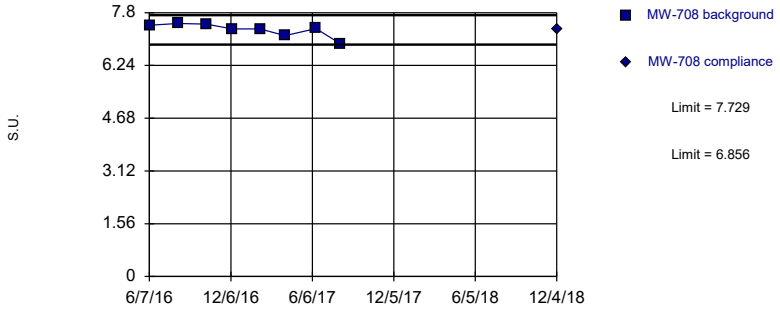
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.293, Std. Dev.=0.2018, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8441, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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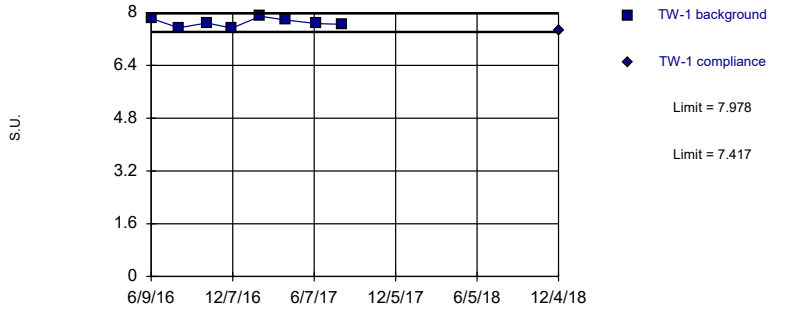
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.698, Std. Dev.=0.1295, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9473, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706	
6/8/2016	7.54		
8/9/2016	7.55		
10/11/2016	8.14		
12/6/2016	7.6		
2/7/2017	7.84		
4/4/2017	7.67		
6/13/2017	7.53		
8/9/2017	7.37		
12/4/2018		7.42	
1/15/2019		7.49	extra sample
3/11/2019		7.55	extra sample

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	7.03	
8/9/2016	6.81	
10/11/2016	6.95	
12/6/2016	6.92	
2/7/2017	6.95	
4/4/2017	7.2	
6/13/2017	7.06	
8/8/2017	7.04	
12/4/2018		6.84

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	7.43	
8/10/2016	7.48	
10/12/2016	7.46	
12/9/2016	7.32	
2/9/2017	7.32	
4/6/2017	7.12	
6/14/2017	7.33	
8/8/2017	6.88	
12/4/2018		7.31

Prediction Limit

Constituent: pH (S.U.) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

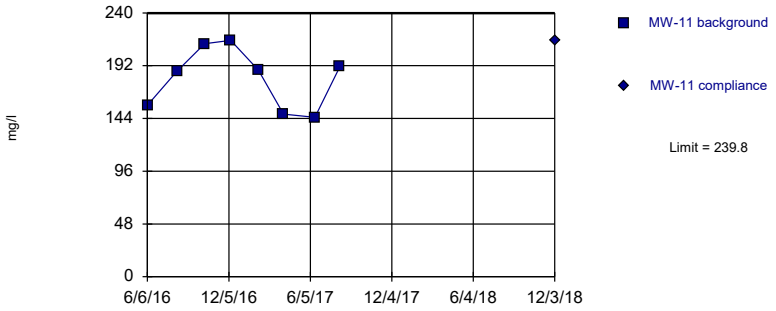
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	7.83	
8/9/2016	7.54	
10/11/2016	7.69	
12/6/2016	7.53	
2/7/2017	7.89	
4/4/2017	7.78	
6/13/2017	7.67	
8/8/2017	7.65	
12/4/2018		7.45

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=180.3, Std. Dev.=27.54, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8911, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

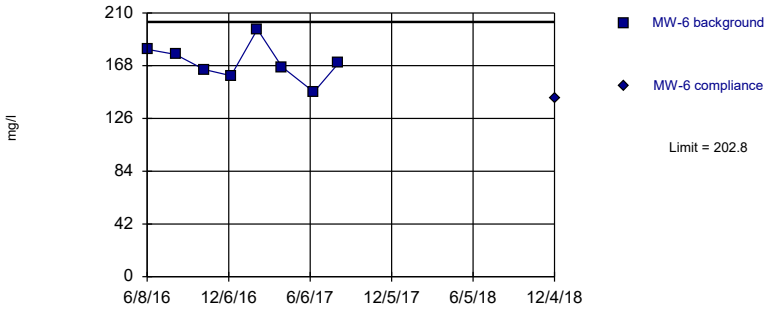
Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=170.5, Std. Dev.=14.93, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9832, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

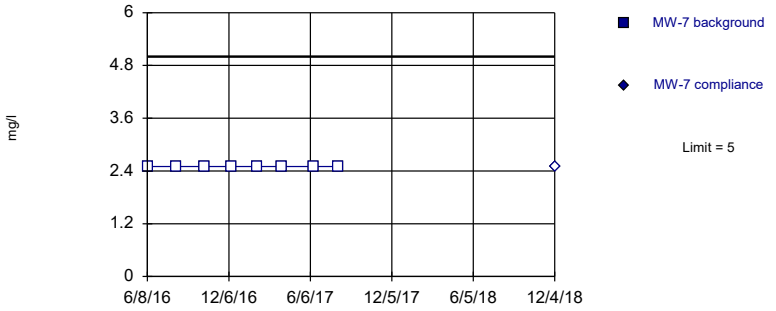
LaCygne Client: SCS Engineers Data: LaC GW Data

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%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

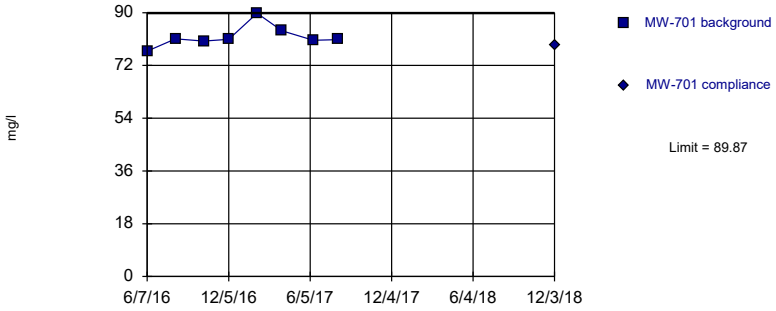
Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=81.78, Std. Dev.=3.742, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8279, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	156	
8/11/2016	187	
10/12/2016	212	
12/9/2016	215	
2/9/2017	188	
4/6/2017	148	
6/15/2017	145	
8/10/2017	191	
12/3/2018		215

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	181	
8/10/2016	177	
10/13/2016	165	
12/12/2016	160	
2/9/2017	197	
4/5/2017	167	
6/15/2017	147	
8/9/2017	170	
12/4/2018		142

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	<5	
8/10/2016	<5	
10/13/2016	<5	
12/12/2016	<5	
2/8/2017	<5	
4/5/2017	<5	
6/15/2017	<5	
8/9/2017	<5	
12/4/2018		<5

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

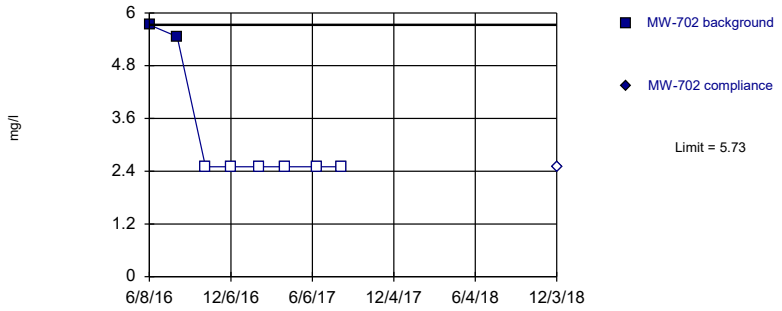
	MW-701	MW-701
6/7/2016	76.9	
8/9/2016	81.1	
10/11/2016	80.3	
12/6/2016	80.9	
2/7/2017	89.8	
4/4/2017	83.8	
6/13/2017	80.6	
8/8/2017	80.8	
12/3/2018		79.1

Sanitas™ v.9.6.12 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 8 background values. 75% NDs. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

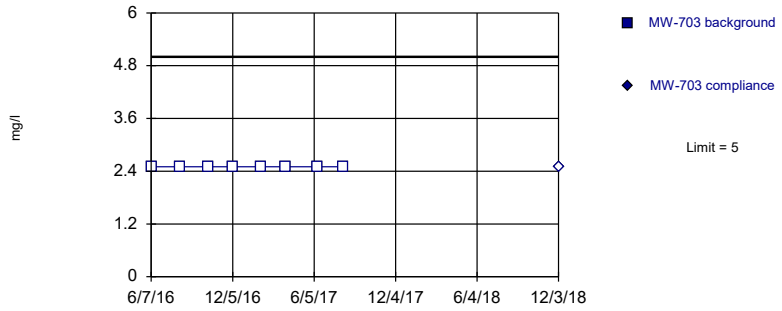
Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 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 = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

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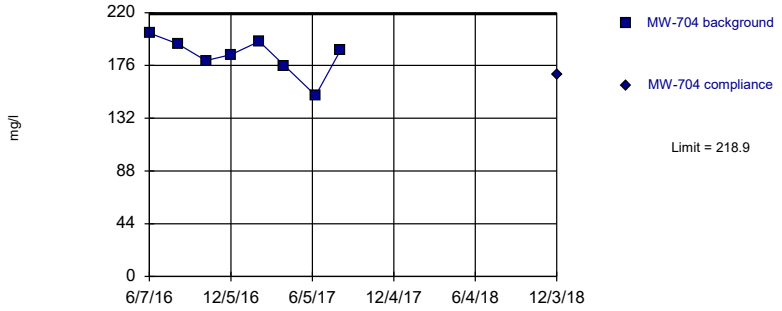
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=184.3, Std. Dev.=16.03, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9098, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

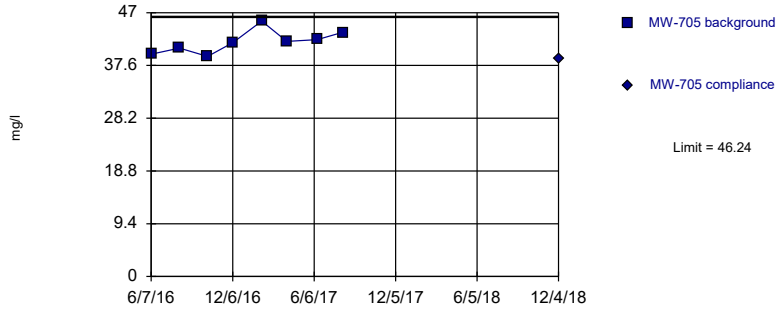
Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.12 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=41.79, Std. Dev.=2.055, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.957, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	5.73	
8/9/2016	5.46	
10/11/2016	<5	
12/8/2016	<5	
2/8/2017	<5	
4/5/2017	<5	
6/15/2017	<5	
8/9/2017	<5	
12/3/2018		<5

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	<5	
8/9/2016	<5	
10/11/2016	<5	
12/6/2016	<5	
2/7/2017	<5	
4/4/2017	<5	
6/14/2017	<5	
8/10/2017	<5	
12/3/2018		<5

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	203	
8/9/2016	194	
10/11/2016	180	
12/6/2016	185	
2/7/2017	196	
4/4/2017	176	
6/13/2017	151	
8/8/2017	189	
12/3/2018		168

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

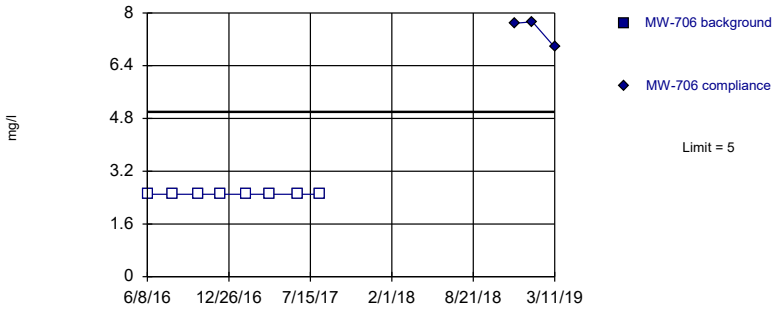
	MW-705	MW-705
6/7/2016	39.6	
8/9/2016	40.7	
10/11/2016	39.2	
12/7/2016	41.7	
2/9/2017	45.5	
4/6/2017	41.9	
6/13/2017	42.2	
8/9/2017	43.5	
12/4/2018		38.9

Hollow symbols indicate censored values.

Exceeds 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 = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

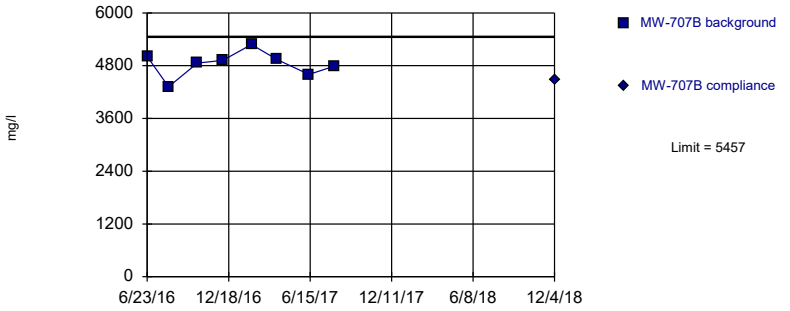
Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=4840, Std. Dev.=285.3, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9616, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

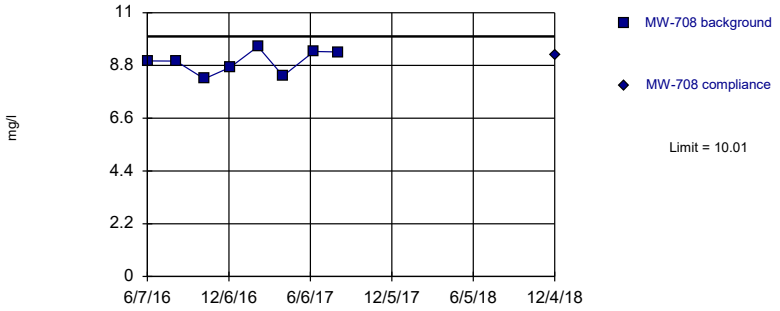
Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=8.953, Std. Dev.=0.4885, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9383, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

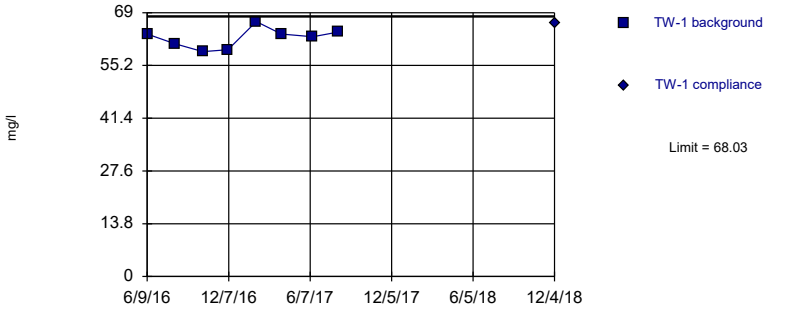
Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=62.39, Std. Dev.=2.609, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 3/29/2019 4:35 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706	
6/8/2016	<5		
8/9/2016	<5		
10/11/2016	<5		
12/6/2016	<5		
2/7/2017	<5		
4/4/2017	<5		
6/13/2017	<5		
8/9/2017	<5		
12/4/2018		7.69	
1/15/2019		7.73	1st verification re-sample
3/11/2019		6.96	2nd verification re-sample

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	5010	
8/9/2016	4320	
10/11/2016	4860	
12/6/2016	4920	
2/7/2017	5280	
4/4/2017	4940	
6/13/2017	4600	
8/8/2017	4790	
12/4/2018		4490

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	8.99	
8/10/2016	8.98	
10/12/2016	8.24	
12/9/2016	8.72	
2/9/2017	9.59	
4/6/2017	8.36	
6/14/2017	9.38	
8/8/2017	9.36	
12/4/2018		9.24

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 3/29/2019 4:37 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	63.4	
8/9/2016	60.9	
10/11/2016	58.8	
12/6/2016	59.3	
2/7/2017	66.7	
4/4/2017	63.4	
6/13/2017	62.7	
8/8/2017	63.9	
12/4/2018		66.4

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 3/29/2019, 4:37 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
BORON (mg/l)	MW-11	1.173	n/a	12/3/2018	1.13	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-6	1.24	n/a	12/4/2018	1.18	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-7	1.714	n/a	12/4/2018	1.62	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-701	1.098	n/a	12/3/2018	0.979	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-702	2.042	n/a	12/3/2018	1.47	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-703	1.974	n/a	12/3/2018	1.87	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-704	2.148	n/a	12/3/2018	2.02	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-705	2.342	n/a	12/4/2018	2.19	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-706	2.286	n/a	12/4/2018	2.09	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-707B	2.117	n/a	12/4/2018	1.95	No	8	0	x^6	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-708	1.551	n/a	12/4/2018	1.41	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	TW-1	1.75	n/a	12/4/2018	1.48	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-11	74.31	n/a	12/3/2018	60.4	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-6	118.8	n/a	12/4/2018	86.3	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-7	29.09	n/a	12/4/2018	20.5	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	**MW-701**	**39.71**	**n/a**	**3/11/2019**	**44.2**	**Yes**	**8**	**0**	**No**	**0.000...**	**Param Intra 1 of 3**
CALCIUM (mg/l)	MW-702	23.27	n/a	12/3/2018	3.24	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-703	23.87	n/a	12/3/2018	17.7	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-704	36.37	n/a	12/3/2018	24	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-705	43.31	n/a	12/4/2018	30.3	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-706	36.89	n/a	12/4/2018	24.7	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-707B	428.9	n/a	12/4/2018	381	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-708	35.19	n/a	12/4/2018	30.1	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	TW-1	38.12	n/a	12/4/2018	26.8	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-11	139.5	n/a	12/3/2018	72.6	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-6	238.5	n/a	12/4/2018	193	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-7	118.9	n/a	12/4/2018	94.6	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-701	58.55	n/a	12/3/2018	49.4	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-702	51.75	n/a	12/3/2018	40.9	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-703	122.3	n/a	12/3/2018	106	No	8	0	x^4	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-704	85.06	n/a	12/3/2018	82.2	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-705	143.6	n/a	12/4/2018	132	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-706	307.4	n/a	12/4/2018	241	No	8	0	ln(x)	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-707B	251	n/a	12/4/2018	205	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-708	49.06	n/a	12/4/2018	46	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	TW-1	46.74	n/a	12/4/2018	41.4	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-11	1186	n/a	12/3/2018	1030	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-6	1325	n/a	12/4/2018	1150	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-7	980.9	n/a	12/4/2018	890	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-701	662.8	n/a	12/3/2018	569	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-702	806.2	n/a	12/3/2018	423	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-703	1010	n/a	12/3/2018	892	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-704	1324	n/a	12/3/2018	1130	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-705	1137	n/a	12/4/2018	994	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-706	1560	n/a	12/4/2018	1200	No	8	0	n/a	0.005912	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-707B	11361	n/a	12/4/2018	8080	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-708	881	n/a	12/4/2018	633	No	8	0	n/a	0.005912	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	TW-1	1135	n/a	12/4/2018	962	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-11	0.6133	n/a	12/3/2018	0.529	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-6	1.75	n/a	12/4/2018	0.612	No	8	0	n/a	0.005912	NP Intra (normality) ...

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 3/29/2019, 4:37 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
FLUORIDE (mg/l)	MW-7	1.4	n/a	12/4/2018	1.32	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-701	0.889	n/a	12/3/2018	0.642	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-702	1.623	n/a	1/14/2019	1.2	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-703	1.613	n/a	12/3/2018	1.52	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-704	0.9788	n/a	12/3/2018	0.918	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-705	1.103	n/a	12/4/2018	1.07	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-706	1.295	n/a	12/4/2018	1.15	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-707B	0.5991	n/a	12/4/2018	0.328	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-708	0.7429	n/a	12/4/2018	0.618	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	TW-1	0.4833	n/a	12/4/2018	0.39	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-11	7.659	7.088	12/3/2018	7.42	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-6	7.392	7.02	12/4/2018	7.13	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-7	8.091	7.561	12/4/2018	7.85	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-701	8.232	7.036	3/11/2019	7.61	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-702	9.337	7.318	1/14/2019	7.95	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-703	8.006	7.334	12/3/2018	7.46	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-704	7.83	7.07	12/3/2018	7.49	No	8	0	n/a	0.01182	NP Intra (normality) ...
pH (S.U.)	MW-705	7.35	6.5	12/4/2018	7.32	No	8	0	n/a	0.01182	NP Intra (normality) ...
pH (S.U.)	MW-706	8.168	7.142	3/11/2019	7.55	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-707B	7.245	6.745	12/4/2018	6.84	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-708	7.729	6.856	12/4/2018	7.31	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	TW-1	7.978	7.417	12/4/2018	7.45	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-11	239.8	n/a	12/3/2018	215	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-6	202.8	n/a	12/4/2018	142	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-7	5	n/a	12/4/2018	2.5ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-701	89.87	n/a	12/3/2018	79.1	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-702	5.73	n/a	12/3/2018	2.5ND	No	8	75	n/a	0.005912	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-703	5	n/a	12/3/2018	2.5ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-704	218.9	n/a	12/3/2018	168	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-705	46.24	n/a	12/4/2018	38.9	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	**MW-706**	**5**	**n/a**	**3/11/2019**	**6.96**	**Yes**	**8**	**100**	**n/a**	**0.005912**	**NP Intra (NDs) 1 of 3**
SULFATE (mg/l)	MW-707B	5457	n/a	12/4/2018	4490	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-708	10.01	n/a	12/4/2018	9.24	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	TW-1	68.03	n/a	12/4/2018	66.4	No	8	0	No	0.000...	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:

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
  - [ ] 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
- [x] 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

☑ 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: 9

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...

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)

ATTACHMENT 2-2

Spring 2019 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

October 1, 2019

To: La Cygne Generating Station
25166 East 2200 Road
La Cygne, Kansas 66040
Kansas City Power & Light Company

From: SCS Engineers

RE: Determination of Statistically Significant Increases –
Upper AQC Impoundment
Spring 2019 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Upper 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 23, 2019. Review and validation of the results from the May 2019 Detection Monitoring Event was completed on July 5, 2019, 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 17, 2019 and August 23, 2019.

The completed statistical evaluation identified three Appendix III constituents above their respective prediction limit in monitoring wells MW-701, MW-704, and MW-706.

Constituent/Monitoring Well	*UPL	Observation May 23, 2019	1st Verification July 17, 2019	2nd Verification August 23, 2019
Calcium				
MW-701	39.71	41.6	45	39.9
Chloride				
MW-704	85.06	87.2	89.7	89.2
Sulfate				
MW-706	5	5.78	8.27	8.79

*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 confirmed three SSIs above the background prediction limits. These include calcium in upgradient monitoring well MW-701, chloride in monitoring well MW-704, and sulfate in monitoring well MW-706.

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 result, 1st verification re-sample result (when applicable), 2nd verification re-sample result (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
Upper AQC Impoundment
October 1, 2019

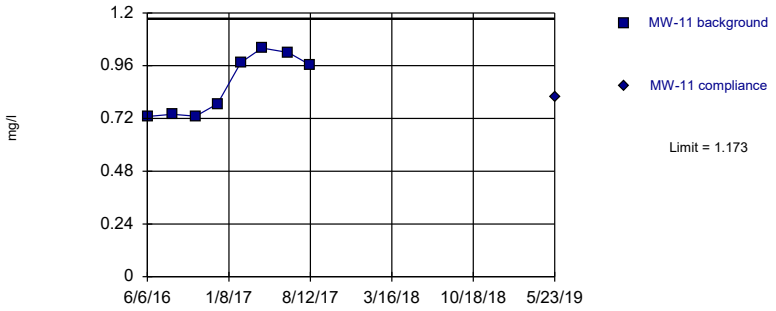
ATTACHMENT 1

Sanitas™ Output

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.8729, Std. Dev.=0.1388, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8122, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

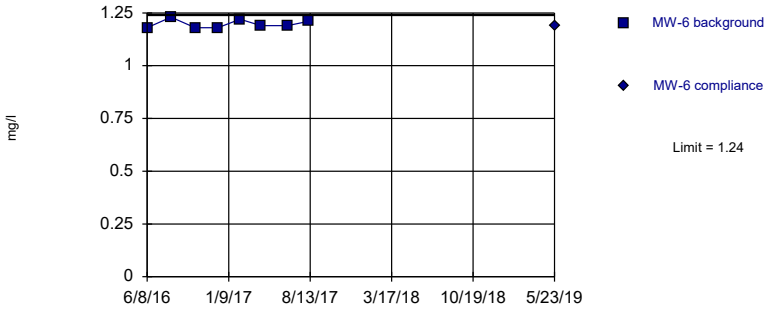
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.198, Std. Dev.=0.01982, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8429, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

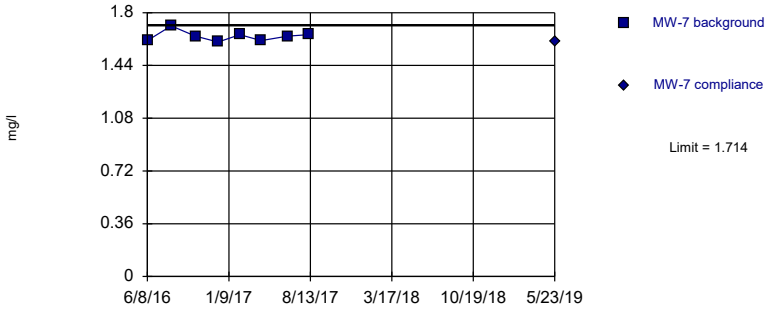
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.639, Std. Dev.=0.03482, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8755, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

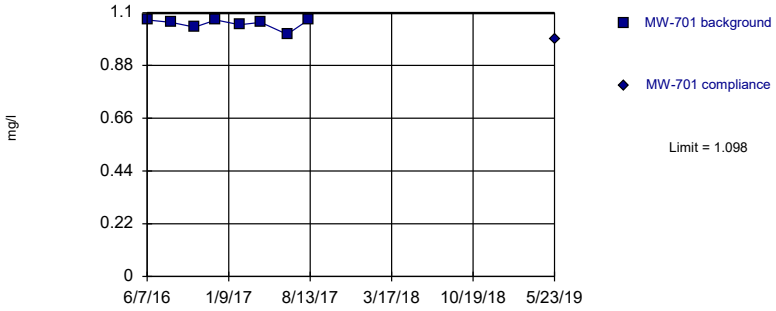
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.054, Std. Dev.=0.02066, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8132, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	0.729	
8/11/2016	0.739	
10/12/2016	0.73	
12/9/2016	0.786	
2/9/2017	0.974	
4/6/2017	1.04	
6/15/2017	1.02	
8/10/2017	0.965	
5/23/2019		0.819

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	1.18	
8/10/2016	1.23	
10/13/2016	1.18	
12/12/2016	1.18	
2/9/2017	1.22	
4/5/2017	1.19	
6/15/2017	1.19	
8/9/2017	1.21	
5/23/2019		1.19

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	1.61	
8/10/2016	1.71	
10/13/2016	1.64	
12/12/2016	1.6	
2/8/2017	1.65	
4/5/2017	1.61	
6/15/2017	1.64	
8/9/2017	1.65	
5/23/2019		1.6

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

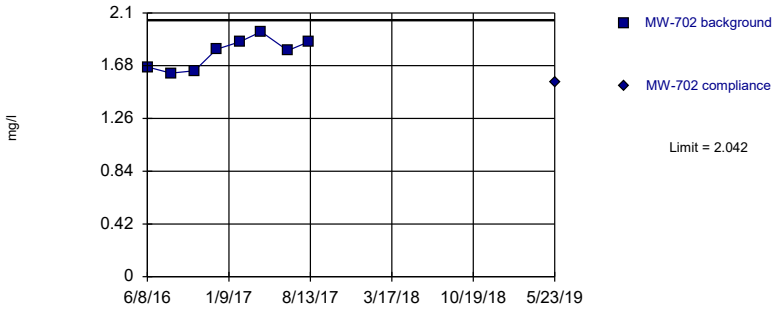
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701
6/7/2016	1.07	
8/9/2016	1.06	
10/11/2016	1.04	
12/6/2016	1.07	
2/7/2017	1.05	
4/4/2017	1.06	
6/13/2017	1.01	
8/8/2017	1.07	
5/23/2019		0.992

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.779, Std. Dev.=0.1217, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9144, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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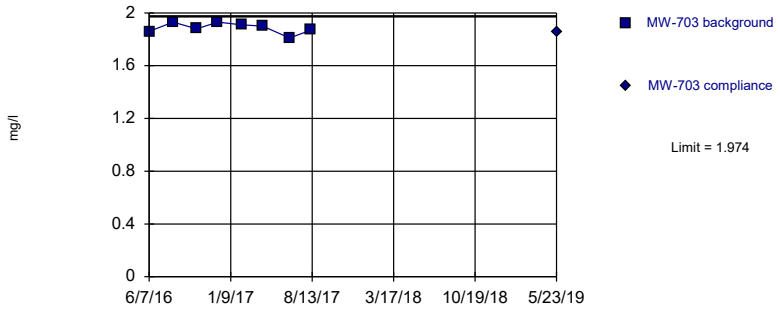
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.886, Std. Dev.=0.04033, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9292, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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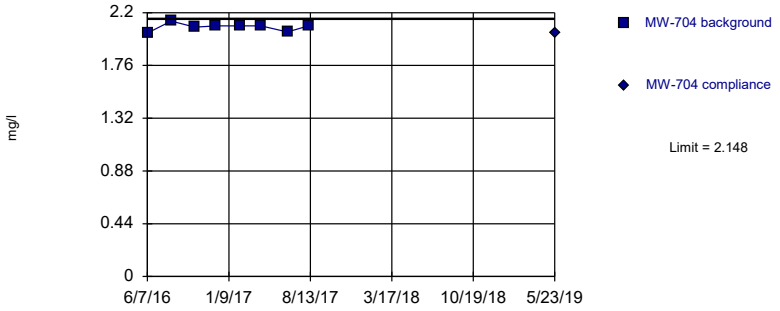
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.08, Std. Dev.=0.03162, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.871, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

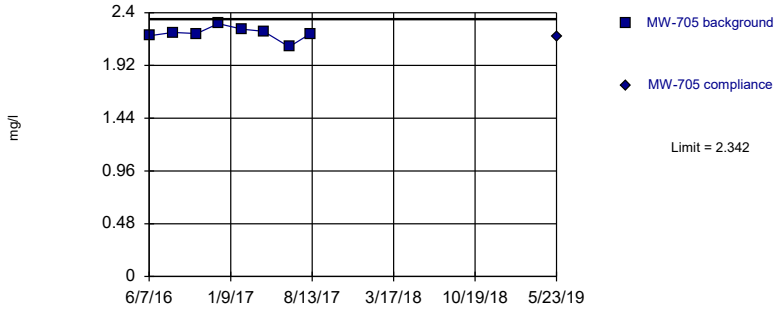
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.213, Std. Dev.=0.0597, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9033, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	1.67	
8/9/2016	1.62	
10/11/2016	1.64	
12/8/2016	1.81	
2/8/2017	1.87	
4/5/2017	1.95	
6/15/2017	1.8	
8/9/2017	1.87	
5/23/2019		1.55

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	1.86	
8/9/2016	1.93	
10/11/2016	1.88	
12/6/2016	1.93	
2/7/2017	1.91	
4/4/2017	1.9	
6/14/2017	1.81	
8/10/2017	1.87	
5/23/2019		1.86

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	2.03	
8/9/2016	2.13	
10/11/2016	2.08	
12/6/2016	2.09	
2/7/2017	2.09	
4/4/2017	2.09	
6/13/2017	2.04	
8/8/2017	2.09	
5/23/2019		2.03

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

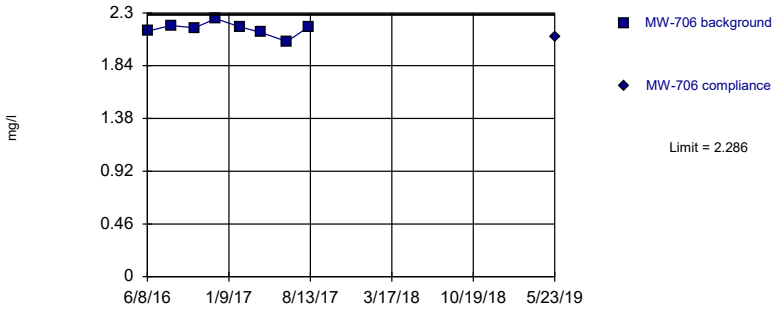
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	2.19	
8/9/2016	2.22	
10/11/2016	2.21	
12/7/2016	2.3	
2/9/2017	2.25	
4/6/2017	2.23	
6/13/2017	2.09	
8/9/2017	2.21	
5/23/2019		2.18

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.161, Std. Dev.=0.05768, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.935, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

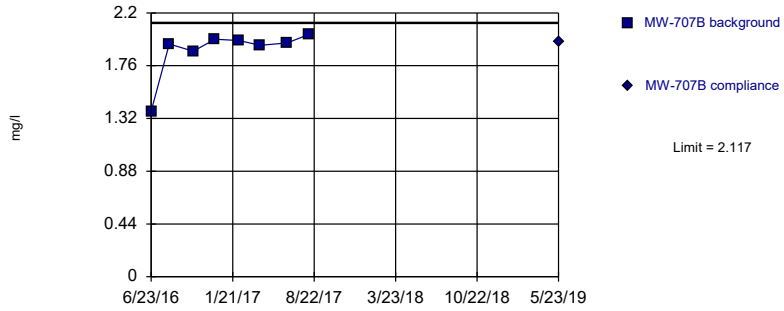
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^6 transformation): Mean=49.71, Std. Dev.=18.62, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7725, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

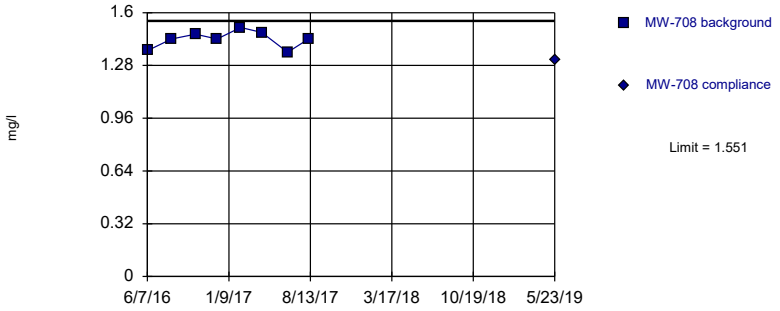
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.439, Std. Dev.=0.05167, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9157, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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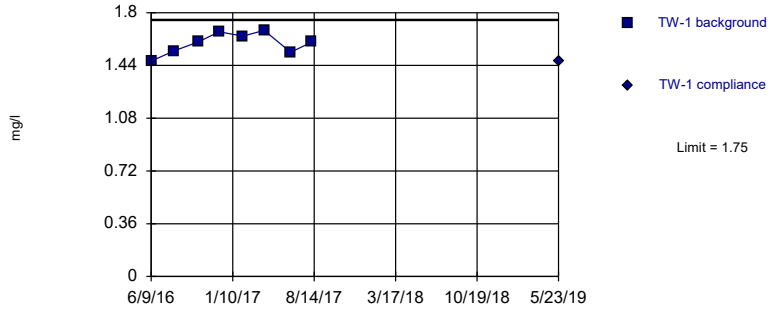
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.591, Std. Dev.=0.07338, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.946, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: BORON Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	2.14	
8/9/2016	2.19	
10/11/2016	2.17	
12/6/2016	2.25	
2/7/2017	2.18	
4/4/2017	2.13	
6/13/2017	2.05	
8/9/2017	2.18	
5/23/2019		2.09

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	1.38	
8/9/2016	1.94	
10/11/2016	1.88	
12/6/2016	1.98	
2/7/2017	1.97	
4/4/2017	1.93	
6/13/2017	1.95	
8/8/2017	2.02	
5/23/2019		1.96

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	1.37	
8/10/2016	1.44	
10/12/2016	1.47	
12/9/2016	1.44	
2/9/2017	1.51	
4/6/2017	1.48	
6/14/2017	1.36	
8/8/2017	1.44	
5/23/2019		1.31

Prediction Limit

Constituent: BORON (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

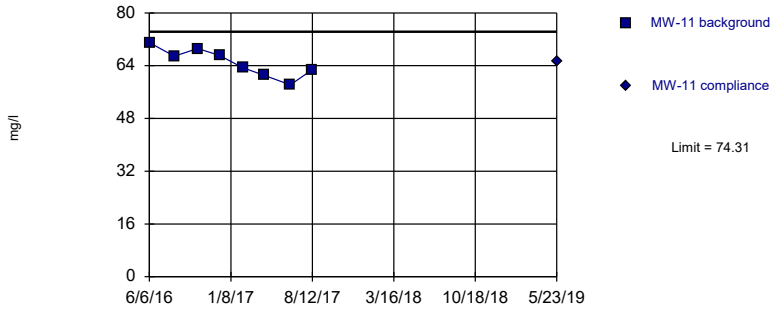
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	1.47	
8/9/2016	1.54	
10/11/2016	1.6	
12/6/2016	1.67	
2/7/2017	1.64	
4/4/2017	1.68	
6/13/2017	1.53	
8/8/2017	1.6	
5/23/2019		1.47

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=64.94, Std. Dev.=4.333, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9701, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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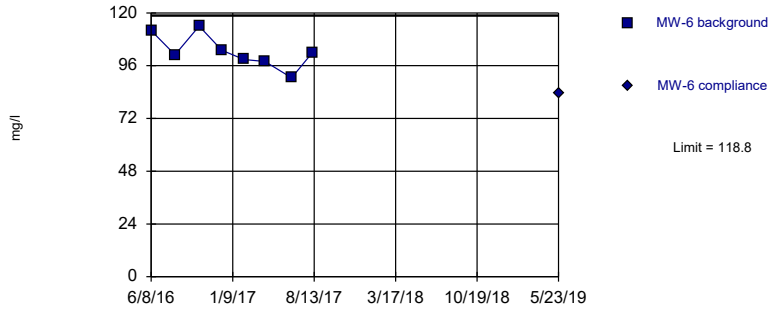
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=102.4, Std. Dev.=7.597, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9384, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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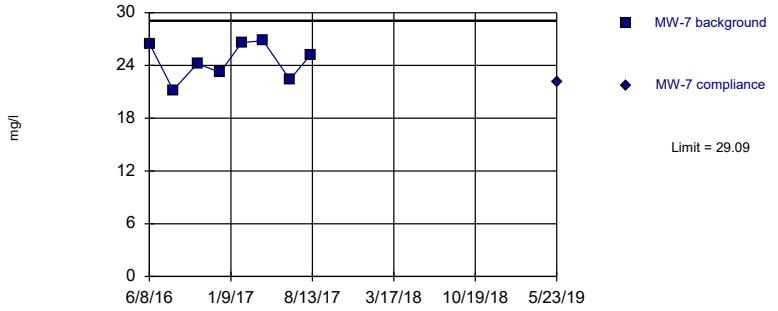
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=24.51, Std. Dev.=2.114, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9151, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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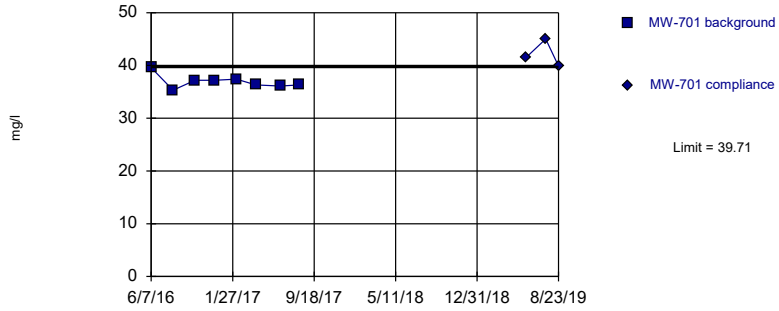
Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=36.93, Std. Dev.=1.289, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8917, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	71	
8/11/2016	66.9	
10/12/2016	69.2	
12/9/2016	67.1	
2/9/2017	63.4	
4/6/2017	61.1	
6/15/2017	58.2	
8/10/2017	62.6	
5/23/2019		65.4

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	112	
8/10/2016	101	
10/13/2016	114	
12/12/2016	103	
2/9/2017	98.8	
4/5/2017	97.9	
6/15/2017	90.5	
8/9/2017	102	
5/23/2019		83.7

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	26.5	
8/10/2016	21.2	
10/13/2016	24.2	
12/12/2016	23.2	
2/8/2017	26.6	
4/5/2017	26.8	
6/15/2017	22.4	
8/9/2017	25.2	
5/23/2019		22.1

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

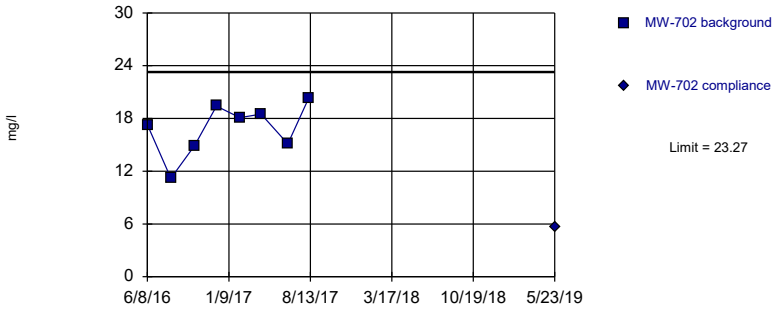
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701	
6/7/2016	39.6		
8/9/2016	35.3		
10/11/2016	37.2		
12/6/2016	37.2		
2/7/2017	37.4		
4/4/2017	36.3		
6/13/2017	36.1		
8/8/2017	36.3		
5/23/2019		41.6	
7/17/2019		45	1st verification sample
8/23/2019		39.9	2nd verification sample

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=16.85, Std. Dev.=2.968, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9287, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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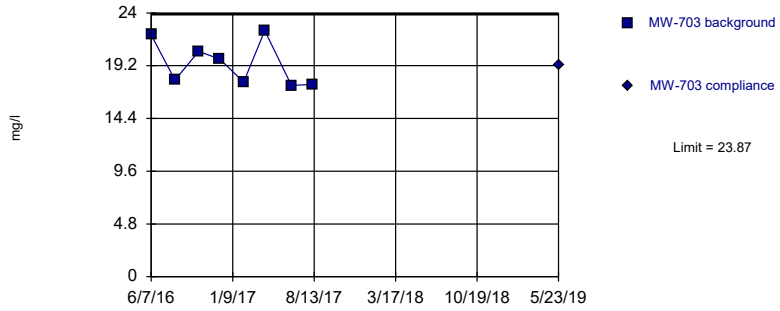
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=19.4, Std. Dev.=2.066, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8516, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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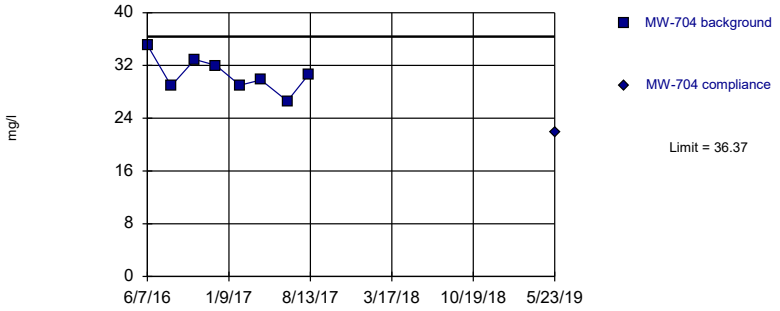
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.61, Std. Dev.=2.662, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9818, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

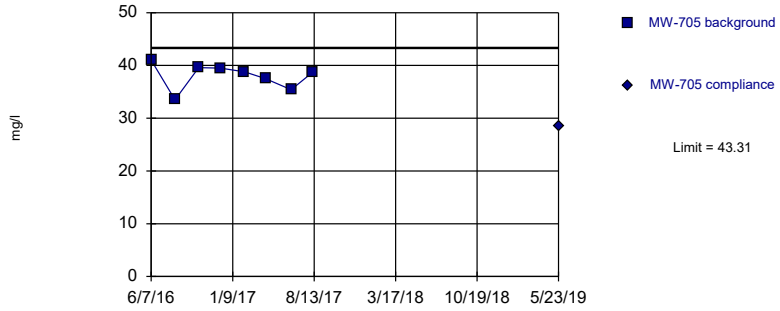
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=38, Std. Dev.=2.455, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9174, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	17.3	
8/9/2016	11.2	
10/11/2016	14.9	
12/8/2016	19.4	
2/8/2017	18.1	
4/5/2017	18.5	
6/15/2017	15.1	
8/9/2017	20.3	
5/23/2019		5.7

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	22	
8/9/2016	17.9	
10/11/2016	20.5	
12/6/2016	19.8	
2/7/2017	17.7	
4/4/2017	22.4	
6/14/2017	17.4	
8/10/2017	17.5	
5/23/2019		19.3

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	35.1	
8/9/2016	28.9	
10/11/2016	32.9	
12/6/2016	32	
2/7/2017	29	
4/4/2017	29.8	
6/13/2017	26.6	
8/8/2017	30.6	
5/23/2019		21.9

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

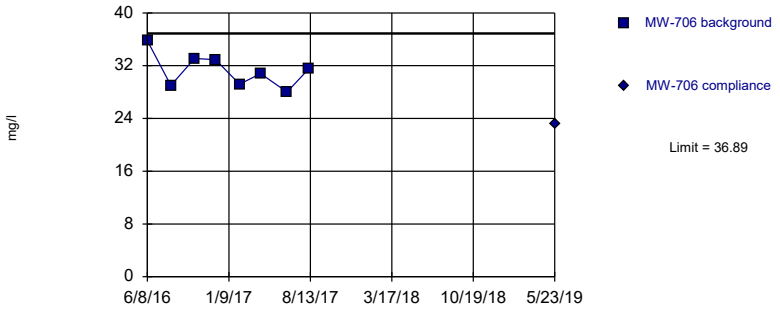
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	41	
8/9/2016	33.5	
10/11/2016	39.6	
12/7/2016	39.5	
2/9/2017	38.8	
4/6/2017	37.5	
6/13/2017	35.4	
8/9/2017	38.7	
5/23/2019		28.5

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=31.29, Std. Dev.=2.589, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9571, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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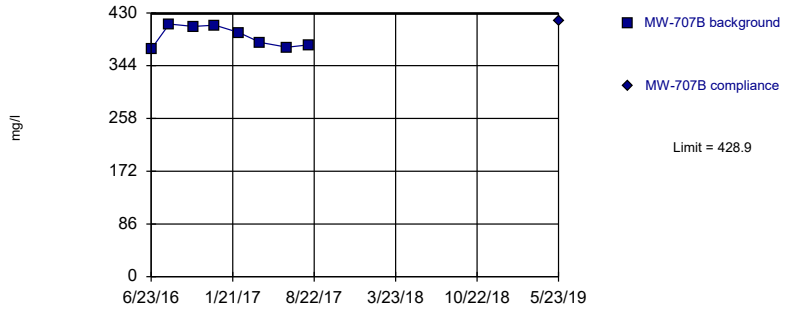
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=391.6, Std. Dev.=17.22, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8632, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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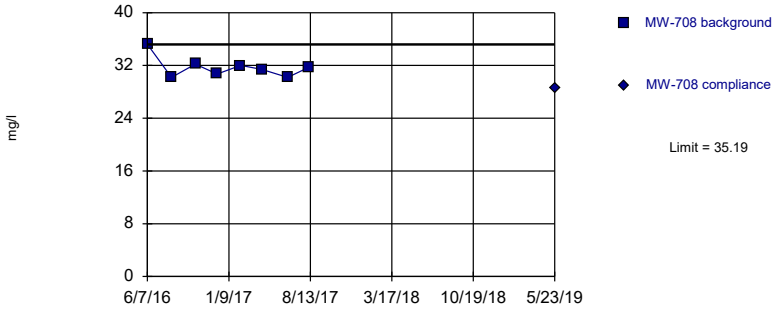
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=31.7, Std. Dev.=1.612, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8376, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

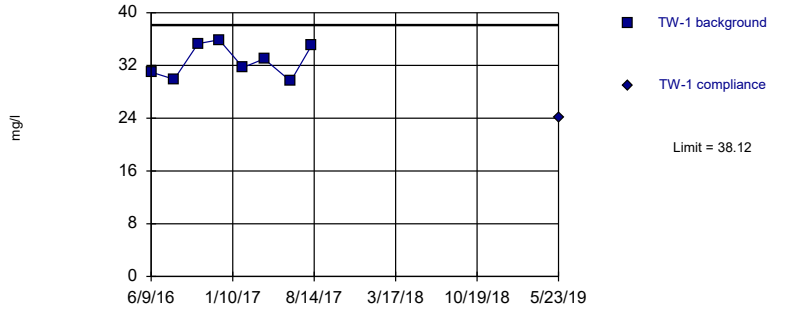
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=32.69, Std. Dev.=2.513, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9007, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CALCIUM Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	35.8	
8/9/2016	29	
10/11/2016	33.1	
12/6/2016	32.9	
2/7/2017	29.2	
4/4/2017	30.8	
6/13/2017	28	
8/9/2017	31.5	
5/23/2019		23.2

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	371	
8/9/2016	412	
10/11/2016	408	
12/6/2016	410	
2/7/2017	398	
4/4/2017	382	
6/13/2017	374	
8/8/2017	378	
5/23/2019		418

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	35.2	
8/10/2016	30.2	
10/12/2016	32.2	
12/9/2016	30.7	
2/9/2017	32	
4/6/2017	31.4	
6/14/2017	30.2	
8/8/2017	31.7	
5/23/2019		28.6

Prediction Limit

Constituent: CALCIUM (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

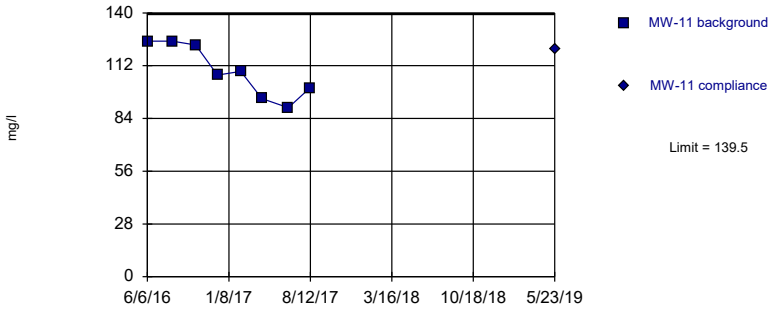
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	31	
8/9/2016	29.9	
10/11/2016	35.3	
12/6/2016	35.9	
2/7/2017	31.7	
4/4/2017	33	
6/13/2017	29.6	
8/8/2017	35.1	
5/23/2019		24.1

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.2, Std. Dev.=14.02, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8974, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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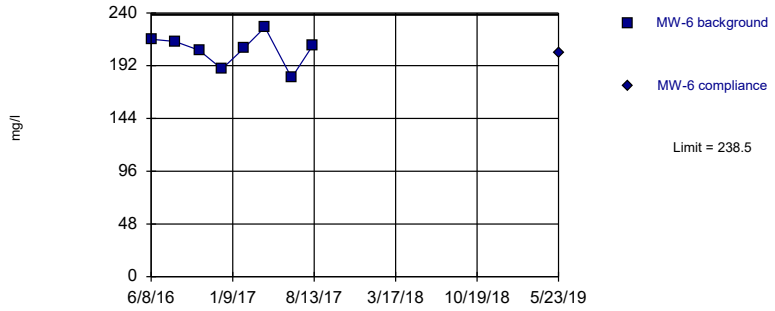
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=206.4, Std. Dev.=14.82, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9335, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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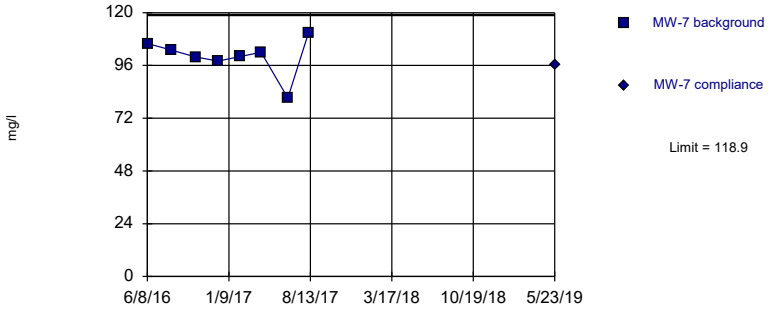
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=100.1, Std. Dev.=8.679, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8538, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

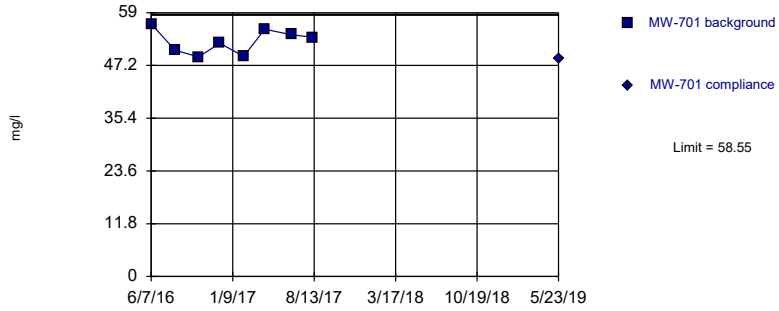
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=52.56, Std. Dev.=2.765, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9397, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	125	
8/11/2016	125	
10/12/2016	123	
12/9/2016	107	
2/9/2017	109	
4/6/2017	94.5	
6/15/2017	89.7	
8/10/2017	100	
5/23/2019		121

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	216	
8/10/2016	214	
10/13/2016	206	
12/12/2016	189	
2/9/2017	208	
4/5/2017	227	
6/15/2017	181	
8/9/2017	210	
5/23/2019		204

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	106	
8/10/2016	103	
10/13/2016	99.9	
12/12/2016	98	
2/8/2017	100	
4/5/2017	102	
6/15/2017	81.2	
8/9/2017	111	
5/23/2019		96.5

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

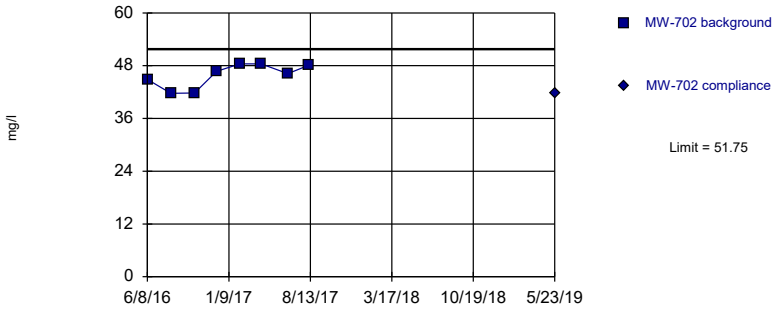
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701
6/7/2016	56.5	
8/9/2016	50.6	
10/11/2016	49.1	
12/6/2016	52.2	
2/7/2017	49.2	
4/4/2017	55.3	
6/13/2017	54.1	
8/8/2017	53.5	
5/23/2019		48.6

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=45.78, Std. Dev.=2.762, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.848, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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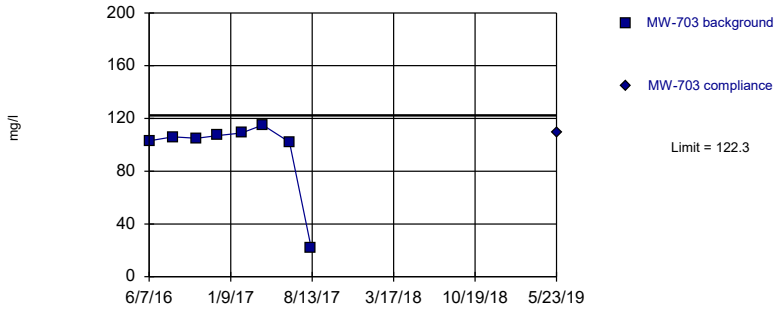
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^4 transformation): Mean=1.1e8, Std. Dev.=5.1e7, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7984, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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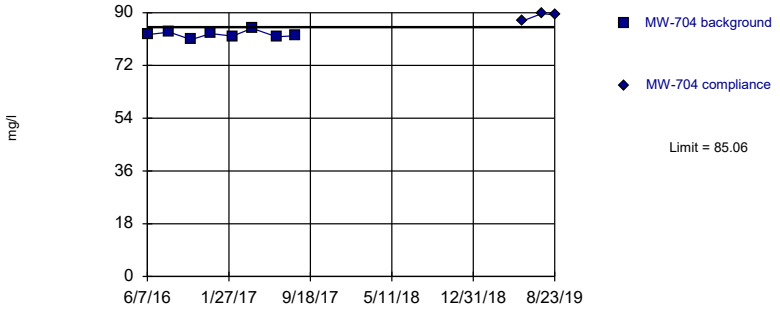
Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=82.53, Std. Dev.=1.171, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9669, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

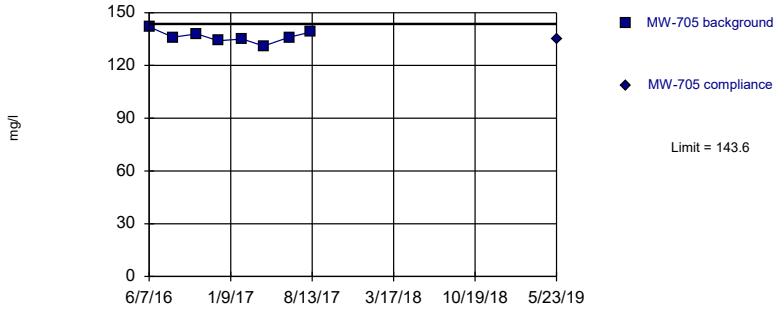
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=136.4, Std. Dev.=3.335, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9859, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	44.9	
8/9/2016	41.7	
10/11/2016	41.8	
12/8/2016	46.7	
2/8/2017	48.4	
4/5/2017	48.4	
6/15/2017	46.2	
8/9/2017	48.1	
5/23/2019		41.8

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	103	
8/9/2016	106	
10/11/2016	105	
12/6/2016	107	
2/7/2017	109	
4/4/2017	115	
6/14/2017	102	
8/10/2017	22.3	
5/23/2019		109

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704	
6/7/2016	82.5		
8/9/2016	83.4		
10/11/2016	80.8		
12/6/2016	82.9		
2/7/2017	82		
4/4/2017	84.7		
6/13/2017	81.8		
8/8/2017	82.1		
5/23/2019		87.2	
7/17/2019		89.7	1st verification sample
8/23/2019		89.2	2nd verification sample

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

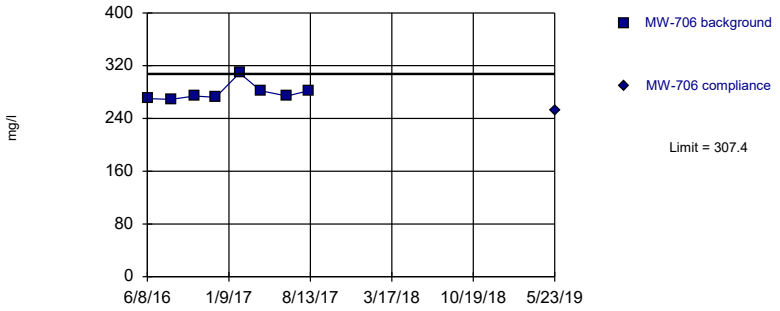
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	142	
8/9/2016	136	
10/11/2016	138	
12/7/2016	134	
2/9/2017	135	
4/6/2017	131	
6/13/2017	136	
8/9/2017	139	
5/23/2019		135

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=5.63, Std. Dev.=0.04529, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7525, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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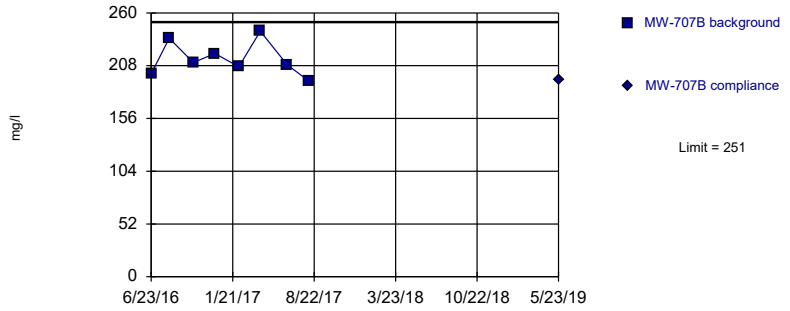
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=214.6, Std. Dev.=16.81, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9395, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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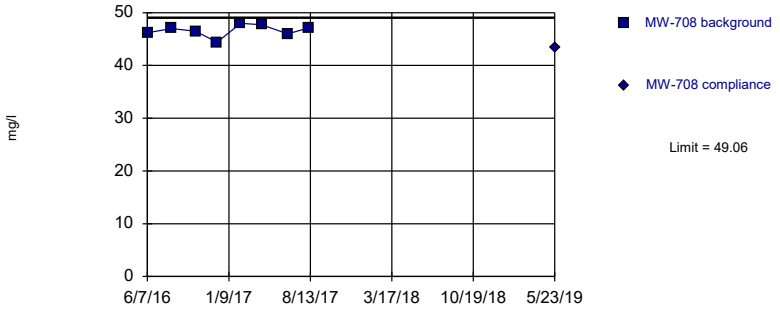
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=46.61, Std. Dev.=1.131, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9408, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

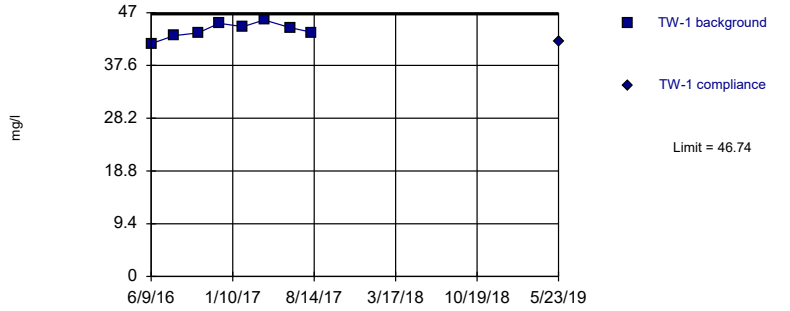
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=43.86, Std. Dev.=1.329, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9768, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: CHLORIDE Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	270	
8/9/2016	269	
10/11/2016	274	
12/6/2016	272	
2/7/2017	309	
4/4/2017	282	
6/13/2017	274	
8/9/2017	282	
5/23/2019		253

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	200	
8/9/2016	235	
10/11/2016	211	
12/6/2016	220	
2/7/2017	207	
4/4/2017	242	
6/13/2017	209	
8/8/2017	193	
5/23/2019		194

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	46.2	
8/10/2016	47	
10/12/2016	46.5	
12/9/2016	44.4	
2/9/2017	48	
4/6/2017	47.7	
6/14/2017	46	
8/8/2017	47.1	
5/23/2019		43.4

Prediction Limit

Constituent: CHLORIDE (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

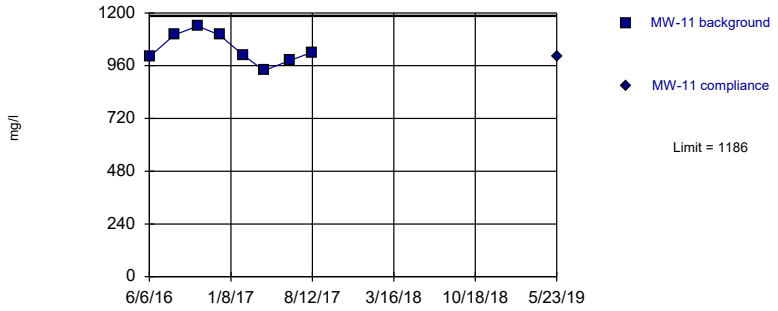
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	41.5	
8/9/2016	42.9	
10/11/2016	43.4	
12/6/2016	45.1	
2/7/2017	44.5	
4/4/2017	45.7	
6/13/2017	44.3	
8/8/2017	43.5	
5/23/2019		41.8

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1037, Std. Dev.=69.22, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9334, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:46 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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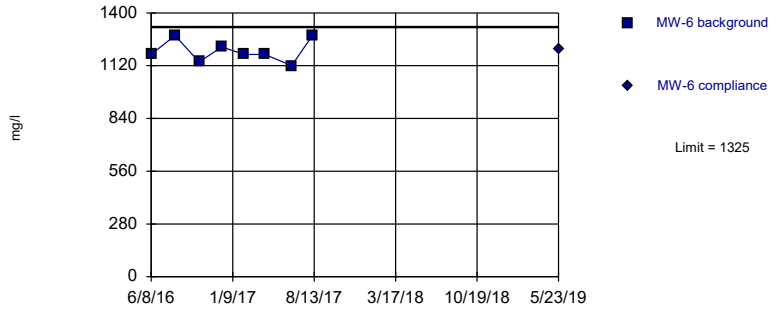
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1198, Std. Dev.=58.98, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9008, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

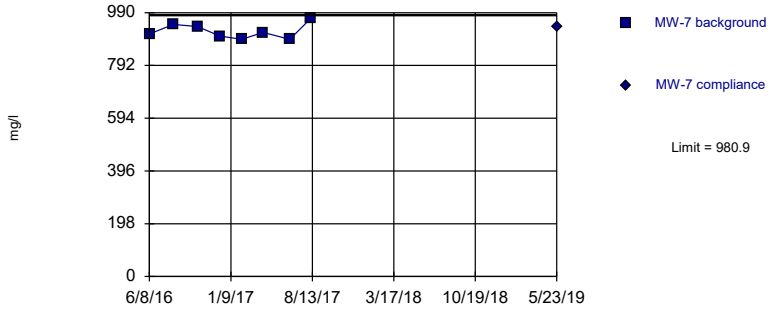
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=920, Std. Dev.=28.14, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.923, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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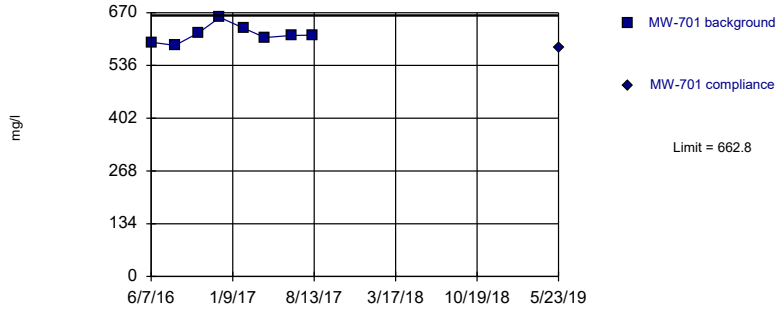
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=615.3, Std. Dev.=21.98, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9443, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	1000	
8/11/2016	1100	
10/12/2016	1140	
12/9/2016	1100	
2/9/2017	1010	
4/6/2017	938	
6/15/2017	984	
8/10/2017	1020	
5/23/2019		1000

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	1180	
8/10/2016	1280	
10/13/2016	1140	
12/12/2016	1220	
2/9/2017	1180	
4/5/2017	1180	
6/15/2017	1120	
8/9/2017	1280	
5/23/2019		1210

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	910	
8/10/2016	946	
10/13/2016	938	
12/12/2016	902	
2/8/2017	890	
4/5/2017	916	
6/15/2017	890	
8/9/2017	968	
5/23/2019		936

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

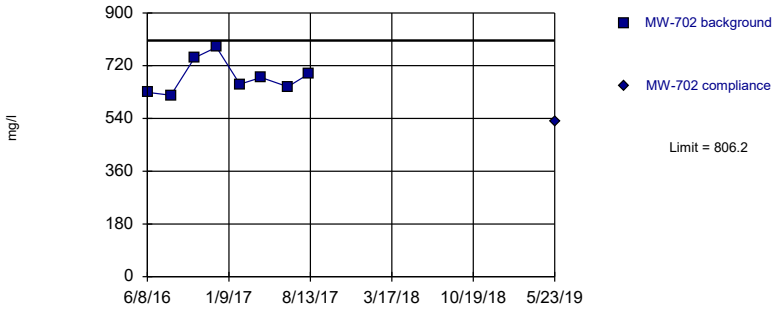
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701
6/7/2016	595	
8/9/2016	587	
10/11/2016	619	
12/6/2016	658	
2/7/2017	631	
4/4/2017	607	
6/13/2017	612	
8/8/2017	613	
5/23/2019		582

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=681.9, Std. Dev.=57.43, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9175, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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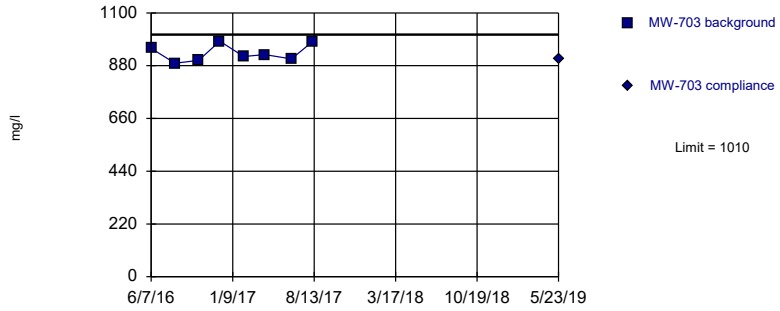
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=932.5, Std. Dev.=35.6, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8952, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

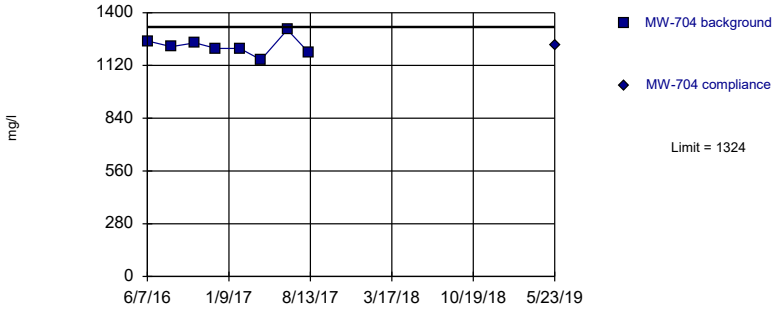
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1223, Std. Dev.=46.83, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9634, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

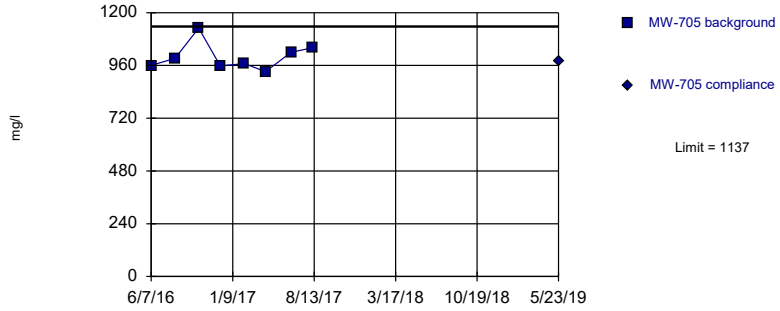
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1000, Std. Dev.=63.22, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8876, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	629	
8/9/2016	619	
10/11/2016	747	
12/8/2016	783	
2/8/2017	657	
4/5/2017	680	
6/15/2017	648	
8/9/2017	692	
5/23/2019		530

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	952	
8/9/2016	890	
10/11/2016	902	
12/6/2016	982	
2/7/2017	918	
4/4/2017	926	
6/14/2017	908	
8/10/2017	982	
5/23/2019		910

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	1250	
8/9/2016	1220	
10/11/2016	1240	
12/6/2016	1210	
2/7/2017	1210	
4/4/2017	1150	
6/13/2017	1310	
8/8/2017	1190	
5/23/2019		1230

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

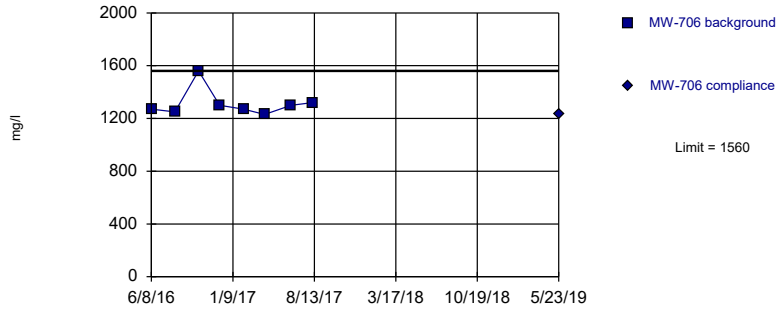
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	960	
8/9/2016	992	
10/11/2016	1130	
12/7/2016	958	
2/9/2017	968	
4/6/2017	932	
6/13/2017	1020	
8/9/2017	1040	
5/23/2019		980

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 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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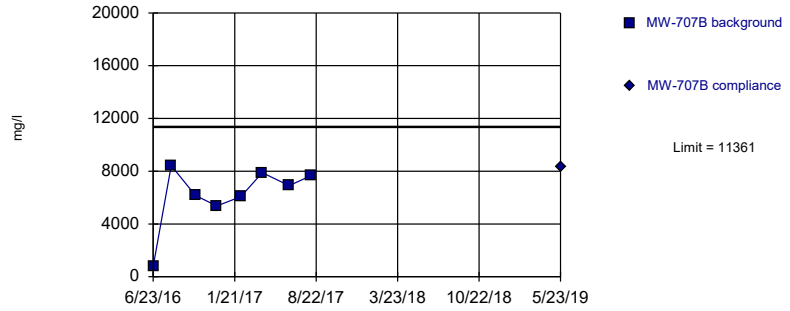
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6154, Std. Dev.=2406, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8136, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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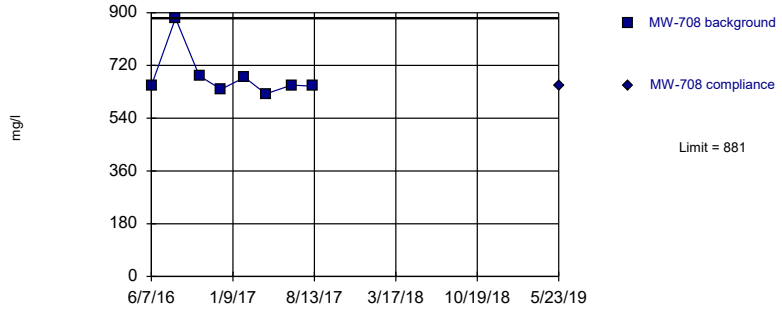
Within Limit

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 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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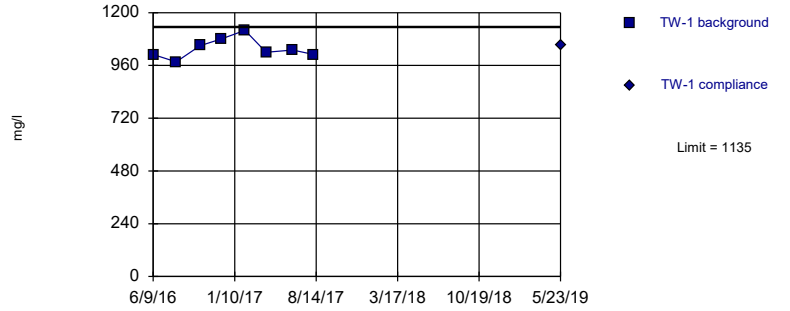
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1037, Std. Dev.=45.39, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9463, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: DISSOLVED SOLIDS Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:55 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	1270	
8/9/2016	1250	
10/11/2016	1560	
12/6/2016	1300	
2/7/2017	1270	
4/4/2017	1230	
6/13/2017	1300	
8/9/2017	1320	
5/23/2019		1230

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	770	
8/9/2016	8420	
10/11/2016	6160	
12/6/2016	5370	
2/7/2017	6070	
4/4/2017	7890	
6/13/2017	6910	
8/8/2017	7640	
5/23/2019		8310

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	651	
8/10/2016	881	
10/12/2016	684	
12/9/2016	639	
2/9/2017	679	
4/6/2017	623	
6/14/2017	653	
8/8/2017	649	
5/23/2019		651

Prediction Limit

Constituent: DISSOLVED SOLIDS (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

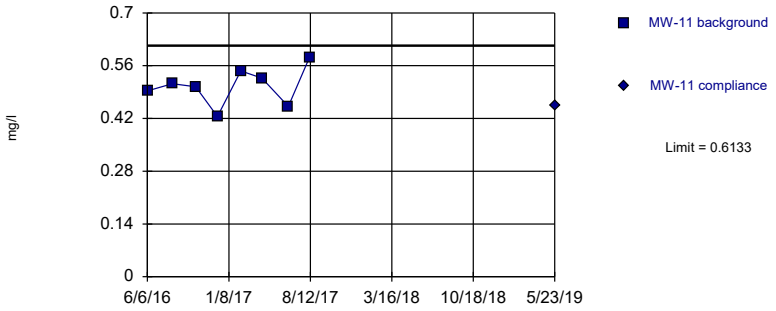
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	1010	
8/9/2016	976	
10/11/2016	1050	
12/6/2016	1080	
2/7/2017	1120	
4/4/2017	1020	
6/13/2017	1030	
8/8/2017	1010	
5/23/2019		1050

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5051, Std. Dev.=0.05, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9828, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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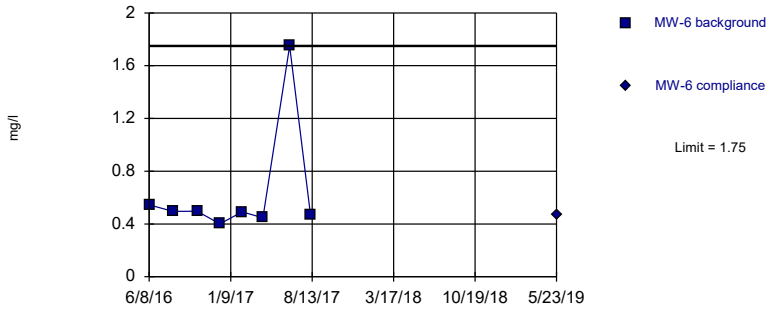
Within Limit

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 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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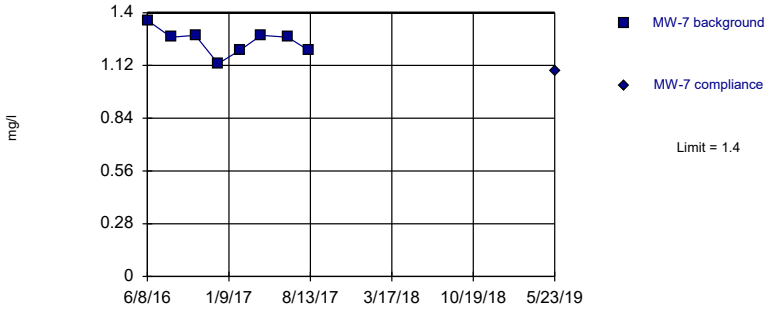
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.249, Std. Dev.=0.06978, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9342, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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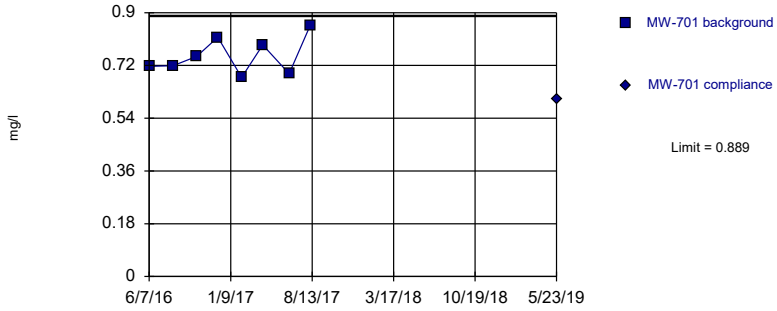
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.7526, Std. Dev.=0.06303, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9378, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	0.493	
8/11/2016	0.512	
10/12/2016	0.504	
12/9/2016	0.425	
2/9/2017	0.546	
4/6/2017	0.527	
6/15/2017	0.452	
8/10/2017	0.582	
5/23/2019		0.454

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	0.545	
8/10/2016	0.495	
10/13/2016	0.497	
12/12/2016	0.401	
2/9/2017	0.492	
4/5/2017	0.447	
6/15/2017	1.75	
8/9/2017	0.473	
5/23/2019		0.467

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	1.36	
8/10/2016	1.27	
10/13/2016	1.28	
12/12/2016	1.13	
2/8/2017	1.2	
4/5/2017	1.28	
6/15/2017	1.27	
8/9/2017	1.2	
5/23/2019		1.09

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

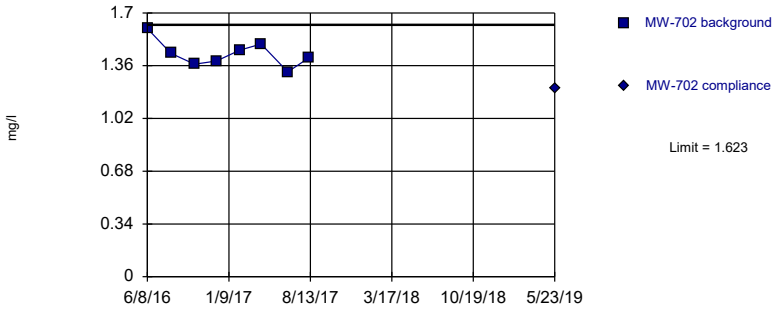
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701
6/7/2016	0.717	
8/9/2016	0.719	
10/11/2016	0.751	
12/6/2016	0.816	
2/7/2017	0.679	
4/4/2017	0.79	
6/13/2017	0.692	
8/8/2017	0.857	
5/23/2019		0.603

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.436, Std. Dev.=0.08634, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9655, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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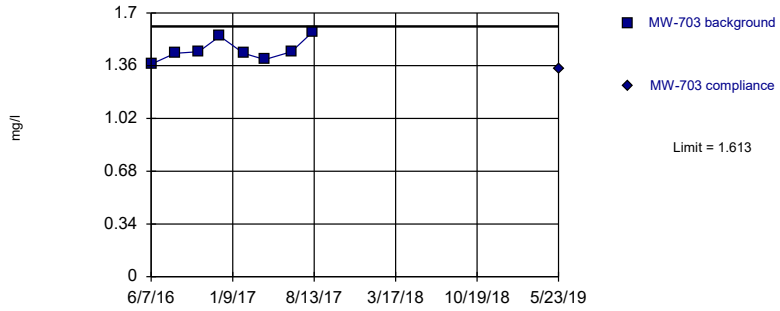
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.46, Std. Dev.=0.07091, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8886, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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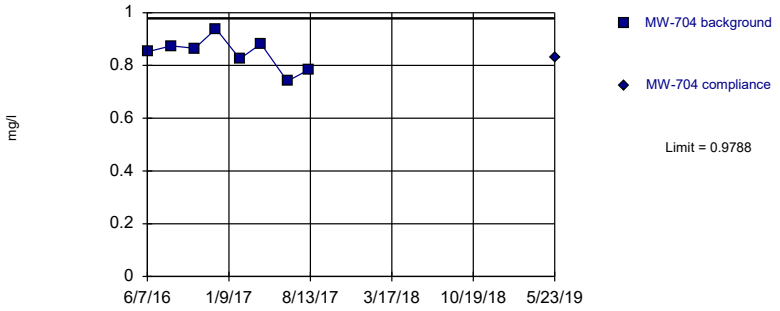
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.845, Std. Dev.=0.06183, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9688, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

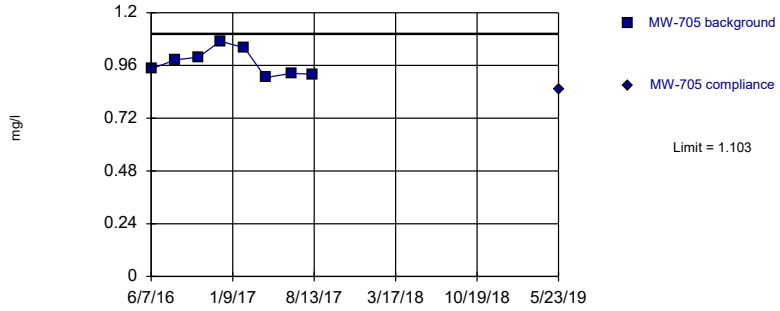
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.9733, Std. Dev.=0.06017, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.924, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	1.6	
8/9/2016	1.44	
10/11/2016	1.37	
12/8/2016	1.39	
2/8/2017	1.46	
4/5/2017	1.5	
6/15/2017	1.32	
8/9/2017	1.41	
5/23/2019		1.21

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	1.37	
8/9/2016	1.44	
10/11/2016	1.45	
12/6/2016	1.55	
2/7/2017	1.44	
4/4/2017	1.4	
6/14/2017	1.45	
8/10/2017	1.58	
5/23/2019		1.34

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	0.852	
8/9/2016	0.874	
10/11/2016	0.865	
12/6/2016	0.939	
2/7/2017	0.825	
4/4/2017	0.882	
6/13/2017	0.74	
8/8/2017	0.783	
5/23/2019		0.828

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

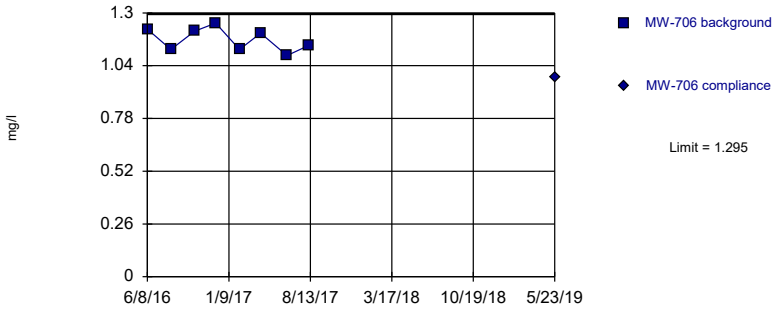
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	0.944	
8/9/2016	0.985	
10/11/2016	0.998	
12/7/2016	1.07	
2/9/2017	1.04	
4/6/2017	0.905	
6/13/2017	0.924	
8/9/2017	0.92	
5/23/2019		0.852

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.169, Std. Dev.=0.05817, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9188, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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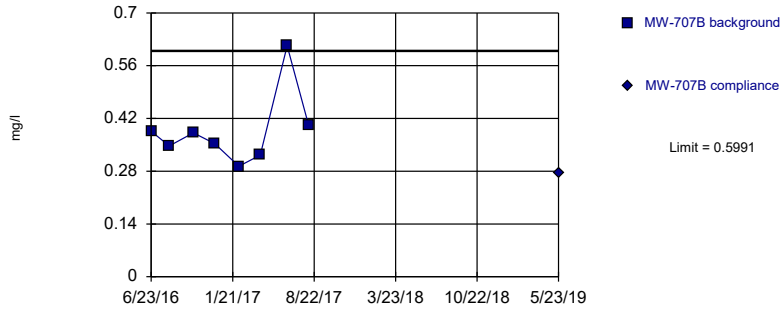
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3874, Std. Dev.=0.09784, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7695, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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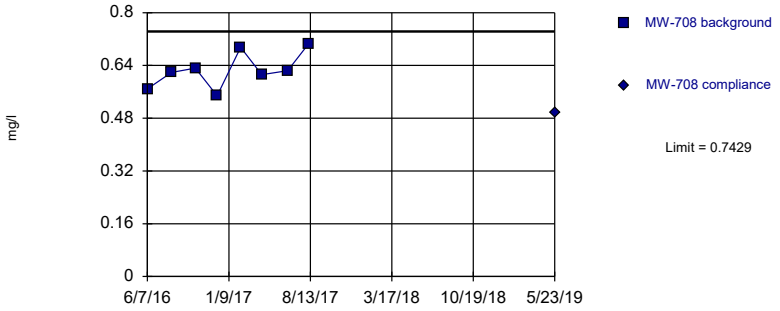
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.6255, Std. Dev.=0.05427, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9324, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

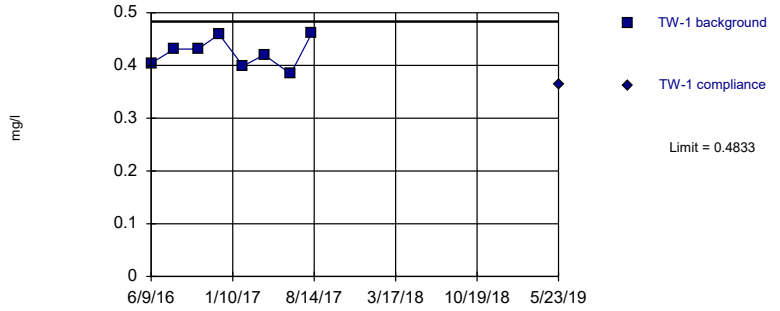
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4236, Std. Dev.=0.0276, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.943, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: FLUORIDE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706
6/8/2016	1.22	
8/9/2016	1.12	
10/11/2016	1.21	
12/6/2016	1.25	
2/7/2017	1.12	
4/4/2017	1.2	
6/13/2017	1.09	
8/9/2017	1.14	
5/23/2019		0.985

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B
6/23/2016	0.386	
8/9/2016	0.347	
10/11/2016	0.382	
12/6/2016	0.353	
2/7/2017	0.293	
4/4/2017	0.323	
6/13/2017	0.613	
8/8/2017	0.402	
5/23/2019		0.276

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	0.569	
8/10/2016	0.619	
10/12/2016	0.632	
12/9/2016	0.548	
2/9/2017	0.695	
4/6/2017	0.612	
6/14/2017	0.624	
8/8/2017	0.705	
5/23/2019		0.495

Prediction Limit

Constituent: FLUORIDE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

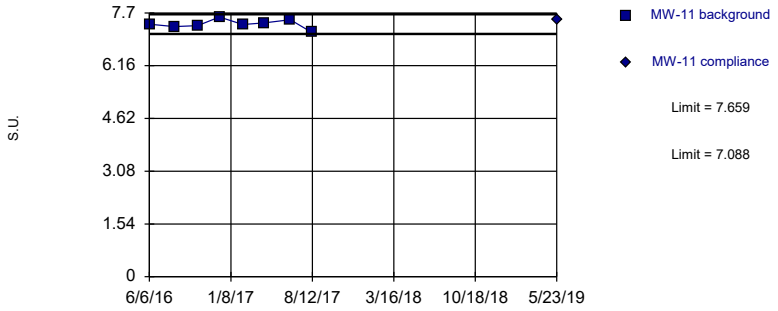
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	0.404	
8/9/2016	0.431	
10/11/2016	0.431	
12/6/2016	0.459	
2/7/2017	0.399	
4/4/2017	0.42	
6/13/2017	0.384	
8/8/2017	0.461	
5/23/2019		0.365

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.374, Std. Dev.=0.132, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9705, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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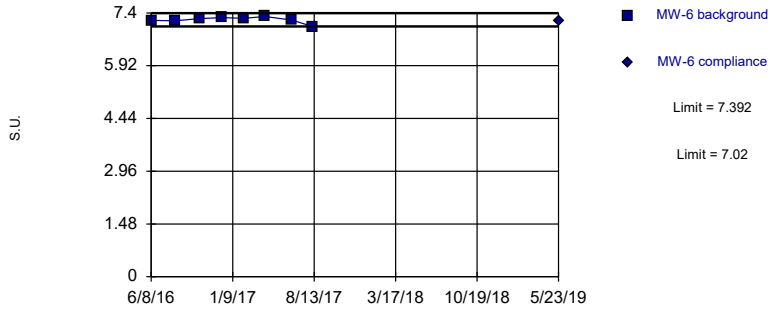
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.206, Std. Dev.=0.08585, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.86, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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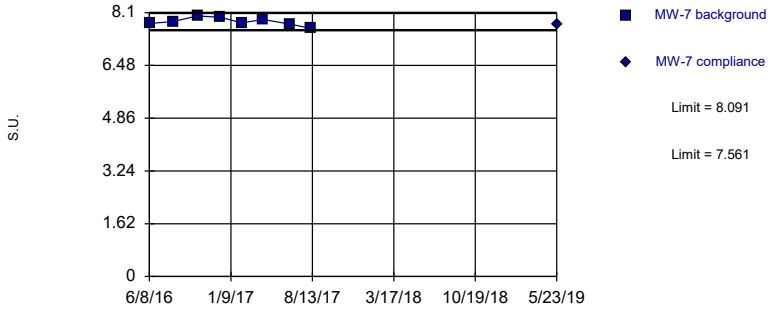
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.826, Std. Dev.=0.1225, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9728, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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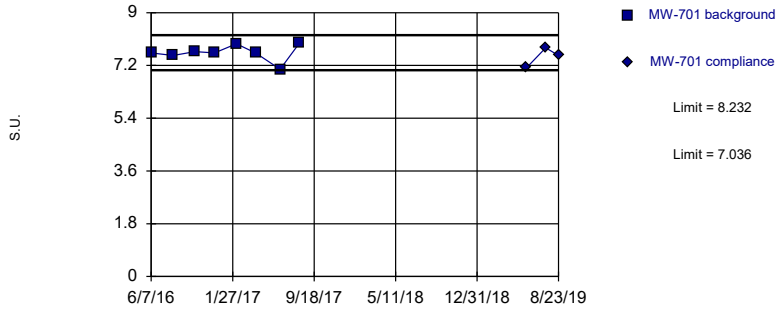
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.634, Std. Dev.=0.2765, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8642, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	7.37	
8/11/2016	7.3	
10/12/2016	7.33	
12/9/2016	7.58	
2/9/2017	7.36	
4/6/2017	7.41	
6/15/2017	7.5	
8/10/2017	7.14	
5/23/2019		7.52

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	7.19	
8/10/2016	7.18	
10/13/2016	7.24	
12/12/2016	7.27	
2/9/2017	7.25	
4/5/2017	7.3	
6/15/2017	7.2	
8/9/2017	7.02	
5/23/2019		7.17

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	7.77	
8/10/2016	7.83	
10/13/2016	8	
12/12/2016	7.96	
2/8/2017	7.79	
4/5/2017	7.89	
6/15/2017	7.75	
8/9/2017	7.62	
5/23/2019		7.75

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

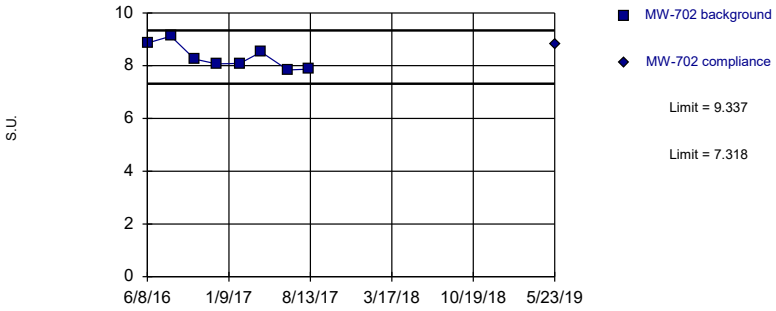
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-701	MW-701	
6/7/2016	7.63		
8/9/2016	7.54		
10/11/2016	7.67		
12/6/2016	7.63		
2/7/2017	7.94		
4/4/2017	7.62		
6/13/2017	7.07		
8/8/2017	7.97		
5/23/2019		7.12	
7/17/2019		7.8	extra sample
8/23/2019		7.54	extra sample

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=8.328, Std. Dev.=0.4667, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9062, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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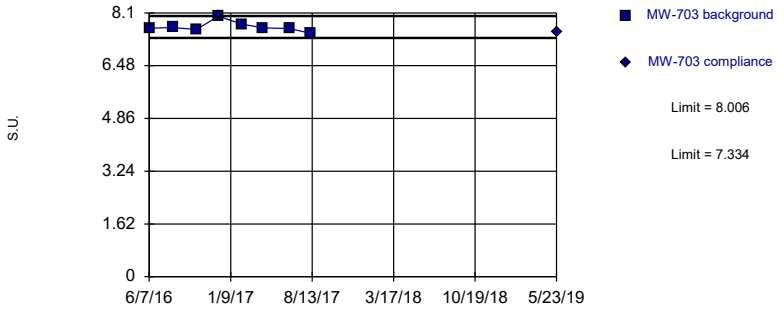
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.67, Std. Dev.=0.1553, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.857, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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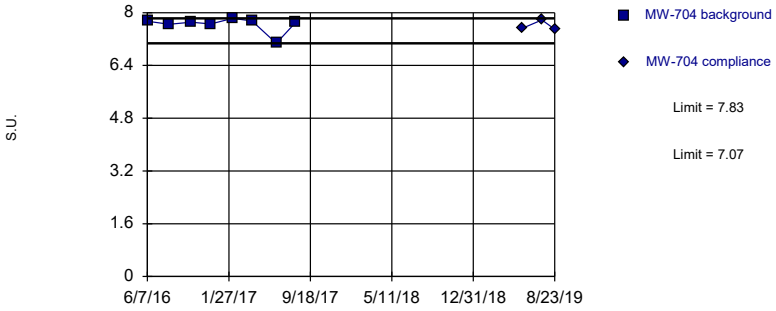
Within Limits

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 8 background values. Well-constituent pair annual alpha = 0.02358. Individual comparison alpha = 0.01182 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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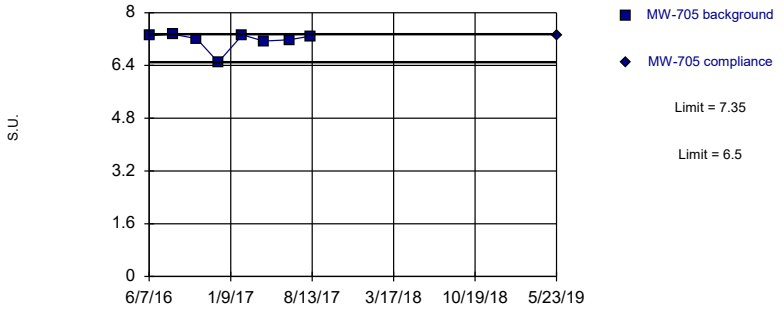
Within Limits

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 8 background values. Well-constituent pair annual alpha = 0.02358. Individual comparison alpha = 0.01182 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	8.86	
8/9/2016	9.12	
10/11/2016	8.25	
12/8/2016	8.07	
2/8/2017	8.09	
4/5/2017	8.52	
6/15/2017	7.84	
8/9/2017	7.87	
5/23/2019		8.82

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	7.63	
8/9/2016	7.65	
10/11/2016	7.59	
12/7/2016	8	
2/7/2017	7.76	
4/4/2017	7.64	
6/14/2017	7.62	
8/10/2017	7.47	
5/23/2019		7.5

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704	
6/7/2016	7.74		
8/9/2016	7.65		
10/11/2016	7.71		
12/6/2016	7.66		
2/7/2017	7.83		
4/4/2017	7.75		
6/13/2017	7.07		
8/8/2017	7.71		
5/23/2019		7.53	
7/17/2019		7.78	extra sample
8/23/2019		7.5	extra sample

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

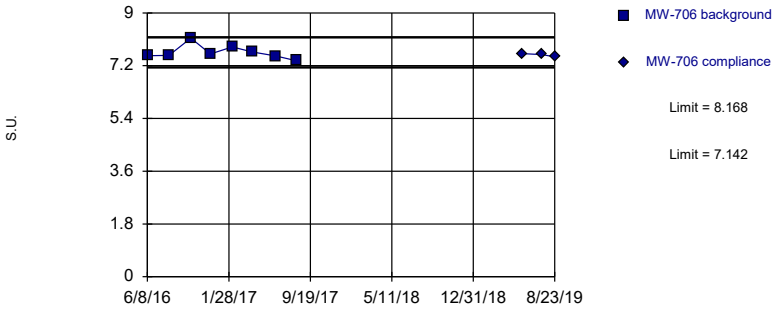
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-705	MW-705
6/7/2016	7.3	
8/9/2016	7.35	
10/11/2016	7.21	
12/7/2016	6.5	
2/9/2017	7.33	
4/6/2017	7.14	
6/13/2017	7.18	
8/9/2017	7.29	
5/23/2019		7.33

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.655, Std. Dev.=0.2372, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8826, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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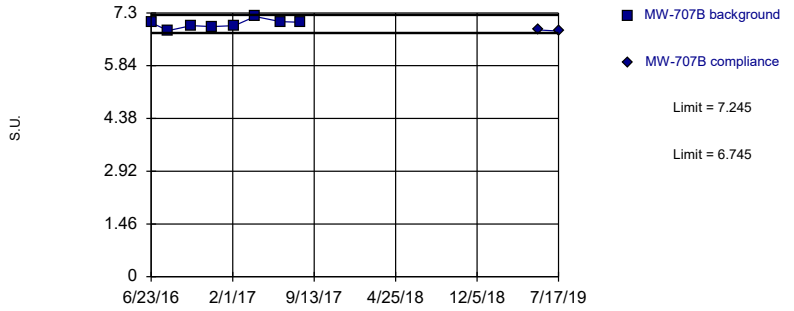
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.995, Std. Dev.=0.1155, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9668, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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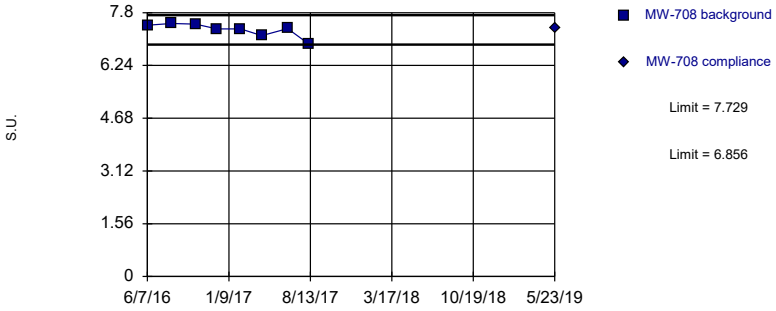
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.293, Std. Dev.=0.2018, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8441, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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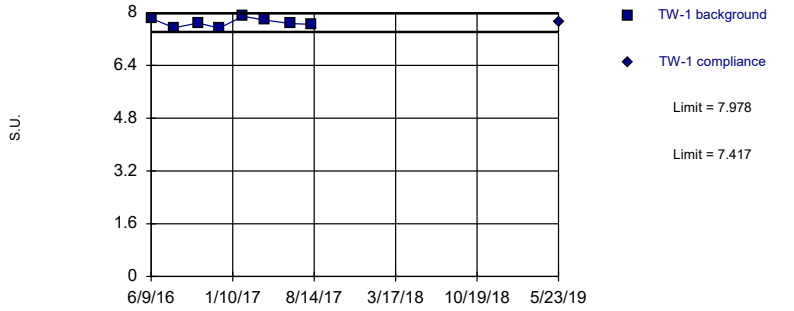
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.698, Std. Dev.=0.1295, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9473, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: pH Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706	
6/8/2016	7.54		
8/9/2016	7.55		
10/11/2016	8.14		
12/6/2016	7.6		
2/7/2017	7.84		
4/4/2017	7.67		
6/13/2017	7.53		
8/9/2017	7.37		
5/23/2019		7.61	
7/17/2019		7.58	extra sample
8/23/2019		7.5	extra sample

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B	
6/23/2016	7.03		
8/9/2016	6.81		
10/11/2016	6.95		
12/6/2016	6.92		
2/7/2017	6.95		
4/4/2017	7.2		
6/13/2017	7.06		
8/8/2017	7.04		
5/23/2019		6.83	
7/17/2019		6.8	extra sample

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	7.43	
8/10/2016	7.48	
10/12/2016	7.46	
12/9/2016	7.32	
2/9/2017	7.32	
4/6/2017	7.12	
6/14/2017	7.33	
8/8/2017	6.88	
5/23/2019		7.36

Prediction Limit

Constituent: pH (S.U.) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

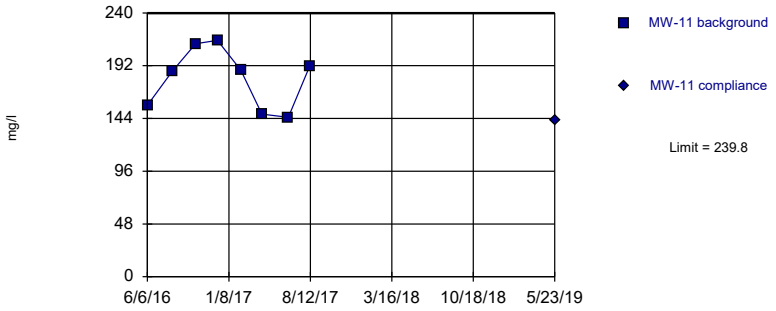
LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	7.83	
8/9/2016	7.54	
10/11/2016	7.69	
12/6/2016	7.53	
2/7/2017	7.89	
4/4/2017	7.78	
6/13/2017	7.67	
8/8/2017	7.65	
5/23/2019		7.72

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=180.3, Std. Dev.=27.54, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8911, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

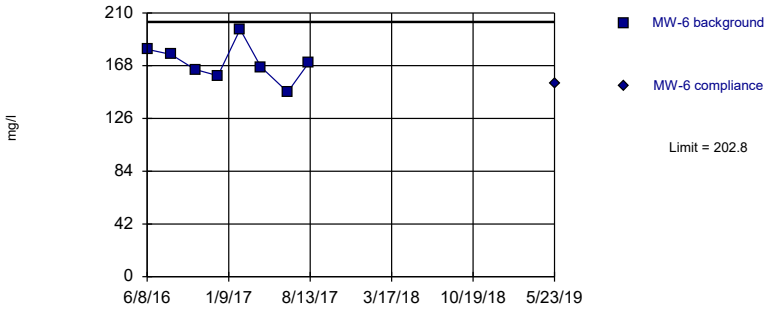
Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=170.5, Std. Dev.=14.93, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9832, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

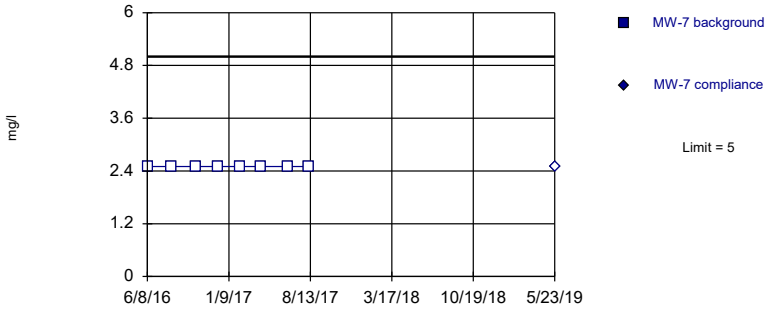
LaCygne Client: SCS Engineers Data: LaC GW Data

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%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

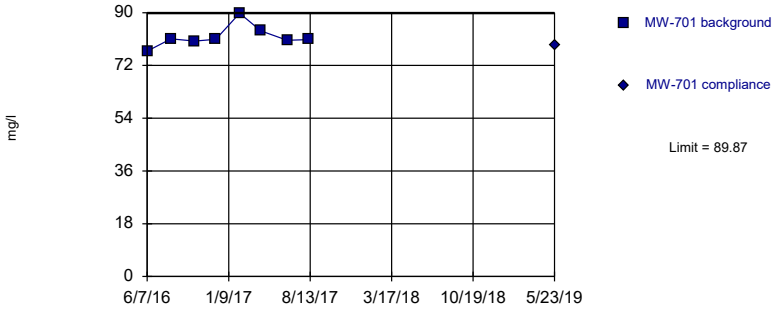
Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=81.78, Std. Dev.=3.742, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8279, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-11	MW-11
6/6/2016	156	
8/11/2016	187	
10/12/2016	212	
12/9/2016	215	
2/9/2017	188	
4/6/2017	148	
6/15/2017	145	
8/10/2017	191	
5/23/2019		142

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-6	MW-6
6/8/2016	181	
8/10/2016	177	
10/13/2016	165	
12/12/2016	160	
2/9/2017	197	
4/5/2017	167	
6/15/2017	147	
8/9/2017	170	
5/23/2019		154

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-7	MW-7
6/8/2016	<5	
8/10/2016	<5	
10/13/2016	<5	
12/12/2016	<5	
2/8/2017	<5	
4/5/2017	<5	
6/15/2017	<5	
8/9/2017	<5	
5/23/2019		<5

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

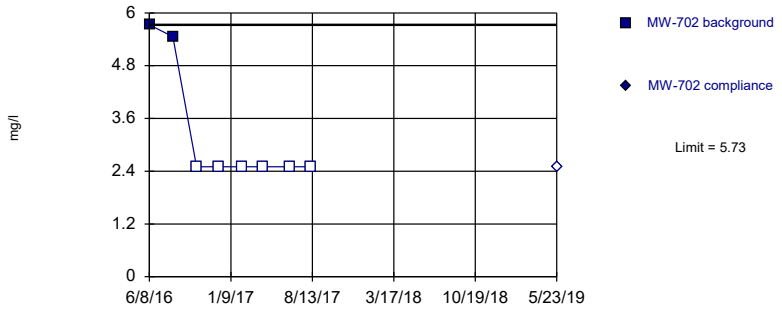
	MW-701	MW-701
6/7/2016	76.9	
8/9/2016	81.1	
10/11/2016	80.3	
12/6/2016	80.9	
2/7/2017	89.8	
4/4/2017	83.8	
6/13/2017	80.6	
8/8/2017	80.8	
5/23/2019		78.8

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 8 background values. 75% NDs. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

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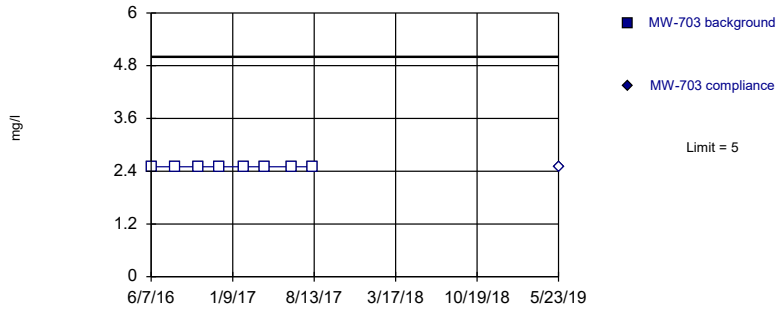
Hollow symbols indicate censored values.

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 = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

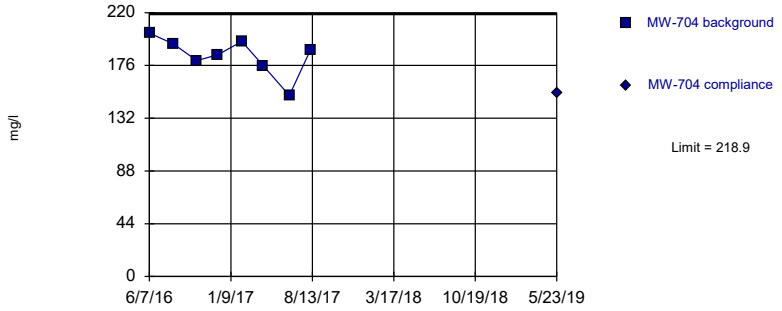
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=184.3, Std. Dev.=16.03, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9098, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

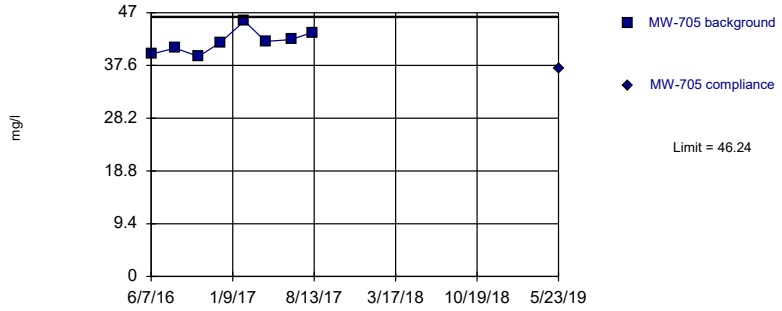
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.23 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=41.79, Std. Dev.=2.055, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.957, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-702	MW-702
6/8/2016	5.73	
8/9/2016	5.46	
10/11/2016	<5	
12/8/2016	<5	
2/8/2017	<5	
4/5/2017	<5	
6/15/2017	<5	
8/9/2017	<5	
5/23/2019		<5

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-703	MW-703
6/7/2016	<5	
8/9/2016	<5	
10/11/2016	<5	
12/6/2016	<5	
2/7/2017	<5	
4/4/2017	<5	
6/14/2017	<5	
8/10/2017	<5	
5/23/2019		<5

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-704	MW-704
6/7/2016	203	
8/9/2016	194	
10/11/2016	180	
12/6/2016	185	
2/7/2017	196	
4/4/2017	176	
6/13/2017	151	
8/8/2017	189	
5/23/2019		153

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

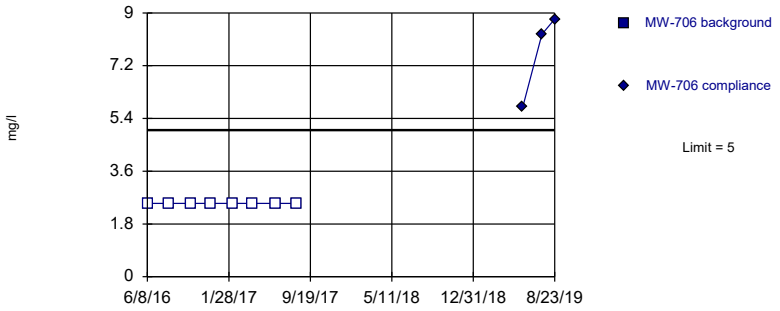
	MW-705	MW-705
6/7/2016	39.6	
8/9/2016	40.7	
10/11/2016	39.2	
12/7/2016	41.7	
2/9/2017	45.5	
4/6/2017	41.9	
6/13/2017	42.2	
8/9/2017	43.5	
5/23/2019		37

Hollow symbols indicate censored values.

Exceeds Limit

Prediction Limit

Intrawell Non-parametric



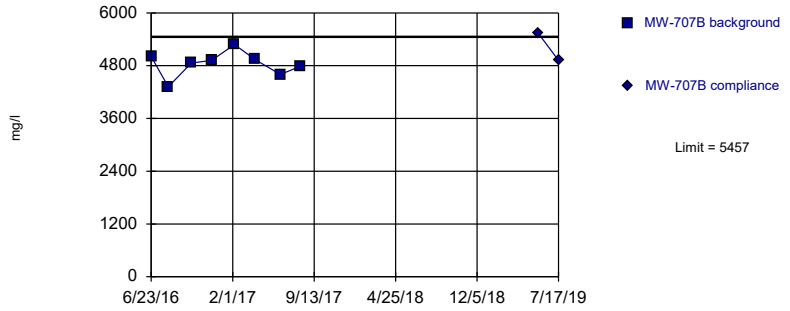
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



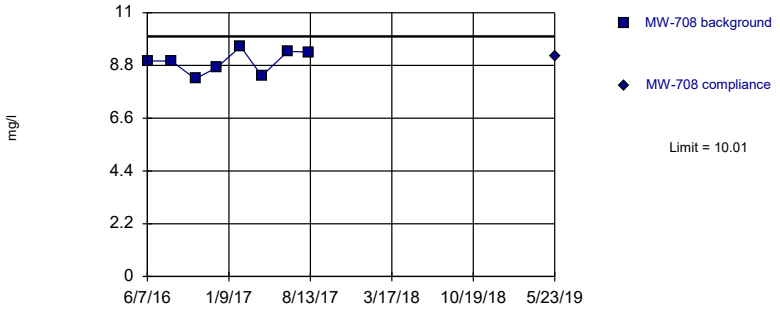
Background Data Summary: Mean=4840, Std. Dev.=285.3, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9616, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



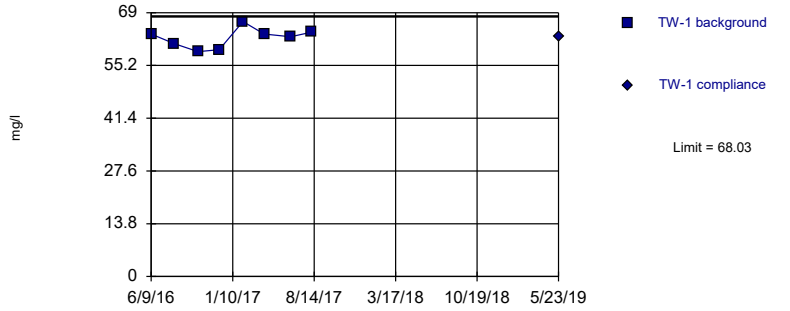
Background Data Summary: Mean=8.953, Std. Dev.=0.4885, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9383, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=62.39, Std. Dev.=2.609, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.749. Kappa = 2.164 (c=7, w=9, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008358.

Constituent: SULFATE Analysis Run 9/25/2019 12:47 PM View: Upper AQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-706	MW-706	
6/8/2016	<5		
8/9/2016	<5		
10/11/2016	<5		
12/6/2016	<5		
2/7/2017	<5		
4/4/2017	<5		
6/13/2017	<5		
8/9/2017	<5		
5/23/2019		5.78	
7/17/2019		8.27	1st verification sample
8/23/2019		8.79	2nd verification sample

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-707B	MW-707B	
6/23/2016	5010		
8/9/2016	4320		
10/11/2016	4860		
12/6/2016	4920		
2/7/2017	5280		
4/4/2017	4940		
6/13/2017	4600		
8/8/2017	4790		
5/23/2019		5530	
7/17/2019		4920	1st verification sample

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-708	MW-708
6/7/2016	8.99	
8/10/2016	8.98	
10/12/2016	8.24	
12/9/2016	8.72	
2/9/2017	9.59	
4/6/2017	8.36	
6/14/2017	9.38	
8/8/2017	9.36	
5/23/2019		9.18

Prediction Limit

Constituent: SULFATE (mg/l) Analysis Run 9/25/2019 12:56 PM View: Upper AQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	TW-1	TW-1
6/9/2016	63.4	
8/9/2016	60.9	
10/11/2016	58.8	
12/6/2016	59.3	
2/7/2017	66.7	
4/4/2017	63.4	
6/13/2017	62.7	
8/8/2017	63.9	
5/23/2019		62.9

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 9/25/2019, 12:56 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
BORON (mg/l)	MW-11	1.173	n/a	5/23/2019	0.819	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-6	1.24	n/a	5/23/2019	1.19	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-7	1.714	n/a	5/23/2019	1.6	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-701	1.098	n/a	5/23/2019	0.992	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-702	2.042	n/a	5/23/2019	1.55	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-703	1.974	n/a	5/23/2019	1.86	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-704	2.148	n/a	5/23/2019	2.03	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-705	2.342	n/a	5/23/2019	2.18	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-706	2.286	n/a	5/23/2019	2.09	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-707B	2.117	n/a	5/23/2019	1.96	No	8	0	x^6	0.000...	Param Intra 1 of 3
BORON (mg/l)	MW-708	1.551	n/a	5/23/2019	1.31	No	8	0	No	0.000...	Param Intra 1 of 3
BORON (mg/l)	TW-1	1.75	n/a	5/23/2019	1.47	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-11	74.31	n/a	5/23/2019	65.4	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-6	118.8	n/a	5/23/2019	83.7	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-7	29.09	n/a	5/23/2019	22.1	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	**MW-701**	**39.71**	**n/a**	**8/23/2019**	**39.9**	**Yes**	**8**	**0**	**No**	**0.000...**	**Param Intra 1 of 3**
CALCIUM (mg/l)	MW-702	23.27	n/a	5/23/2019	5.7	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-703	23.87	n/a	5/23/2019	19.3	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-704	36.37	n/a	5/23/2019	21.9	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-705	43.31	n/a	5/23/2019	28.5	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-706	36.89	n/a	5/23/2019	23.2	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-707B	428.9	n/a	5/23/2019	418	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	MW-708	35.19	n/a	5/23/2019	28.6	No	8	0	No	0.000...	Param Intra 1 of 3
CALCIUM (mg/l)	TW-1	38.12	n/a	5/23/2019	24.1	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-11	139.5	n/a	5/23/2019	121	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-6	238.5	n/a	5/23/2019	204	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-7	118.9	n/a	5/23/2019	96.5	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-701	58.55	n/a	5/23/2019	48.6	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-702	51.75	n/a	5/23/2019	41.8	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-703	122.3	n/a	5/23/2019	109	No	8	0	x^4	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	**MW-704**	**85.06**	**n/a**	**8/23/2019**	**89.2**	**Yes**	**8**	**0**	**No**	**0.000...**	**Param Intra 1 of 3**
CHLORIDE (mg/l)	MW-705	143.6	n/a	5/23/2019	135	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-706	307.4	n/a	5/23/2019	253	No	8	0	ln(x)	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-707B	251	n/a	5/23/2019	194	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-708	49.06	n/a	5/23/2019	43.4	No	8	0	No	0.000...	Param Intra 1 of 3
CHLORIDE (mg/l)	TW-1	46.74	n/a	5/23/2019	41.8	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-11	1186	n/a	5/23/2019	1000	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-6	1325	n/a	5/23/2019	1210	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-7	980.9	n/a	5/23/2019	936	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-701	662.8	n/a	5/23/2019	582	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-702	806.2	n/a	5/23/2019	530	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-703	1010	n/a	5/23/2019	910	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-704	1324	n/a	5/23/2019	1230	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-705	1137	n/a	5/23/2019	980	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-706	1560	n/a	5/23/2019	1230	No	8	0	n/a	0.005912	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-707B	11361	n/a	5/23/2019	8310	No	8	0	No	0.000...	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-708	881	n/a	5/23/2019	651	No	8	0	n/a	0.005912	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	TW-1	1135	n/a	5/23/2019	1050	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-11	0.6133	n/a	5/23/2019	0.454	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-6	1.75	n/a	5/23/2019	0.467	No	8	0	n/a	0.005912	NP Intra (normality) ...

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 9/25/2019, 12:56 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
FLUORIDE (mg/l)	MW-7	1.4	n/a	5/23/2019	1.09	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-701	0.889	n/a	5/23/2019	0.603	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-702	1.623	n/a	5/23/2019	1.21	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-703	1.613	n/a	5/23/2019	1.34	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-704	0.9788	n/a	5/23/2019	0.828	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-705	1.103	n/a	5/23/2019	0.852	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-706	1.295	n/a	5/23/2019	0.985	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-707B	0.5991	n/a	5/23/2019	0.276	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-708	0.7429	n/a	5/23/2019	0.495	No	8	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	TW-1	0.4833	n/a	5/23/2019	0.365	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-11	7.659	7.088	5/23/2019	7.52	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-6	7.392	7.02	5/23/2019	7.17	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-7	8.091	7.561	5/23/2019	7.75	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-701	8.232	7.036	8/23/2019	7.54	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-702	9.337	7.318	5/23/2019	8.82	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-703	8.006	7.334	5/23/2019	7.5	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-704	7.83	7.07	8/23/2019	7.5	No	8	0	n/a	0.01182	NP Intra (normality) ...
pH (S.U.)	MW-705	7.35	6.5	5/23/2019	7.33	No	8	0	n/a	0.01182	NP Intra (normality) ...
pH (S.U.)	MW-706	8.168	7.142	8/23/2019	7.5	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-707B	7.245	6.745	7/17/2019	6.8	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-708	7.729	6.856	5/23/2019	7.36	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	TW-1	7.978	7.417	5/23/2019	7.72	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-11	239.8	n/a	5/23/2019	142	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-6	202.8	n/a	5/23/2019	154	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-7	5	n/a	5/23/2019	2.5ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-701	89.87	n/a	5/23/2019	78.8	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-702	5.73	n/a	5/23/2019	2.5ND	No	8	75	n/a	0.005912	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-703	5	n/a	5/23/2019	2.5ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-704	218.9	n/a	5/23/2019	153	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-705	46.24	n/a	5/23/2019	37	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	**MW-706**	**5**	**n/a**	**8/23/2019**	**8.79**	**Yes**	**8**	**100**	**n/a**	**0.005912**	**NP Intra (NDs) 1 of 3**
SULFATE (mg/l)	MW-707B	5457	n/a	7/17/2019	4920	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-708	10.01	n/a	5/23/2019	9.18	No	8	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	TW-1	68.03	n/a	5/23/2019	62.9	No	8	0	No	0.000...	Param Intra 1 of 3

La Cygne Generating Station
Determination of Statistically Significant Increases
Upper AQC Impoundment
October 1, 2019

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
  - [ ] 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
- [x] 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

☑ 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: 9

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...

Outlier Tests

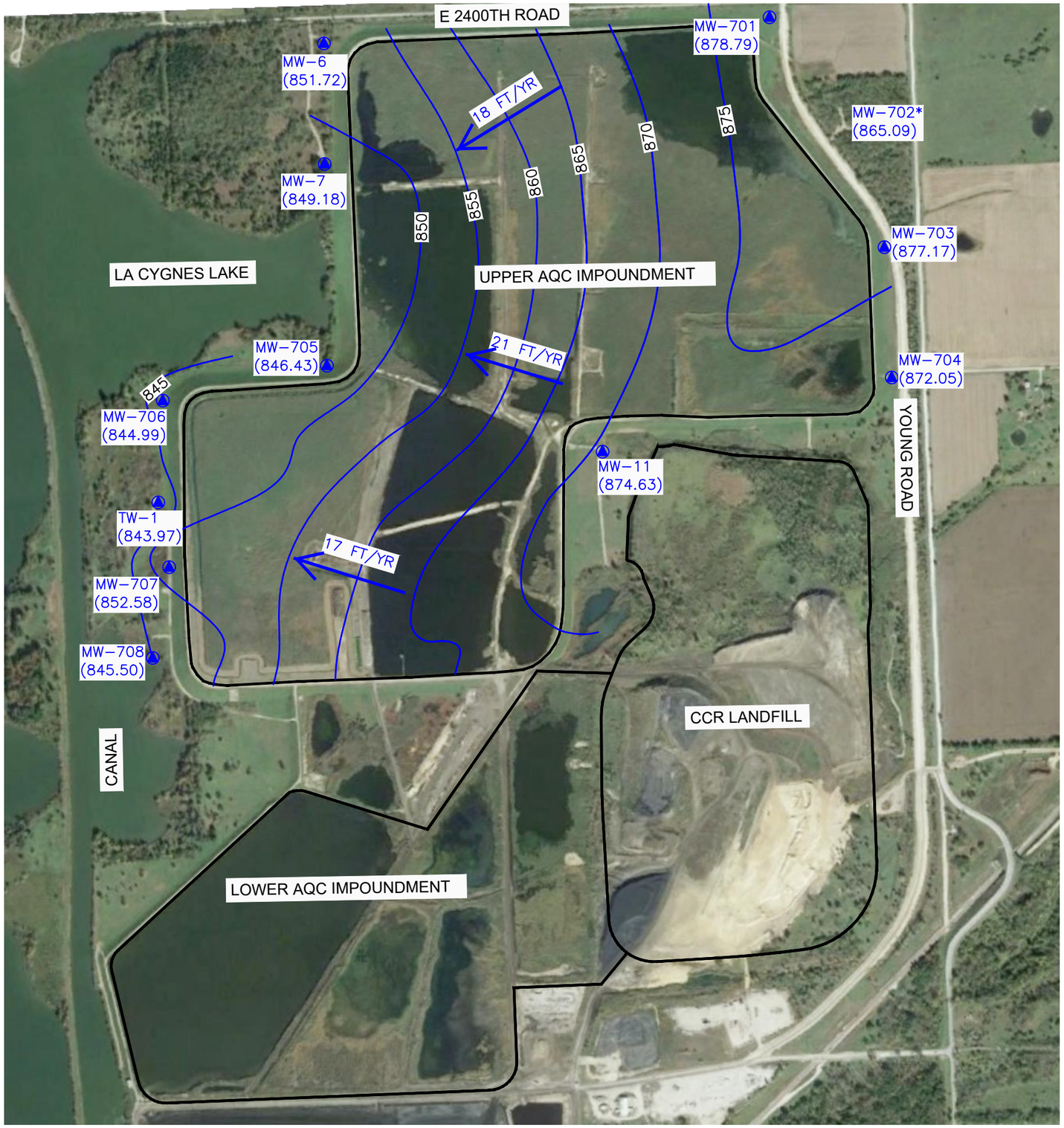
- ( ) EPA 1989 Outlier Screening (fixed alpha of 0.05)
- (•) Dixon's at α= 0.05 or if n > 22 Rosner's at α= 0.01 [x] Use EPA Screening to establish Suspected Outliers
- ( ) Tukey's Outlier Screening, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat
- [x] Test For Normality using 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)

ATTACHMENT 3

Groundwater Potentiometric Surface Maps



LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF CCR LANDFILL AND LOWER AQC IMPOUNDMENT)
- MW-601 (868.92) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- –875— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)
- 15 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. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 23, 2019.

800 0 800 1600

SCALE FEET

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

SHEET TITLE
POTENTIOMETRIC SURFACE MAP (MAY 2019)
UAQC IMPOUNDMENT

PROJECT TITLE
2019 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT AND ADDENDUM

CLIENT
EVERGY METRO
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
7311 W. 130th St. Ste. 100
Overland Park, Kansas 66213
PH: (913) 681-0030 FAX: (913) 681-0012

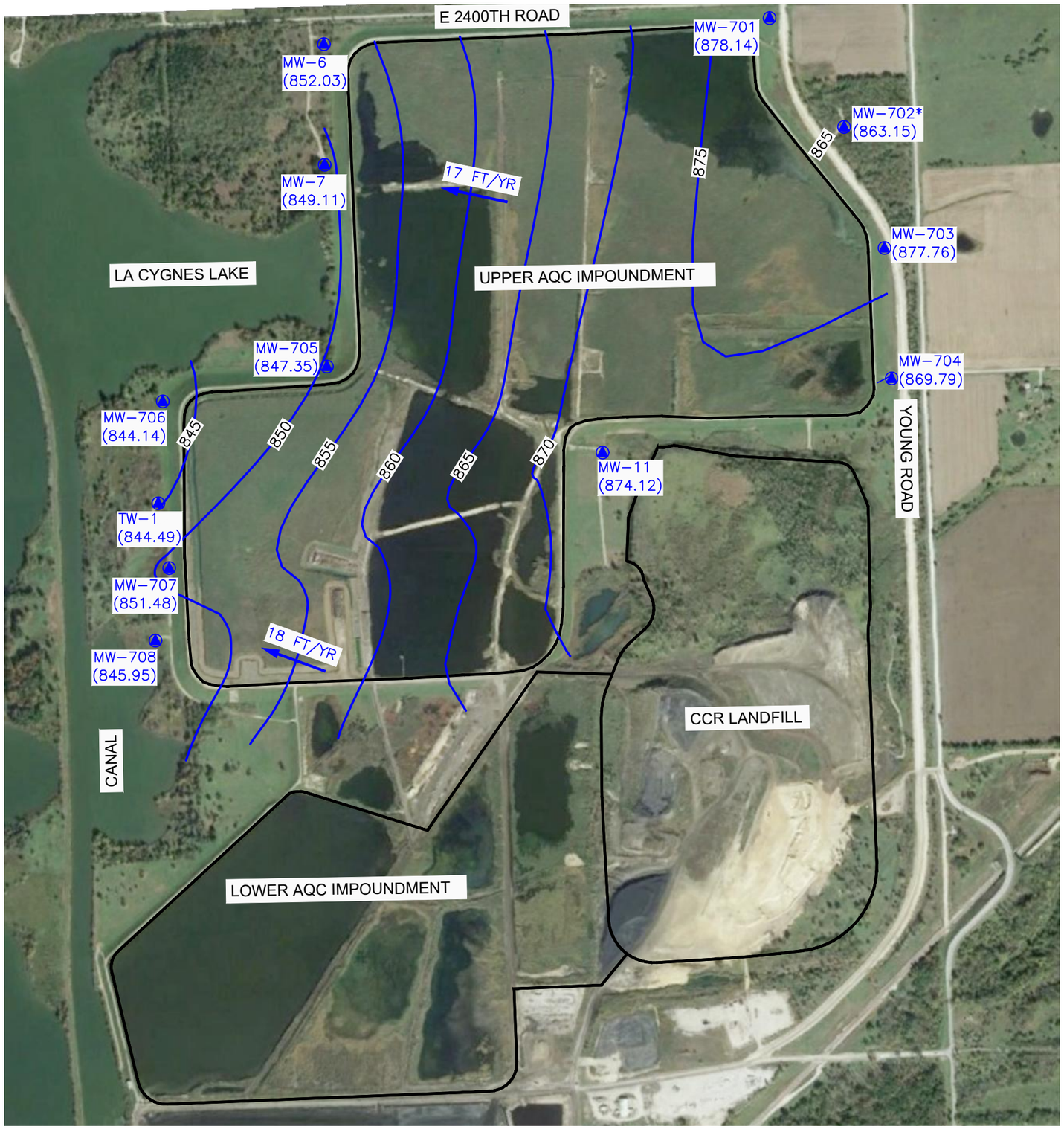
PROJ. NO.	DWN. BY:	Q/A RVW BY:
27217233.00	RCW	JRR
DSN. BY:	CHK. BY:	PROJ. MGR
RCW	JRR	JRR

CADD FILE:
LA CYGNE LF UAQC IMP & UAQC KDHE GW FIG 1_MAY 2019 - COMBINED V0.02.DWG

DATE: 12/1/22

FIGURE NO.
2

N:\KCPL\Projects\Groundwater\DWG\La Cygne\2019\La Cygne LF LAQC Imp & UAQC KDHE GW Fig 1_MAY 2019 - COMBINED v0.02.dwg Dec 01, 2022 - 4:57pm Layout Name: Fig 1 UAQC By: swyly



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
- 17 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. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 7, 2019.

800 0 800 1600

SCALE FEET

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

SHEET TITLE
POTENTIOMETRIC SURFACE MAP (NOVEMBER 2019)
UAQC IMPOUNDMENT

PROJECT TITLE
2019 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT
EVERGY METRO
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

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7311 W. 130th St. Ste. 100
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PROJ. NO. 27217233.00
DSN. BY: DAW
DWN. BY: DAW
CHK. BY: JF
Q/A REW BY: JRR
PROJ. MGR: JRR

CADD FILE:
LA CYGNE LF LAQC IMP & UAQC KDHE GW FIG 1_NOV 2019 - COMBINED V0.02.DWG

DATE: 12/1/22

FIGURE NO. 3

N:\KCPL\Projects\Groundwater\DWG\La Cygne\2019\La Cygne LF LAQC Imp & UAQC KDHE GW Fig 1_NOV 2019 - COMBINED v0.02.dwg Dec 01, 2022 - 1:38pm Layout Name: Fig 1 Upper By: swyly