2018 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

NORTH AND SOUTH ASH IMPOUNDMENTS
MONTROSE GENERATING STATION
CLINTON, MISSOURI

Presented To:
Kansas City Power & Light Company

SCS ENGINEERS

27213168.18 | January 2019, Revised December 20, 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 Registered Geologist in the State of Missouri, do hereby certify that the 2018 Annual Groundwater Monitoring and Corrective Action Report for the North and South Ash Impoundments at the Montrose Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).

JOHN R. ROCKHOLD
12-20-22
RG0092

John R. Rockhold, R.G.

SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Missouri, do hereby certify that the 2018 Annual Groundwater Monitoring and Corrective Action Report for the North and South Ash Impoundments at the Montrose Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).

DOUGLAS
LEE
DOERR
NUMBER
PE-28982

12-20-22

Douglas L. Doerr, P.E.

SCS Engineers

Revision Number	Revision Date	Revision Section	Summary of Revisions
0	January 2019	NA	Original Report.
1	December 20, 2022	Addendum 1	Added Addendum 1

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1 INTRODUCTION

This 2018 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 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 2018 Annual Groundwater Monitoring and Corrective Action Report for the North and South Ash Impoundments at the Montrose 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 North and South Ash Impoundments and all background (or upgradient) and downgradient monitoring wells with identification numbers for the North and South Ash Impoundments 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 North and South Ash Impoundments in 2018.

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 (2018). Samples collected in 2018 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 both the Spring 2018 semiannual detection monitoring data and the Fall 2018 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 2018. Only detection monitoring was conducted in 2018.

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 statistical evaluation of the initial Fall 2017 semiannual detection monitoring event per the certified statistical method,

b. completion of the 2017 Annual Groundwater Monitoring and Corrective Action Report,

c. completion of the Spring 2018 semiannual detection monitoring sampling and analysis event, and subsequent verification sampling per the certified statistical method,

d. completion of the statistical evaluation of the Spring 2018 semiannual detection monitoring event per the certified statistical method, and

e. initiation of the Fall 2018 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 (2019).

Semiannual Spring and Fall 2019 groundwater sampling and analysis. Completion of verification sampling and analyses and statistical evaluation of Fall 2018 and Spring 2019 detection monitoring data 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.

Not applicable because no such demonstration was conducted.

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

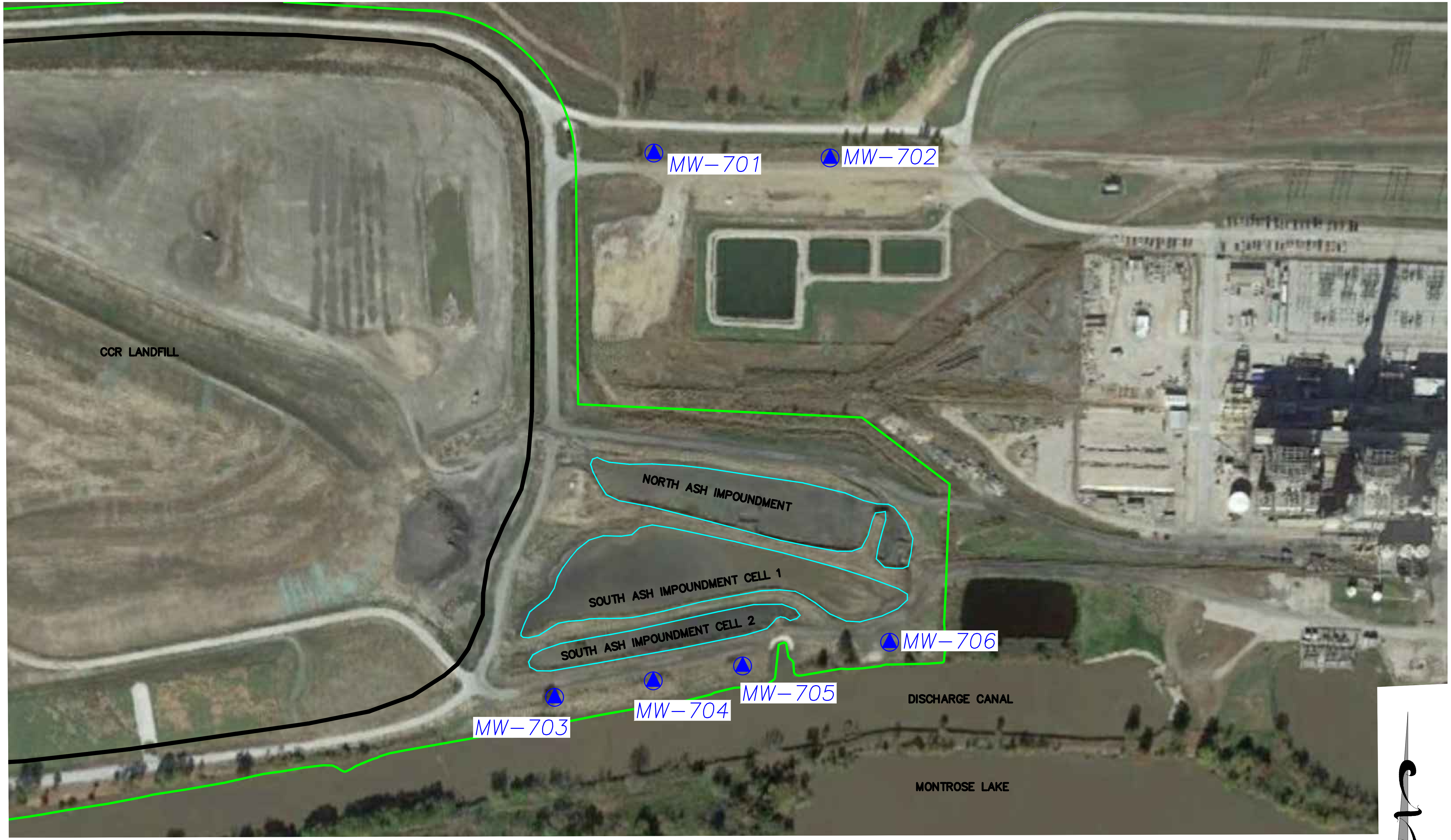
This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. The information contained in this report is a reflection of the conditions encountered at the Montrose Generating Station at the time of fieldwork. This report includes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

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

APPENDIX A

FIGURES

Figure 1: Site Map


MW−701
MW−702
CCR LANDFILL
NORTH ASH IMPOUNDMENT
SOUTH ASH IMPOUNDMENT CELL 1
SOUTH ASH IMPOUNDMENT CELL 2
MW−706
MW−705
MW−704
MW−703
DISCHARGE CANAL
MONTROSE LAKE

LEGEND:

🟩	*PERMITTED SOLID WASTE FACILITY BOUNDARY (APPROXIMATE)*
■	*CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)*
▲ *MW−703*	*CCR GROUNDWATER MONITORING SYSTEM WELLS*
🟦	*ASH IMPOUNDMENT UNIT BOUNDARY (APPROXIMATE)*

NOTES:

1. *HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)*
2. *VERTICAL DATUM: NAVD 88*
3. *GOOGLE EARTH IMAGE DATED 10/20/2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.*
4. *BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY AECOM*

200 0 200 400

SCALE FEET

REV.	DATE		CK. BY
△	-		-
△	-		-
△	-		-
△	-		-
△	-		-
△	-		-

SHEET TITLE

SITE MAP
NORTH AND SOUTH ASH IMPOUNDMENTS
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE

2018 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT

KANSAS CITY POWER & LIGHT COMPANY
MONTROSE GENERATING STATION
MONTROSE, MISSOURI

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS AND CONTRACTORS

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

PROJ. NO. 27213168.18	DWN. BY: TGW	Q/A RVW BY: JRR
DSN. BY: TGW	CHK. BY: JRR	PROJ. MGR JRF

CADD FILE:
FIGURE 1_MONT NS ASH IMP.DWG

DATE:
1/21/19

FIGURE NO.
1

N:\KCPL\PROJECTS\GROUNDWATER\DWG\MONTROSE\2018\ANNUAL CCR REPORTING\FIGURE 1_MONT NS ASH IMP.DWG

APPENDIX B

TABLES

Table 1: Appendix III Detection Monitoring Results

Table 2: Detection Monitoring Field Measurements

Table 1
North and South Ash Impoundments
Appendix III Detection Monitoring Results
KCP&L Montrose 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-701	5/14/2018	<0.200	424	497	1.46	4.40	2770	3290
MW-701	6/26/2018	---	---	---	*1.33	**4.23	*1970	---
MW-701	11/19/2018	<0.200	369	336	1.05	4.34	2180	2860
MW-702	5/14/2018	<0.200	416	192	0.220	6.40	1790	2260
MW-702	11/19/2018	0.211	413	153	0.184	6.37	1690	2280
MW-703	5/14/2018	<0.200	219	16.4	0.173	6.41	892	1480
MW-703	11/19/2018	<0.200	233	20.0	0.144	6.27	1160	1560
MW-704	5/14/2018	<0.200	156	3.86	0.139	6.13	726	1150
MW-704	11/19/2018	<0.200	154	4.22	0.122	6.24	880	1140
MW-705	5/14/2018	<0.200	129	13.1	0.185	6.18	594	1080
MW-705	11/19/2018	<0.200	111	14.0	0.190	6.28	536	924
MW-706	5/14/2018	0.219	273	29.7	0.165	6.16	1030	1730
MW-706	11/19/2018	0.203	278	29.5	0.200	6.49	1120	1640

* 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

S.U. - Standard Units

--- Not Sampled

Table 2
North and South Ash Impoundments
Detection Monitoring Field Measurements
KCP&L Montrose Generating Station

Well Number	Sample Date	pH (S.U.)	Specific Conductivity (µS)	Temperature (°C)	Turbidity (NTU)	ORP (mV)	DO (mg/L)	Water Level (ft btoc)	Groundwater Elevation (ft NGVD)
MW-701	5/14/2018	4.40	3800	19.80	0.0	404	2.72	5.88	757.60
MW-701	6/26/2018	**4.23	3630	22.80	0.0	350	1.21	6.18	757.30
MW-701	11/19/2018	4.34	3530	16.19	3.2	402	1.20	8.15	755.33
MW-702	5/14/2018	6.40	2890	18.50	190.0	121	0.69	5.54	758.21
MW-702	11/19/2018	6.37	2880	13.51	73.2	71	0.00	8.02	755.73
MW-703	5/14/2018	6.41	1960	21.21	7.6	24	1.03	9.04	751.39
MW-703	11/19/2018	6.27	2040	14.30	9.3	-7	0.00	9.44	750.99
MW-704	5/14/2018	6.13	1440	19.27	13.6	-57	1.25	8.51	751.37
MW-704	11/19/2018	6.24	1600	16.29	5.6	-68	0.64	8.88	751.00
MW-705	5/14/2018	6.18	1280	19.73	15.8	-73	0.87	6.49	751.44
MW-705	11/19/2018	6.28	2540	13.70	19.7	-46	0.00	6.85	751.08
MW-706	5/14/2018	6.16	2000	21.16	11.7	38	0.81	7.63	751.57
MW-706	11/19/2018	6.49	2290	17.22	6.9	-61	0.38	7.84	751.36

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

S.U. - Standard Units

µS - microsiemens

°C - Degrees Celsius

ft btoc - Feet Below Top of Casing

ft NGVD - National Geodetic Vertical Datum (NAVD 88)

NTU - Nephelometric Turbidity Unit

ADDENDUM 1

2018 Annual Groundwater Monitoring and Corrective Action Report
Addendum 1

SCS ENGINEERS
Environmental Consulting & Contracting

December 20, 2022
File No. 27213168.18

STATE OF MISSOURI
JOHN R. ROCKHOLD
12-20-22
RG0092
REGISTERED GEOLOGIST

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:	2018 Annual Groundwater Monitoring and Corrective Action Report Addendum 1 Evergy Metro, Inc. North and South Ash Impoundments Montrose Generating Station – Clinton, Missouri

The North and South Ash Impoundments at the Montrose 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 2018 for the North and South Ash Impoundments was completed and placed in the facility’s operating record on January 30, 2019, 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:

  - May 2018 – Spring 2018 semiannual detection monitoring sampling event.
  - June 2018 – First verification sampling for the Spring 2018 detection monitoring sampling event.
  - November 2018 - Fall 2018 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 2018 included the following:

  - Fall 2017 semiannual detection monitoring statistical analyses.
  - Spring 2018 semiannual detection monitoring statistical analyses.

- Attachment 3 - Groundwater Potentiometric Surface Maps:

  Includes 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 2018 - Spring 2018 semiannual detection monitoring sampling event.
  - November 2018 - Fall 2018 semiannual detection monitoring sampling event.

ATTACHMENT 1

Laboratory Analytical Reports

ATTACHMENT 1-1

May 2018 Sampling Event Laboratory Report

ESC
LAB SCIENCES
a subsidiary of Pace Analytical

ANALYTICAL REPORT

May 23, 2018

myESC
REAL TIME DATA ACCESS
a subsidiary of Pace Analytical

SCS Engineers - KS

Sample Delivery Group:	L994415
Samples Received:	05/16/2018
Project Number:	27213168.18
Description:	KCPL - Montrose Generating Station
Report To:	Jason Franks 7311 West 130th Street, Ste. 100 Overland Park, KS 66213

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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

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MW-601 L994415-01 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 14:20	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113640	1	05/19/18 20:23	05/19/18 20:23	DR
Wet Chemistry by Method 9056A	WG1113640	100	05/19/18 20:38	05/19/18 20:38	DR
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 13:55	ST

MW-602 L994415-02 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 10:55	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113640	1	05/19/18 20:54	05/19/18 20:54	DR
Wet Chemistry by Method 9056A	WG1113640	100	05/19/18 21:09	05/19/18 21:09	DR
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 13:57	ST

MW-603 L994415-03 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 11:45	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113640	1	05/19/18 21:25	05/19/18 21:25	DR
Wet Chemistry by Method 9056A	WG1114103	100	05/21/18 17:39	05/21/18 17:39	DR
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 14:00	ST

MW-604 L994415-04 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 12:15	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113640	1	05/19/18 22:26	05/19/18 22:26	DR
Wet Chemistry by Method 9056A	WG1114103	100	05/21/18 17:54	05/21/18 17:54	DR
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 14:08	ST

MW-605 L994415-05 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 12:50	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113640	1	05/19/18 22:57	05/19/18 22:57	DR
Wet Chemistry by Method 9056A	WG1114103	100	05/21/18 18:10	05/21/18 18:10	DR
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 13:44	ST

MW-701 L994415-06 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 11:00	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113640	1	05/20/18 00:30	05/20/18 00:30	DR
Wet Chemistry by Method 9056A	WG1113640	100	05/20/18 01:16	05/20/18 01:16	DR
Wet Chemistry by Method 9056A	WG1114103	100	05/21/18 18:25	05/21/18 18:25	DR
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 14:11	ST

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

MW-702 L994415-07 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 11:50	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113640	1	05/20/18 01:31	05/20/18 01:31	DR
Wet Chemistry by Method 9056A	WG1113640	20	05/20/18 01:47	05/20/18 01:47	DR
Wet Chemistry by Method 9056A	WG1114103	100	05/21/18 18:41	05/21/18 18:41	DR
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 14:13	ST

MW-703 L994415-08 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 13:35	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113080	1	05/20/18 12:00	05/20/18 12:00	MAJ
Wet Chemistry by Method 9056A	WG1113080	10	05/20/18 12:16	05/20/18 12:16	MAJ
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 14:16	ST

MW-704 L994415-09 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 14:10	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113080	1	05/20/18 12:31	05/20/18 12:31	MAJ
Wet Chemistry by Method 9056A	WG1113080	10	05/20/18 12:46	05/20/18 12:46	MAJ
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 14:19	ST

MW-705 L994415-10 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 14:45	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113080	1	05/20/18 13:02	05/20/18 13:02	MAJ
Wet Chemistry by Method 9056A	WG1113080	10	05/20/18 13:48	05/20/18 13:48	MAJ
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 14:21	ST

MW-706 L994415-11 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 16:05	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113080	1	05/20/18 14:03	05/20/18 14:03	MAJ
Wet Chemistry by Method 9056A	WG1114204	20	05/21/18 23:46	05/21/18 23:46	MAJ
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 14:24	ST

DUPLICATE 2 L994415-12 GW

Collected by	Collected date/time	Received date/time
Whit Martin	05/14/18 00:00	05/16/18 15:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1112350	1	05/17/18 17:47	05/17/18 18:22	BS
Wet Chemistry by Method 9056A	WG1113080	1	05/20/18 14:34	05/20/18 14:34	MAJ
Wet Chemistry by Method 9056A	WG1113080	100	05/20/18 14:50	05/20/18 14:50	MAJ
Metals (ICP) by Method 6010B	WG1112627	1	05/19/18 13:12	05/22/18 14:27	ST

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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
Technical Service Representative

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	4760000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	55000		1000	1	05/19/2018 20:23	WG1113640
Fluoride	483		100	1	05/19/2018 20:23	WG1113640
Sulfate	3950000		500000	100	05/19/2018 20:38	WG1113640

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	05/22/2018 13:55	WG1112627
Calcium	453000		1000	1	05/22/2018 13:55	WG1112627

MW-602
Collected date/time: 05/14/18 10:55

SAMPLE RESULTS - 02

L994415

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

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Dissolved Solids	1970000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Chloride	4140		1000	1	05/19/2018 20:54	WG1113640
Fluoride	113		100	1	05/19/2018 20:54	WG1113640
Sulfate	1660000		500000	100	05/19/2018 21:09	WG1113640

Metals (ICP) by Method 6010B

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Boron	4390		200	1	05/22/2018 13:57	WG1112627
Calcium	340000		1000	1	05/22/2018 13:57	WG1112627

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	3110000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	7160		1000	1	05/19/2018 21:25	WG1113640
Fluoride	727		100	1	05/19/2018 21:25	WG1113640
Sulfate	2080000		500000	100	05/21/2018 17:39	WG1114103

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	5940		200	1	05/22/2018 14:00	WG1112627
Calcium	426000		1000	1	05/22/2018 14:00	WG1112627

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2820000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	12300		1000	1	05/19/2018 22:26	WG1113640
Fluoride	506		100	1	05/19/2018 22:26	WG1113640
Sulfate	2010000		500000	100	05/21/2018 17:54	WG1114103

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	4350		200	1	05/22/2018 14:08	WG1112627
Calcium	421000		1000	1	05/22/2018 14:08	WG1112627

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2550000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	47800		1000	1	05/19/2018 22:57	WG1113640
Fluoride	226		100	1	05/19/2018 22:57	WG1113640
Sulfate	2510000		500000	100	05/21/2018 18:10	WG1114103

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	1730		200	1	05/22/2018 13:44	WG1112627
Calcium	412000	O1 V	1000	1	05/22/2018 13:44	WG1112627

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	3290000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	497000		100000	100	05/20/2018 01:16	WG1113640
Fluoride	1460		100	1	05/20/2018 00:30	WG1113640
Sulfate	2770000		500000	100	05/21/2018 18:25	WG1114103

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	05/22/2018 14:11	WG1112627
Calcium	424000		1000	1	05/22/2018 14:11	WG1112627

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Dissolved Solids	2260000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Chloride	192000		20000	20	05/20/2018 01:47	WG1113640
Fluoride	220		100	1	05/20/2018 01:31	WG1113640
Sulfate	1790000		500000	100	05/21/2018 18:41	WG1114103

Metals (ICP) by Method 6010B

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Boron	ND		200	1	05/22/2018 14:13	WG1112627
Calcium	416000		1000	1	05/22/2018 14:13	WG1112627

MW-703

Collected date/time: 05/14/18 13:35

SAMPLE RESULTS - 08

L994415

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Dissolved Solids	1480000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Chloride	16400		1000	1	05/20/2018 12:00	WG1113080
Fluoride	173		100	1	05/20/2018 12:00	WG1113080
Sulfate	892000		50000	10	05/20/2018 12:16	WG1113080

Metals (ICP) by Method 6010B

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Boron	ND		200	1	05/22/2018 14:16	WG1112627
Calcium	219000		1000	1	05/22/2018 14:16	WG1112627

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1150000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	3860		1000	1	05/20/2018 12:31	WG1113080
Fluoride	139		100	1	05/20/2018 12:31	WG1113080
Sulfate	726000		50000	10	05/20/2018 12:46	WG1113080

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	05/22/2018 14:19	WG1112627
Calcium	156000		1000	1	05/22/2018 14:19	WG1112627

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1080000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	13100		1000	1	05/20/2018 13:02	WG1113080
Fluoride	185		100	1	05/20/2018 13:02	WG1113080
Sulfate	594000		50000	10	05/20/2018 13:48	WG1113080

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	05/22/2018 14:21	WG1112627
Calcium	129000		1000	1	05/22/2018 14:21	WG1112627

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1730000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	29700		1000	1	05/20/2018 14:03	WG1113080
Fluoride	165		100	1	05/20/2018 14:03	WG1113080
Sulfate	1030000		100000	20	05/21/2018 23:46	WG1114204

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	219		200	1	05/22/2018 14:24	WG1112627
Calcium	273000		1000	1	05/22/2018 14:24	WG1112627

DUPLICATE 2

Collected date/time: 05/14/18 00:00

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2700000		10000	1	05/17/2018 18:22	WG1112350

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	48200		1000	1	05/20/2018 14:34	WG1113080
Fluoride	217		100	1	05/20/2018 14:34	WG1113080
Sulfate	1870000		500000	100	05/20/2018 14:50	WG1113080

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	1760		200	1	05/22/2018 14:27	WG1112627
Calcium	416000		1000	1	05/22/2018 14:27	WG1112627

Method Blank (MB)

(MB) R3311337-1 05/17/18 18:22

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

L994415-01 Original Sample (OS) • Duplicate (DUP)

(OS) L994415-01 05/17/18 18:22 • (DUP) R3311337-4 05/17/18 18:22

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	4760000	4550000	1	4.62		5

L994415-02 Original Sample (OS) • Duplicate (DUP)

(OS) L994415-02 05/17/18 18:22 • (DUP) R3311337-5 05/17/18 18:22

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1970000	1920000	1	2.31		5

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

(LCS) R3311337-2 05/17/18 18:22 • (LCSD) R3311337-3 05/17/18 18:22

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 %
Dissolved Solids	8800000	8610000	8750000	97.8	99.4	85.0-115			1.61	5

Method Blank (MB)

(MB) R3311589-1 05/19/18 12:38

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

L993751-01 Original Sample (OS) • Duplicate (DUP)

(OS) L993751-01 05/20/18 08:09 • (DUP) R3311589-4 05/20/18 08:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	19400	19500	1	0.382		15
Fluoride	558	554	1	0.720		15
Sulfate	14000	14000	1	0.152		15

L994028-02 Original Sample (OS) • Duplicate (DUP)

(OS) L994028-02 05/20/18 10:58 • (DUP) R3311589-7 05/20/18 11:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	32800	33100	1	0.827		15
Fluoride	8010	8210	1	2.50		15

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

(LCS) R3311589-2 05/19/18 12:54 • (LCSD) R3311589-3 05/19/18 13:09

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	%	%	%			%	%
Chloride	40000	39200	39100	98.1	97.8	80.0-120			0.271	15
Fluoride	8000	7970	7930	99.6	99.1	80.0-120			0.521	15
Sulfate	40000	38900	38800	97.2	97.1	80.0-120			0.0726	15

L993751-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L993751-01 05/20/18 08:09 • (MS) R3311589-5 05/20/18 08:40 • (MSD) R3311589-6 05/20/18 08:55

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	19400	73400	69900	108	101	1	80.0-120			4.94	15
Fluoride	5000	558	5420	5680	97.2	103	1	80.0-120			4.77	15

L993751-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L993751-01 05/20/18 08:09 • (MS) R3311589-5 05/20/18 08:40 • (MSD) R3311589-6 05/20/18 08:55

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	14000	64200	64700	100	101	1	80.0-120			0.671	15

L994028-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L994028-02 05/20/18 10:58 • (MS) R3311589-8 05/20/18 11:29

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	32800	87000	108	1	80.0-120	
Fluoride	5000	8010	12700	93.3	1	80.0-120	E

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

Method Blank (MB)

(MB) R3311379-1 05/19/18 07:31

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Chloride	208	J	51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L994251-01 Original Sample (OS) • Duplicate (DUP)

(OS) L994251-01 05/19/18 16:01 • (DUP) R3311379-4 05/19/18 16:16

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	4800	4760	1	0.956		15
Fluoride	ND	67.9	1	0.000		15
Sulfate	ND	3890	1	0.000		15

L994415-05 Original Sample (OS) • Duplicate (DUP)

(OS) L994415-05 05/19/18 22:57 • (DUP) R3311379-6 05/19/18 23:12

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	47800	47700	1	0.107		15
Fluoride	226	225	1	0.355		15

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

(LCS) R3311379-2 05/19/18 07:46 • (LCSD) R3311379-3 05/19/18 08:02

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Chloride	40000	39300	39200	98.3	97.9	80.0-120			0.377	15
Fluoride	8000	7790	7770	97.4	97.1	80.0-120			0.265	15
Sulfate	40000	39100	39100	97.7	97.7	80.0-120			0.0138	15

L994251-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L994251-01 05/19/18 16:01 • (MS) R3311379-5 05/19/18 16:32

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	ug/l	ug/l	ug/l	%		%	
Chloride	50000	4800	55900	102	1	80.0-120	
Fluoride	5000	ND	5280	105	1	80.0-120	

L994251-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L994251-01 05/19/18 16:01 • (MS) R3311379-5 05/19/18 16:32

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	ND	54700	101	1	80.0-120	

L994415-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L994415-05 05/19/18 22:57 • (MS) R3311379-7 05/19/18 23:28 • (MSD) R3311379-8 05/19/18 23:43

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	47800	95600	95800	95.6	96.1	1	80.0-120			0.250	15
Fluoride	5000	226	4800	4840	91.6	92.3	1	80.0-120			0.742	15

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

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

Method Blank (MB)

(MB) R3311697-1 05/21/18 13:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	305	J	77.4	5000

L994396-01 Original Sample (OS) • Duplicate (DUP)

(OS) L994396-01 05/21/18 16:53 • (DUP) R3311697-4 05/21/18 17:08

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	13600	13400	1	1.82		15

L994928-01 Original Sample (OS) • Duplicate (DUP)

(OS) L994928-01 05/21/18 19:58 • (DUP) R3311697-6 05/21/18 20:13

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	45200	45100	1	0.217		15

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

(LCS) R3311697-2 05/21/18 13:32 • (LCSD) R3311697-3 05/21/18 13:48

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 %
Sulfate	40000	40600	40500	101	101	80.0-120			0.0666	15

L994396-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L994396-01 05/21/18 16:53 • (MS) R3311697-5 05/21/18 17:24

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	13600	60900	94.6	1	80.0-120	

L994928-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L994928-01 05/21/18 19:58 • (MS) R3311697-7 05/21/18 20:29 • (MSD) R3311697-8 05/21/18 20:44

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	45200	92400	92300	94.4	94.2	1	80.0-120			0.148	15

Method Blank (MB)

(MB) R3311873-1 05/21/18 14:05

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

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

(LCS) R3311873-2 05/21/18 14:20 • (LCSD) R3311873-3 05/21/18 14:36

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 %
Sulfate	40000	39000	38900	97.4	97.2	80.0-120			0.217	15

Method Blank (MB)

(MB) R3312154-6 05/22/18 19:45

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

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

(LCS) R3312154-1 05/22/18 13:39 • (LCSD) R3312154-2 05/22/18 13:42

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	984	998	98.4	99.8	80.0-120			1.41	20
Calcium	10000	9810	9880	98.1	98.8	80.0-120			0.637	20

L994415-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L994415-05 05/22/18 13:44 • (MS) R3312154-4 05/22/18 13:49 • (MSD) R3312154-5 05/22/18 13:52

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1000	1730	2710	2700	97.9	97.6	1	75.0-125			0.0968	20
Calcium	10000	412000	416000	415000	42.6	30.8	1	75.0-125	V	V	0.284	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.
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.
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.

ESC Lab Sciences 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 ESC Lab Sciences.

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

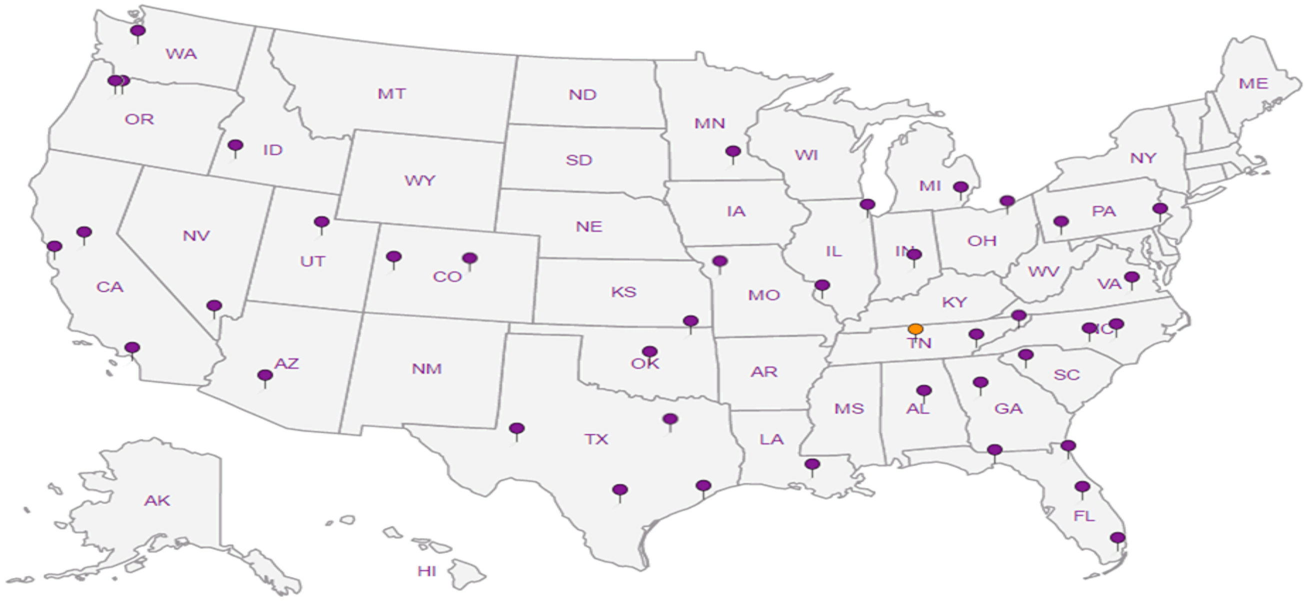
Third Party Federal Accreditations

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

ESC Lab Sciences 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. ESC Lab Sciences performs all testing at our central laboratory.



SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:
Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Pres Chk

Chain of Custody Page 1 of 2

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

Report to: **Jason Franks**

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

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

City/State Collected: Montrose, MO

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

Client Project # **27213168.18**

Lab Project # **AQUAOPKS-MONTROSE**

L # 99445

Table E081

Acctnum: **AQUAOPKS**
Template: **T135966**
Prelogin: **P652888**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

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

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 <2 ✓	TDS 250mlHDPE-NoPres								Remarks	Sample # (lab only)
MW-601	Grab	GW	–	5/14/18	1420	3	X	X	X									01
MW-602	Grab	GW	–	5/14/18	1055	3	X	X	X									02
MW-603	Grab	GW	–	5/14/18	1145	3	X	X	X									03
MW-604	Grab	GW	–	5/14/18	1215	3	X	X	X									04
MW-605	Grab	GW	–	5/14/18	1250	3	X	X	X									05
MW-701	Grab	GW	–	5/14/18	1100	3	X	X	X									06
MW-702	Grab	GW	–	5/14/18	1150	3	X	X	X									07
MW-703	Grab	GW	–	5/14/18	1335	3	X	X	X									08
MW-704	Grab	GW	–	5/14/18	1410	3	X	X	X									09
MW-705	Grab	GW	–	5/14/18	1445	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

Relinquished by : (Signature) Jason K Franks	Date: 5/15/18	Time: 1335	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 6.4 °C Bottles Received: 42	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/16/18 Time: 1530	Hold: Condition: NCF / [✓ OK]

Chain of Custody Page 2 of 2

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

SCS Engineers - KS
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:
Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

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

Report to: **Jason Franks**

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

City/State Collected: Montrose, MO

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

Client Project # **27213168.18**

Lab Project # **AQUAOPKS-MONTROSE**

Site/Facility ID #

P.O. #

Collected by (print): Whit Martin

Collected by (signature): Whit Martin

Quote #

Immediately Packed on Ice N ___ Y X

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

Date Results Needed: Std

L #
Table #
Acctnum: **AQUAOPKS**
Template: **T135966**
Prelogin: **P652888**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

Analysis / Container / Preservative

Pres Chk: C3

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-706	Grab	GW		5/14/18	1605	3	X	X	X		11
605 MS#2	Grab	GW		5/14/18	1300	3	X	X	X		05
605 MSD#2	Grab	GW		5/14/18	1305	3	X	X	X		05
DUPLICATE #2	Grab	GW		5/14/18	—	3	X	X	X		12

* 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) Jason K. Franks	Date: 5/15/18	Time: 1335	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR		If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.4 °C	Bottles Received: 42	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/16/18	Time: 1530	Hold: Condition: NCF / [✓ OK]

ATTACHMENT 1-2

June 2018 Sampling Event Laboratory Report

ANALYTICAL REPORT

July 10, 2018

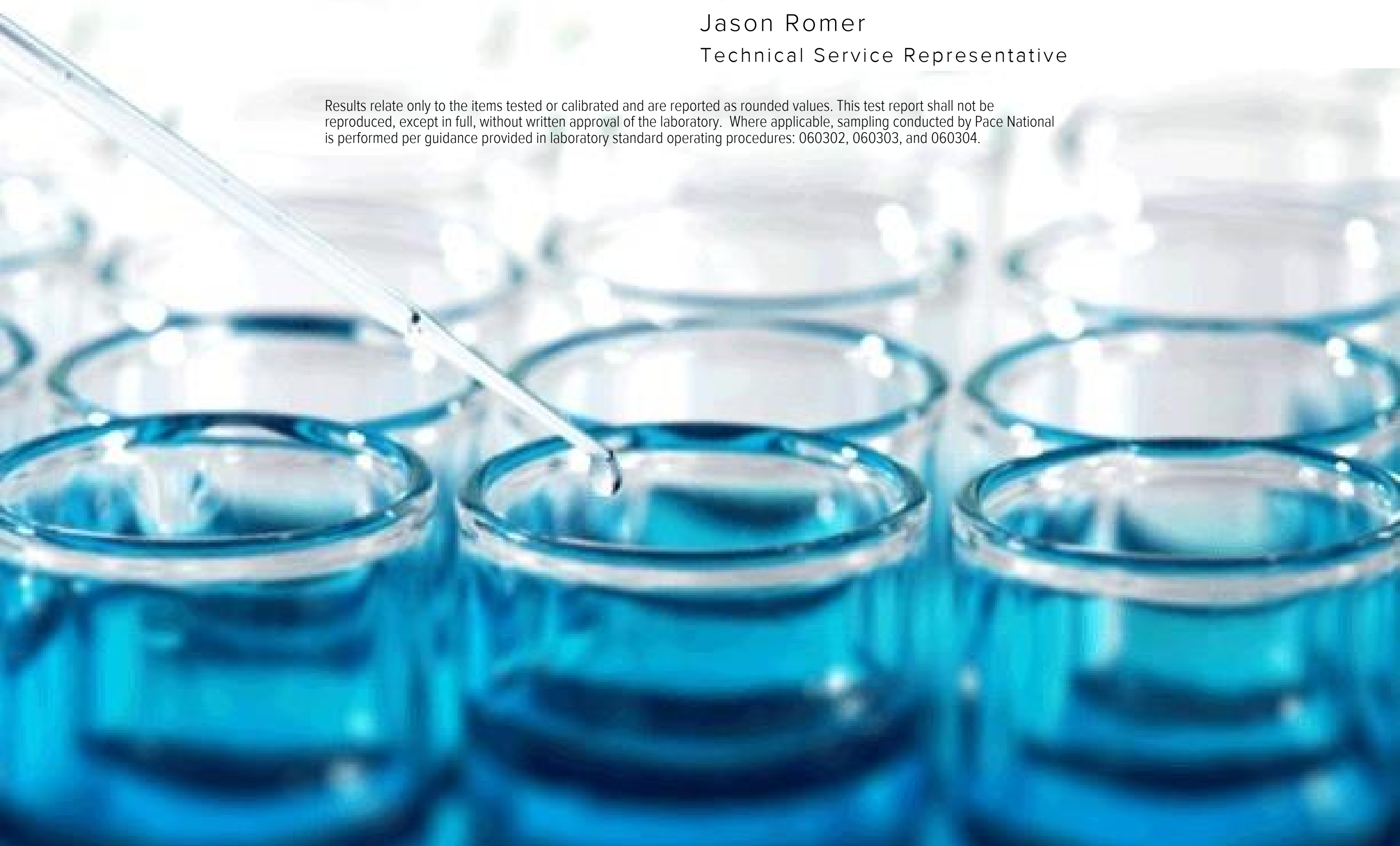
SCS Engineers - KS

Sample Delivery Group:	L1005335
Samples Received:	06/28/2018
Project Number:	27213168.18
Description:	KCPL - Montrose Generating Station
Report To:	Jason Franks 7311 West 130th Street, Ste. 100 Overland Park, KS 66213

Entire Report Reviewed By:

Jason Romer
Technical Service Representative

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.



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- Wet Chemistry by Method 9056A 11

Gl: Glossary of Terms 14

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MW-601 L1005335-01 GW

Collected by	Collected date/time	Received date/time
Whit Martin	06/26/18 11:45	06/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1135360	50	07/09/18 14:58	07/09/18 14:58	DR

MW-602 L1005335-02 GW

Collected by	Collected date/time	Received date/time
Whit Martin	06/26/18 13:10	06/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1135360	50	07/09/18 15:13	07/09/18 15:13	DR

MW-603 L1005335-03 GW

Collected by	Collected date/time	Received date/time
Whit Martin	06/26/18 13:45	06/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1133124	1	07/04/18 03:17	07/04/18 03:17	MCG

MW-605 L1005335-04 GW

Collected by	Collected date/time	Received date/time
Whit Martin	06/26/18 14:15	06/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1135360	50	07/09/18 15:28	07/09/18 15:28	DR

MW-701 L1005335-05 GW

Collected by	Collected date/time	Received date/time
Whit Martin	06/26/18 12:25	06/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1133124	1	07/04/18 03:54	07/04/18 03:54	MCG
Wet Chemistry by Method 9056A	WG1135360	50	07/09/18 15:44	07/09/18 15:44	DR

DUPLICATE L1005335-06 GW

Collected by	Collected date/time	Received date/time
Whit Martin	06/26/18 00:00	06/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1133124	1	07/04/18 05:43	07/04/18 05:43	MCG
Wet Chemistry by Method 9056A	WG1135360	50	07/09/18 15:59	07/09/18 15:59	DR

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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
Technical Service Representative

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	3190000		250000	50	07/09/2018 14:58	WG1135360

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	1270000		250000	50	07/09/2018 15:13	WG1135360

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Fluoride	568		100	1	07/04/2018 03:17	WG1133124

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	1960000		250000	50	07/09/2018 15:28	WG1135360

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Fluoride	1330		100	1	07/04/2018 03:54	WG1133124
Sulfate	1970000		250000	50	07/09/2018 15:44	WG1135360

DUPLICATE

Collected date/time: 06/26/18 00:00

SAMPLE RESULTS - 06

L1005335

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

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Fluoride	1380		100	1	07/04/2018 05:43	WG1133124
Sulfate	1950000		250000	50	07/09/2018 15:59	WG1135360

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

Method Blank (MB)

(MB) R3323295-1 07/03/18 19:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Fluoride	11.2	J	9.90	100

L1005331-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1005331-02 07/04/18 00:34 • (DUP) R3323295-4 07/04/18 01:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Fluoride	320	363	1	12.5		15

L1005344-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1005344-04 07/04/18 07:14 • (DUP) R3323295-9 07/04/18 07:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Fluoride	135	140	1	3.72		15

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

(LCS) R3323295-2 07/03/18 19:43 • (LCSD) R3323295-3 07/03/18 20:01

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	%	%	%			%	%
Fluoride	8000	7860	7850	98.2	98.2	80.0-120			0.0636	15

L1005331-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1005331-02 07/04/18 00:34 • (MS) R3323295-5 07/04/18 01:47 • (MSD) R3323295-6 07/04/18 02:05

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	%	%		%			%	%
Fluoride	5000	320	5400	5580	102	105	1	80.0-120			3.13	15

L1005335-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1005335-05 07/04/18 03:54 • (MS) R3323295-7 07/04/18 05:06 • (MSD) R3323295-8 07/04/18 05:25

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	%	%		%			%	%
Fluoride	5000	1330	6520	7080	104	115	1	80.0-120			8.29	15

L1005344-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1005344-04 07/04/18 07:14 • (MS) R3323295-10 07/04/18 07:50 • (MSD) R3323295-11 07/04/18 08:44

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Fluoride	5000	135	5160	5310	101	104	1	80.0-120			2.83	15

L1005344-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1005344-06 07/04/18 09:21 • (MS) R3323295-12 07/04/18 09:39 • (MSD) R3323295-13 07/04/18 09:57

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Fluoride	5000	318	5210	5510	97.9	104	1	80.0-120			5.50	15

Method Blank (MB)

(MB) R3324204-1 07/09/18 12:23

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

L1005344-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1005344-04 07/09/18 17:16 • (DUP) R3324204-4 07/09/18 17:32

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	31800	31900	1	0.119		15

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

(LCS) R3324204-9 07/09/18 22:18 • (LCSD) R3324204-3 07/09/18 12:54

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 %
Sulfate	40000	39100	38900	97.8	97.3	80.0-120			0.522	15

L1005344-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1005344-04 07/09/18 17:16 • (MS) R3324204-5 07/09/18 17:47 • (MSD) R3324204-6 07/09/18 18:03

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	31800	78500	78300	93.3	93.0	1	80.0-120			0.204	15

Guide to Reading and Understanding Your Laboratory Report

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

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

ACCREDITATIONS & LOCATIONS

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
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1 6]	90010
Kentucky [2]	16
Louisiana	AI30792
Louisiana [1]	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico [1]	n/a
New York	11742
North Carolina	Env375
North Carolina [1]	DW21704
North Carolina [3]	41
North Dakota	R-140
Ohio–VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee [1 4]	2006
Texas	T 104704245-17-14
Texas [5]	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

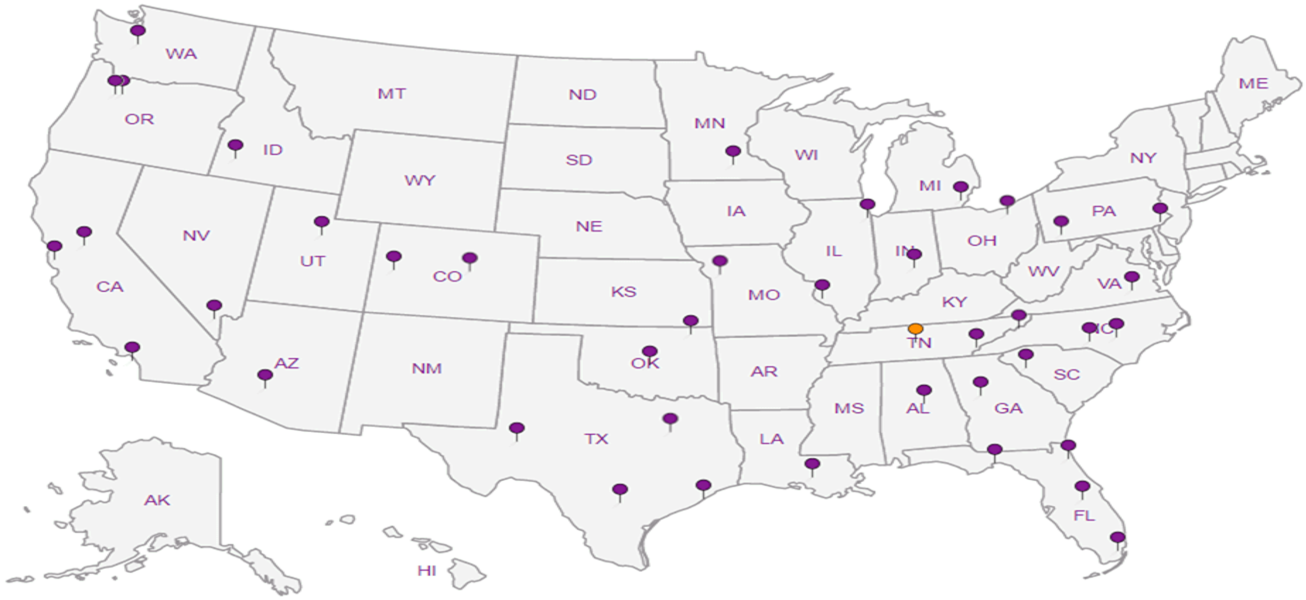
A2LA – ISO 17025	1461.01
A2LA – ISO 17025 [5]	1461.02
Canada	1461.01
EPA–Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

[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

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:
Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Pres Chk

Report to:
Jason Franks

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

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

City/State Collected: Montrose, MO

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

Client Project #: **27213168.18**

Lab Project #: **AQUAOPKS-MONTROSE**

Collected by (print): Whit Martin

Site/Facility ID #:

P.O. #:

Collected by (signature): Whit Martin

Immediately Packed on Ice N ___ Y X

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

Quote #:

Date Results Needed: Std

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC

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

L#: L1005335

A002

Acctnum: **AQUAOPKS**
Template: **T135965**
Prelogin: **P659507**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Fluoride 125mlHDPE-NoPres	Fluoride, SO4 125mlHDPE-NoPres	SO4 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-601	Grab	**GW**		6/26/18	1145	1			X		-01
MW-602	Grab	**GW**		6/26/18	1310	1			X		-02
MW-603	Grab	**GW**		6/26/18	1345	1	X				-03
MW-605	Grab	**GW**		6/26/18	1415	1			X		-04
MW-701	Grab	**GW**		6/26/18	1225	1		X			-05
DUPLICATE	Grab	**GW**		6/26/18	—	1		X			-06
MW-701 **MS/MSD**	Grab	**GW**		6/26/18	1230	1		X			-05

* 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 # 4361 6933 8672

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) Whit Martin | Date: 6/27/18 | Time: 0800 | Received by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

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

Temp: 3.7 °C | Bottles Received: 8

If preservation required by Login: Date/Time

Relinquished by: (Signature) | Date: | Time: | Received for lab by: (Signature)

Date: 6/28/18 | Time: 845

Hold:

Condition: NCF / [✓ OK]

ATTACHMENT 1-3

November 2018 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 29, 2018

SCS Engineers - KS

Sample Delivery Group:	L1046769
Samples Received:	11/21/2018
Project Number:	27213168.18
Description:	KCPL - Montrose Generating Station

Report To:

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

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

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MW-601 L1046769-01 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 11:45	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200497	1	11/26/18 16:10	11/26/18 16:36	AJS
Wet Chemistry by Method 9056A	WG1201630	1	11/28/18 00:38	11/28/18 00:38	ELN
Wet Chemistry by Method 9056A	WG1201630	100	11/28/18 00:54	11/28/18 00:54	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 09:20	CCE

MW-602 L1046769-02 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 14:30	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201630	1	11/28/18 01:09	11/28/18 01:09	ELN
Wet Chemistry by Method 9056A	WG1201630	50	11/28/18 01:25	11/28/18 01:25	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 09:23	CCE

MW-603 L1046769-03 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 14:20	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201630	1	11/28/18 01:40	11/28/18 01:40	ELN
Wet Chemistry by Method 9056A	WG1201630	50	11/28/18 01:56	11/28/18 01:56	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 09:26	CCE

MW-604 L1046769-04 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 15:00	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201630	1	11/28/18 02:42	11/28/18 02:42	ELN
Wet Chemistry by Method 9056A	WG1201630	50	11/28/18 02:57	11/28/18 02:57	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 09:29	CCE

MW-605 L1046769-05 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 15:05	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201630	1	11/28/18 03:13	11/28/18 03:13	ELN
Wet Chemistry by Method 9056A	WG1201630	50	11/28/18 03:28	11/28/18 03:28	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 09:32	CCE

MW-701 L1046769-06 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 13:40	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201630	1	11/28/18 03:43	11/28/18 03:43	ELN
Wet Chemistry by Method 9056A	WG1201630	50	11/28/18 03:59	11/28/18 03:59	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 09:35	CCE

MW-702 L1046769-07 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 13:05	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201630	1	11/28/18 04:14	11/28/18 04:14	ELN
Wet Chemistry by Method 9056A	WG1201630	50	11/28/18 04:30	11/28/18 04:30	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 09:38	CCE

MW-703 L1046769-08 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 16:10	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201630	1	11/28/18 04:45	11/28/18 04:45	ELN
Wet Chemistry by Method 9056A	WG1201630	20	11/28/18 05:01	11/28/18 05:01	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 09:41	CCE

MW-704 L1046769-09 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 16:45	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201630	1	11/28/18 05:47	11/28/18 05:47	ELN
Wet Chemistry by Method 9056A	WG1201630	20	11/28/18 06:49	11/28/18 06:49	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 08:50	CCE

MW-705 L1046769-10 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 17:35	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201937	1	11/28/18 00:06	11/28/18 00:06	ELN
Wet Chemistry by Method 9056A	WG1201937	10	11/28/18 00:24	11/28/18 00:24	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 10:11	CCE

MW-706 L1046769-11 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 18:00	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200499	1	11/26/18 17:07	11/26/18 17:30	AJS
Wet Chemistry by Method 9056A	WG1201937	1	11/28/18 01:19	11/28/18 01:19	ELN
Wet Chemistry by Method 9056A	WG1201937	20	11/28/18 10:24	11/28/18 10:24	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 10:14	CCE

DUPLICATE L1046769-12 GW

Collected by	Collected date/time	Received date/time
G. Penaflor	11/19/18 16:45	11/21/18 07:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1200500	1	11/26/18 13:00	11/26/18 14:00	AJS
Wet Chemistry by Method 9056A	WG1201937	1	11/28/18 01:55	11/28/18 01:55	ELN
Wet Chemistry by Method 9056A	WG1201937	10	11/28/18 02:13	11/28/18 02:13	ELN
Metals (ICP) by Method 6010B	WG1200422	1	11/27/18 07:06	11/27/18 10:16	CCE

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

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Dissolved Solids	4100000		50000	1	11/26/2018 16:36	WG1200497

Wet Chemistry by Method 9056A

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Chloride	49600		1000	1	11/28/2018 00:38	WG1201630
Fluoride	420		100	1	11/28/2018 00:38	WG1201630
Sulfate	3590000		500000	100	11/28/2018 00:54	WG1201630

Metals (ICP) by Method 6010B

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Boron	ND		200	1	11/27/2018 09:20	WG1200422
Calcium	456000		1000	1	11/27/2018 09:20	WG1200422

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

MW-602

Collected date/time: 11/19/18 14:30

SAMPLE RESULTS - 02

L1046769

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	4900000		25000	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	3970		1000	1	11/28/2018 01:09	WG1201630
Fluoride	ND		100	1	11/28/2018 01:09	WG1201630
Sulfate	1430000		250000	50	11/28/2018 01:25	WG1201630

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	4320		200	1	11/27/2018 09:23	WG1200422
Calcium	332000		1000	1	11/27/2018 09:23	WG1200422

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	3160000		50000	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	6760		1000	1	11/28/2018 01:40	WG1201630
Fluoride	645		100	1	11/28/2018 01:40	WG1201630
Sulfate	2590000		250000	50	11/28/2018 01:56	WG1201630

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	5560		200	1	11/27/2018 09:26	WG1200422
Calcium	423000		1000	1	11/27/2018 09:26	WG1200422

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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2320000		50000	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	13300		1000	1	11/28/2018 02:42	WG1201630
Fluoride	453		100	1	11/28/2018 02:42	WG1201630
Sulfate	2110000		250000	50	11/28/2018 02:57	WG1201630

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	4360		200	1	11/27/2018 09:29	WG1200422
Calcium	420000		1000	1	11/27/2018 09:29	WG1200422

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2410000		50000	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	51700		1000	1	11/28/2018 03:13	WG1201630
Fluoride	187		100	1	11/28/2018 03:13	WG1201630
Sulfate	2260000		250000	50	11/28/2018 03:28	WG1201630

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	1680		200	1	11/27/2018 09:32	WG1200422
Calcium	407000		1000	1	11/27/2018 09:32	WG1200422

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2860000		50000	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	336000		50000	50	11/28/2018 03:59	WG1201630
Fluoride	1050		100	1	11/28/2018 03:43	WG1201630
Sulfate	2180000		250000	50	11/28/2018 03:59	WG1201630

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	11/27/2018 09:35	WG1200422
Calcium	369000		1000	1	11/27/2018 09:35	WG1200422

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2280000		50000	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	153000		50000	50	11/28/2018 04:30	WG1201630
Fluoride	184		100	1	11/28/2018 04:14	WG1201630
Sulfate	1690000		250000	50	11/28/2018 04:30	WG1201630

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	211		200	1	11/27/2018 09:38	WG1200422
Calcium	413000		1000	1	11/27/2018 09:38	WG1200422

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

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Dissolved Solids	1560000		20000	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Chloride	20000		1000	1	11/28/2018 04:45	WG1201630
Fluoride	144		100	1	11/28/2018 04:45	WG1201630
Sulfate	1160000		100000	20	11/28/2018 05:01	WG1201630

Metals (ICP) by Method 6010B

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l		date / time	
Boron	ND		200	1	11/27/2018 09:41	WG1200422
Calcium	233000		1000	1	11/27/2018 09:41	WG1200422

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1140000		20000	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	4220		1000	1	11/28/2018 05:47	WG1201630
Fluoride	122		100	1	11/28/2018 05:47	WG1201630
Sulfate	880000		100000	20	11/28/2018 06:49	WG1201630

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	11/27/2018 08:50	WG1200422
Calcium	154000	O1	1000	1	11/27/2018 08:50	WG1200422

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	924000		13300	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	14000		1000	1	11/28/2018 00:06	WG1201937
Fluoride	190		100	1	11/28/2018 00:06	WG1201937
Sulfate	536000		50000	10	11/28/2018 00:24	WG1201937

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	11/27/2018 10:11	WG1200422
Calcium	111000		1000	1	11/27/2018 10:11	WG1200422

MW-706

Collected date/time: 11/19/18 18:00

SAMPLE RESULTS - 11

L1046769

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1640000		25000	1	11/26/2018 17:30	WG1200499

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	29500		1000	1	11/28/2018 01:19	WG1201937
Fluoride	200		100	1	11/28/2018 01:19	WG1201937
Sulfate	1120000		100000	20	11/28/2018 10:24	WG1201937

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	203		200	1	11/27/2018 10:14	WG1200422
Calcium	278000		1000	1	11/27/2018 10:14	WG1200422

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1160000		20000	1	11/26/2018 14:00	WG1200500

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	4160		1000	1	11/28/2018 01:55	WG1201937
Fluoride	131		100	1	11/28/2018 01:55	WG1201937
Sulfate	758000		50000	10	11/28/2018 02:13	WG1201937

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	11/27/2018 10:16	WG1200422
Calcium	154000		1000	1	11/27/2018 10:16	WG1200422

Method Blank (MB)

(MB) R3363353-1 11/26/18 16:36

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

L1046668-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1046668-04 11/26/18 16:36 • (DUP) R3363353-3 11/26/18 16:36

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	288000	289000	1	0.347		5

Laboratory Control Sample (LCS)

(LCS) R3363353-2 11/26/18 16:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8770000	99.7	85.0-115	

Method Blank (MB)

(MB) R3363368-1 11/26/18 17:30

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

L1046769-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1046769-02 11/26/18 17:30 • (DUP) R3363368-3 11/26/18 17:30

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	4900000	4900000	1	0.0510		5

Laboratory Control Sample (LCS)

(LCS) R3363368-2 11/26/18 17:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8530000	96.9	85.0-115	

Method Blank (MB)

(MB) R3363349-1 11/26/18 14:00

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

L1046155-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1046155-01 11/26/18 14:00 • (DUP) R3363349-3 11/26/18 14:00

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	138000	142000	1	2.86		5

Laboratory Control Sample (LCS)

(LCS) R3363349-2 11/26/18 14:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	9070000	103	85.0-115	

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

Method Blank (MB)

(MB) R3363512-1 11/27/18 15:33

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

L1046766-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1046766-02 11/27/18 17:45 • (DUP) R3363512-3 11/27/18 17:59

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	20900	21000	1	0.426		15
Fluoride	167	166	1	0.481		15
Sulfate	12700	12800	1	0.700		15

L1046769-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1046769-09 11/28/18 05:47 • (DUP) R3363512-5 11/28/18 06:02

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4220	4230	1	0.140		15
Fluoride	122	121	1	0.412		15

L1046769-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1046769-09 11/28/18 06:49 • (DUP) R3363512-8 11/28/18 07:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	880000	847000	20	3.76		15

Laboratory Control Sample (LCS)

(LCS) R3363512-2 11/27/18 15:49

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	38700	96.7	80.0-120	
Fluoride	8000	7830	97.9	80.0-120	
Sulfate	40000	39100	97.8	80.0-120	

L1046766-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1046766-02 11/27/18 17:45 • (MS) R3363512-4 11/27/18 18:15

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	20900	69600	97.5	1	80.0-120	
Fluoride	5000	167	5310	103	1	80.0-120	
Sulfate	50000	12700	61400	97.4	1	80.0-120	

L1046769-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1046769-09 11/28/18 05:47 • (MS) R3363512-6 11/28/18 06:18 • (MSD) R3363512-7 11/28/18 06:33

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	4220	54600	54700	101	101	1	80.0-120			0.0911	15
Fluoride	5000	122	5290	5320	103	104	1	80.0-120			0.551	15
Sulfate	50000	756000	781000	772000	49.8	32.3	1	80.0-120	E V	E V	1.13	15

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

Method Blank (MB)

(MB) R3363738-1 11/27/18 20:24

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

L1047109-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1047109-01 11/28/18 06:28 • (DUP) R3363738-5 11/28/18 06:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	7110	7080	1	0.493		15
Fluoride	118	133	1	12.1		15
Sulfate	12300	12400	1	1.13		15

L1047152-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1047152-01 11/28/18 08:53 • (DUP) R3363738-6 11/28/18 09:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	30800	31200	1	1.60		15
Fluoride	ND	71.4	1	59.4	J P1	15
Sulfate	18200	18300	1	0.470		15

Laboratory Control Sample (LCS)

(LCS) R3363738-2 11/27/18 20:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39200	98.0	80.0-120	
Fluoride	8000	7940	99.2	80.0-120	
Sulfate	40000	39400	98.5	80.0-120	

L1046770-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1046770-01 11/28/18 02:31 • (MS) R3363738-3 11/28/18 02:50 • (MSD) R3363738-4 11/28/18 03:08

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	83100	130000	131000	94.5	96.6	1	80.0-120	E	E	0.814	15
Fluoride	5000	111	4930	5140	96.4	101	1	80.0-120			4.12	15
Sulfate	50000	1660000	1650000	1660000	0.000	1.70	1	80.0-120	E V	E V	0.388	15

L1047152-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1047152-01 11/28/18 08:53 • (MS) R3363738-7 11/28/18 09:29

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	30800	81100	101	1	80.0-120	
Fluoride	5000	ND	5270	105	1	80.0-120	
Sulfate	50000	18200	67100	97.9	1	80.0-120	

Method Blank (MB)

(MB) R3363263-1 11/27/18 08:42

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

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

(LCS) R3363263-2 11/27/18 08:44 • (LCSD) R3363263-3 11/27/18 08:47

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	958	967	95.8	96.7	80.0-120			0.958	20
Calcium	10000	9510	9610	95.1	96.1	80.0-120			1.05	20

L1046769-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1046769-09 11/27/18 08:50 • (MS) R3363263-5 11/27/18 08:55 • (MSD) R3363263-6 11/27/18 08:58

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	ND	1130	1140	98.9	99.5	1	75.0-125			0.558	20
Calcium	10000	154000	163000	163000	84.9	89.6	1	75.0-125			0.292	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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.
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.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

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

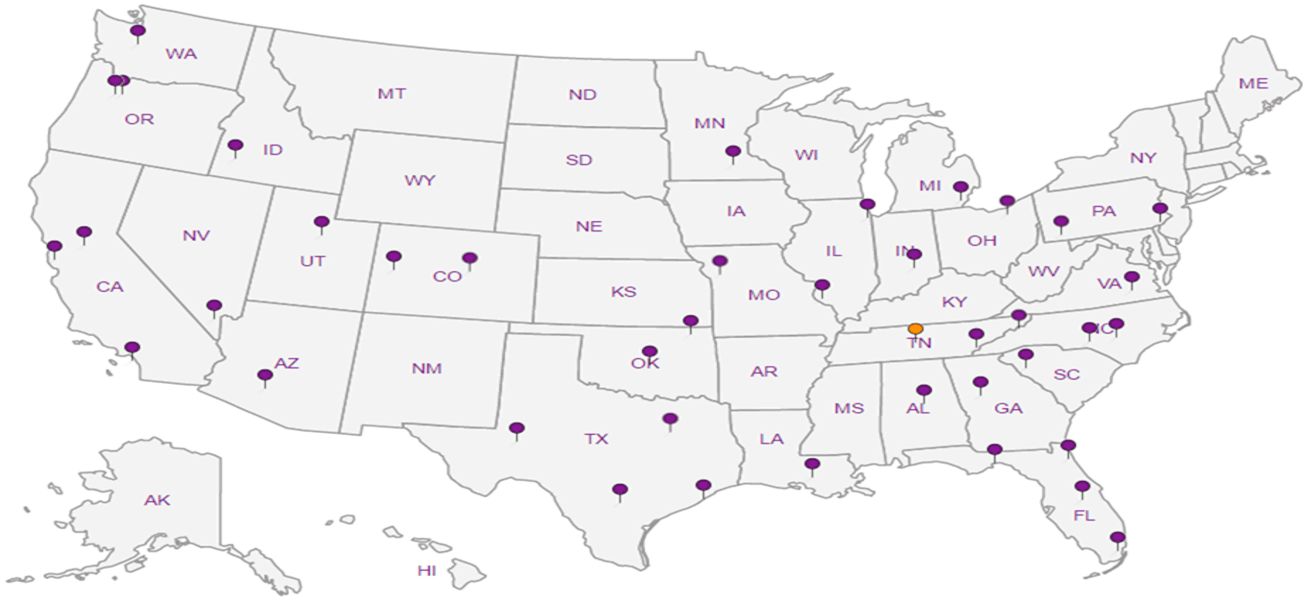
Third Party Federal Accreditations

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.



SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

Billing Information:

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

Pres Chk

Chain of Custody Page 1 of 2

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

Report to: **Jason Franks**

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

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

City/State Collected:

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

Client Project # **27213168.18**

Lab Project # **AQUAOPKS-MONTROSE**

Collected by (print): G. Penaflor

Site/Facility ID #

P.O. #

Collected by (signature):

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

Quote #

Date Results Needed: STD

Immediately Packed on Ice N ___ Y X

L# 1046769

H188

Acctnum: **AQUAOPKS**
Template: **T135966**
Prelogin: **P678054**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
								L2			
MW-601	Comp	**GW**		11/19/18	1145	3	X	X	X		01
MW-602		**GW**			1430	3	X	X	X		02
MW-603		**GW**			1420	3	X	X	X		03
MW-604		**GW**			1500	3	X	X	X		04
MW-605		**GW**			1505	3	X	X	X		05
MW-701		**GW**			1340	3	X	X	X		06
MW-702		**GW**			1305	3	X	X	X		07
MW-703		**GW**			1610	3	X	X	X		08
MW-704		**GW**			1645	3	X	X	X		09
MW-705		**GW**			1735	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 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: 11/20/18	Time: 1348	Received by: (Signature)
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: ~~0.5~~ °C 2.5 3.0
Bottles Received: 42

If preservation required by Login: Date/Time

Date: 11/21/18
Time: ~~0845~~ 0730

Hold:

Condition: NCF / [✓ OK]

SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

Billing Information:

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

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace Analytical®
National Center for Testing & Innovation

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

Report to:
Jason Franks

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

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

City/State Collected:

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

Client Project #
27213168.18

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print): G. Penaflor

Site/Facility ID #

P.O. #

Collected by (signature):

Quote #

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

Date Results Needed: STD

L# 1046769

Table #

Acctnum: **AQUAOPKS**
Template: **T135966**
Prelogin: **P678054**
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)
MW-706	Comp	GW		11/19/18	1800	3	X	X	X		11
704 MS		GW			1645	3	X	X	X		09
704 MSD		GW			1645	3	X	X	X		09
DUPLICATE 2		GW			1645	3	X	X	X		12

c2

* 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 SVA

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: 11/20/18	Time: 1348	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) BM Faris

Trip Blank Received: Yes / [✓ No]
HCL / MeoH
TBR

Temp: +0.5 °C 2.530 AL
Bottles Received: 42

Date: 11/21/18
Time: 0730

If preservation required by Login: Date/Time

Hold:

Condition: NCF / [✓ OK]

ATTACHMENT 2

Statistical Analyses

ATTACHMENT 2-1

Fall 2017 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

January 22, 2018

STATE OF MISSOURI
JOHN R. ROCKHOLD
1-22-18
RG0092
REGISTERED GEOLOGIST

To: **Montrose Generating Station**
400 SW Highway P
Clinton, MO 64735
Kansas City Power & Light Company

From: **SCS Engineers**

RE: **Revision to January 15, 2018 Memorandum**
Determination of Statistically Significant Increases
North and South Ash Impoundments

Statistical analysis of monitoring data from the multiunit groundwater monitoring system for the North and South Ash Impoundments at the Montrose Generating Station has been completed in substantial compliance with the "Statistical Method Certification By A Qualified Professional Engineer" dated October 12, 2017. Groundwater samples were collected and analyzed by October 17, 2017. A statistical analysis was conducted to determine whether there is a statistically significant increase over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring.

The completed statistical evaluation did not identify statistically significant increases (SSIs) above background for the Appendix III constituents.

Attached to this memorandum are the following backup information:

Attachment 1: Sanitas^{TM} Output:

Statistical evaluation output from Sanitas^{TM} 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 result for quality control (if applicable), and a Prediction Limit summary table. Output documentation includes the analytical data used for the statistical analyses.

Attachment 2: Sanitas^{TM} Configuration Settings:

Screen shots of the applicable Sanitas^{TM} 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**
1	1/22/2018	Cover letter	Revision table added. No changes to text regarding statistical analyses. Attachment 1 description was revised to match the revisions made in the attachment.
1	1/22/2018	1	Some samples previously identified as verification re-samples are now more appropriately identified as “extra samples”. These samples were taken as part of the quality control process, and were not required as part of verification re-sampling.

Montrose Generating Station
Determination of Statistically Significant Increases
North and South Ash Impoundments
January 22, 2018

ATTACHMENT 1

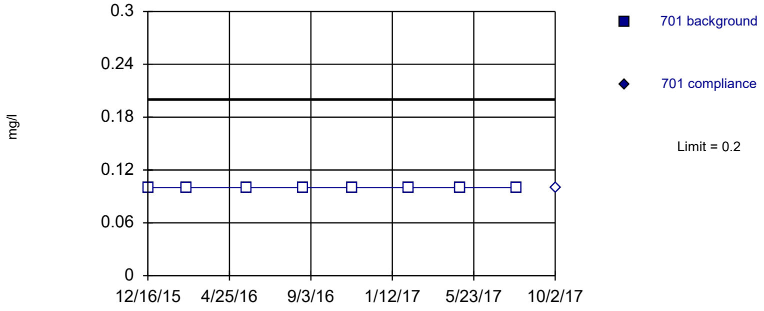
Sanitas^{TM} Output

Sanitas™ v.9.5.32 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: Boron Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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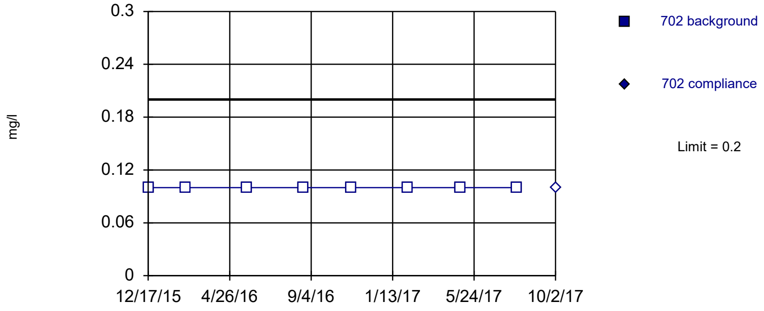
Sanitas™ v.9.5.32 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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: Boron Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

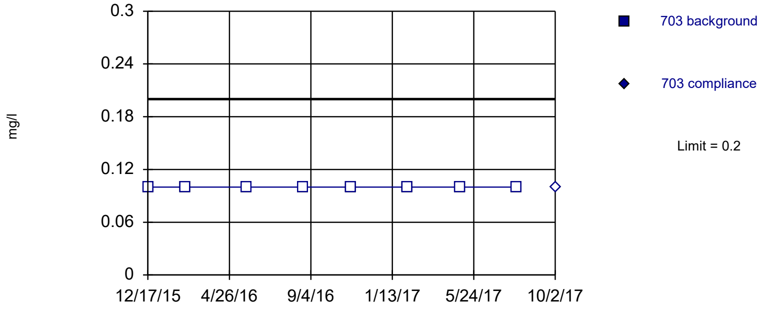
---

Sanitas™ v.9.5.32 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: Boron Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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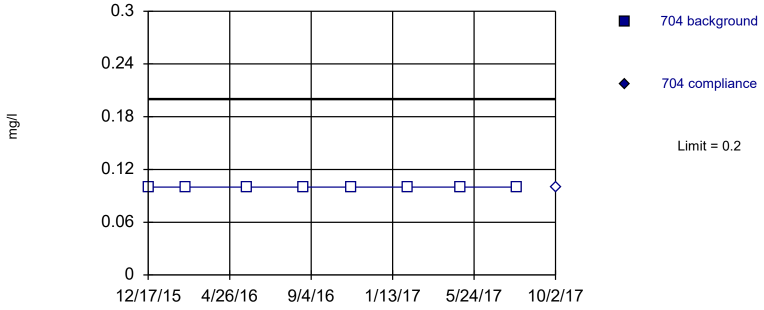
Sanitas™ v.9.5.32 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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: Boron Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Boron (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	701	701
12/16/2015	<0.2	
2/16/2016	<0.2	
5/24/2016	<0.2	
8/22/2016	<0.2	
11/8/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
10/2/2017		<0.2

Prediction Limit

Constituent: Boron (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	702	702
12/17/2015	<0.2	
2/16/2016	<0.2	
5/24/2016	<0.2	
8/22/2016	<0.2	
11/7/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
10/2/2017		<0.2

Prediction Limit

Constituent: Boron (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	703	703
12/17/2015	<0.2	
2/16/2016	<0.2	
5/23/2016	<0.2	
8/22/2016	<0.2	
11/7/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
10/2/2017		<0.2

Prediction Limit

Constituent: Boron (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	704	704
12/17/2015	<0.2	
2/16/2016	<0.2	
5/23/2016	<0.2	
8/22/2016	<0.2	
11/7/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
10/2/2017		<0.2

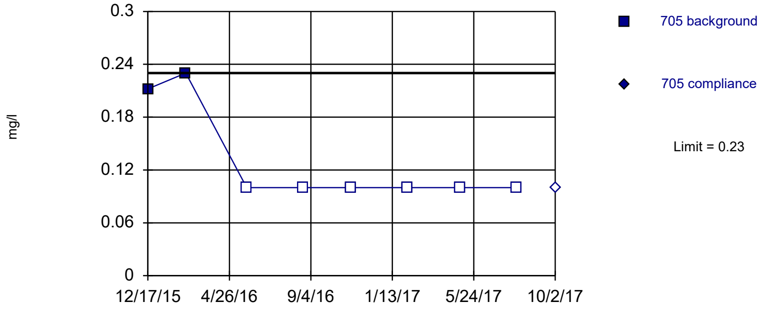
Sanitas™ v.9.5.32 Sanitas software licensed to SCS Engineers. UG

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: Boron Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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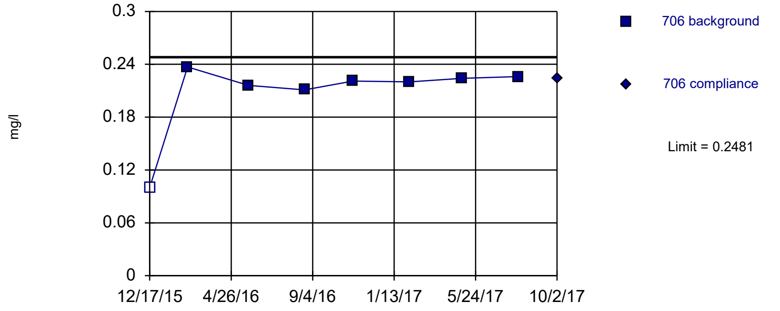
Sanitas™ v.9.5.32 Sanitas software licensed to SCS Engineers. UG

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^4 transformation): Mean=0.002159, Std. Dev.=0.0009007, n=8, 12.5% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7832, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

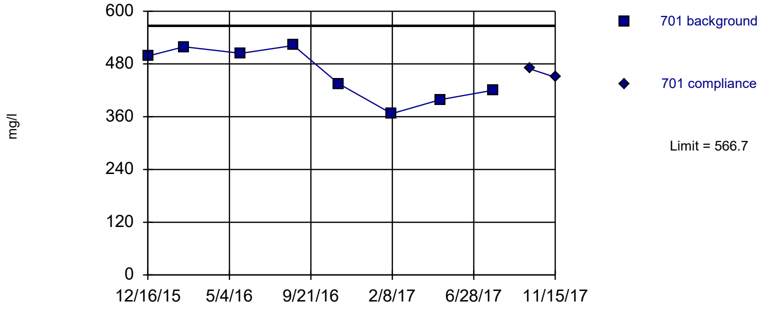
---

Sanitas™ v.9.5.32 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=458, Std. Dev.=60.08, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8899, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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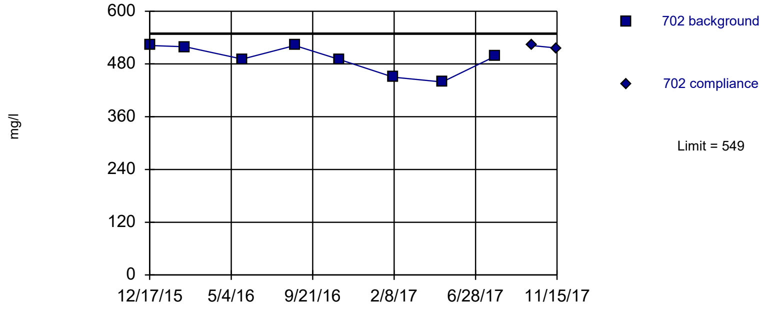
Sanitas™ v.9.5.32 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=491.3, Std. Dev.=31.91, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8625, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Boron (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	705	705
12/17/2015	0.212	
2/16/2016	0.23	
5/24/2016	<0.2	
8/22/2016	<0.2	
11/8/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
10/2/2017		<0.2

Prediction Limit

Constituent: Boron (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	706	706
12/17/2015	<0.2	
2/16/2016	0.237	
5/24/2016	0.216	
8/22/2016	0.211	
11/8/2016	0.221	
2/7/2017	0.22	
5/2/2017	0.224	
7/31/2017	0.226	
10/2/2017		0.224

Prediction Limit

Constituent: Calcium (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	701	701	
12/16/2015	498		
2/16/2016	519		
5/24/2016	504		
8/22/2016	522		
11/8/2016	435		
2/7/2017	367		
5/2/2017	399		
7/31/2017	420		
10/2/2017		469	
11/15/2017		450	extra sample

Prediction Limit

Constituent: Calcium (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	702	702	
12/17/2015	522		
2/16/2016	519		
5/24/2016	491		
8/22/2016	522		
11/7/2016	490		
2/7/2017	450		
5/2/2017	439		
7/31/2017	497		
10/2/2017		522	
11/15/2017		516	extra sample

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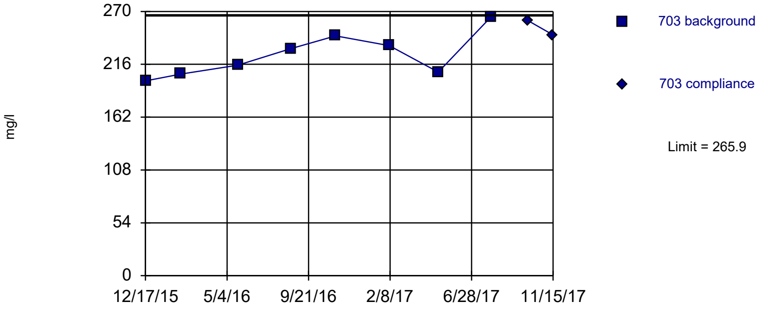
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=225.5, Std. Dev.=22.34, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9409, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

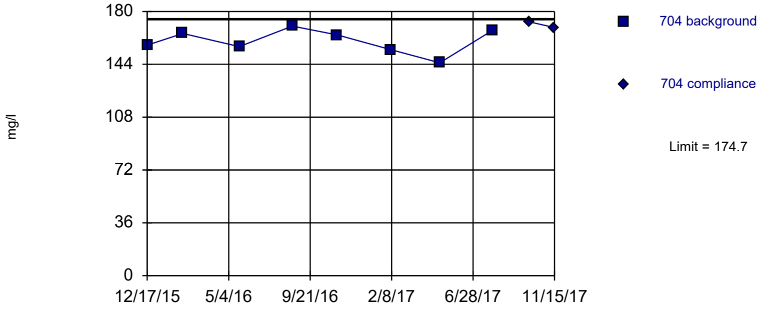
---

Sanitas™ v.9.5.32 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=159.8, Std. Dev.=8.242, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 1/15/2018 10:47 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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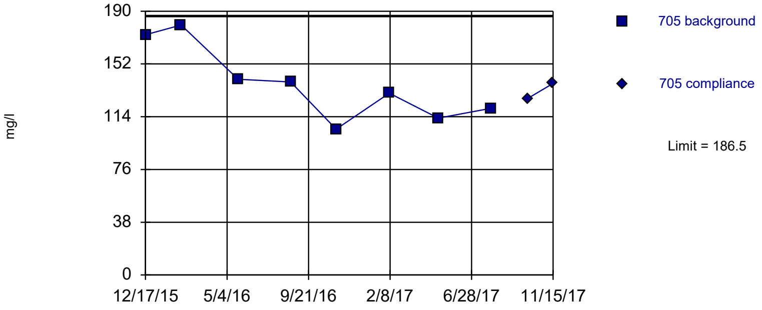
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=137.8, Std. Dev.=26.95, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9222, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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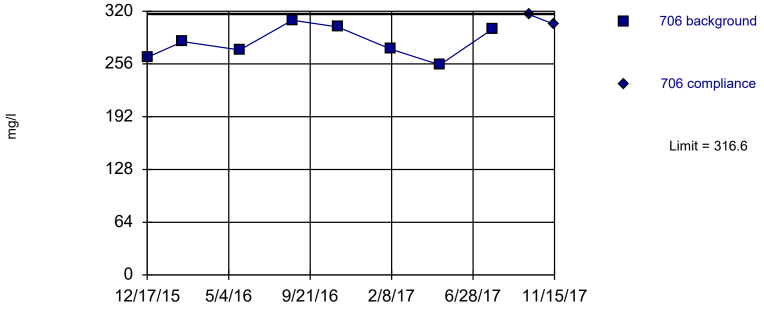
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=282.1, Std. Dev.=19.07, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9531, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Calcium (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	703	703	
12/17/2015	199		
2/16/2016	206		
5/23/2016	215		
8/22/2016	232		
11/7/2016	245		
2/7/2017	235		
5/2/2017	208		
7/31/2017	264		
10/2/2017		261	
11/15/2017		246	extra sample

Prediction Limit

Constituent: Calcium (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	704	704	
12/17/2015	157		
2/16/2016	165		
5/23/2016	156		
8/22/2016	170		
11/7/2016	164		
2/7/2017	154		
5/2/2017	145		
7/31/2017	167		
10/2/2017		173	
11/15/2017		169	extra sample

Prediction Limit

Constituent: Calcium (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	705	705	
12/17/2015	173		
2/16/2016	180		
5/24/2016	141		
8/22/2016	139		
11/8/2016	105		
2/7/2017	131		
5/2/2017	113		
7/31/2017	120		
10/2/2017		127	
11/15/2017		138	extra sample

Prediction Limit

Constituent: Calcium (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	706	706	
12/17/2015	264		
2/16/2016	283		
5/24/2016	273		
8/22/2016	309		
11/8/2016	301		
2/7/2017	274		
5/2/2017	255		
7/31/2017	298		
10/2/2017		316	
11/15/2017		304	extra sample

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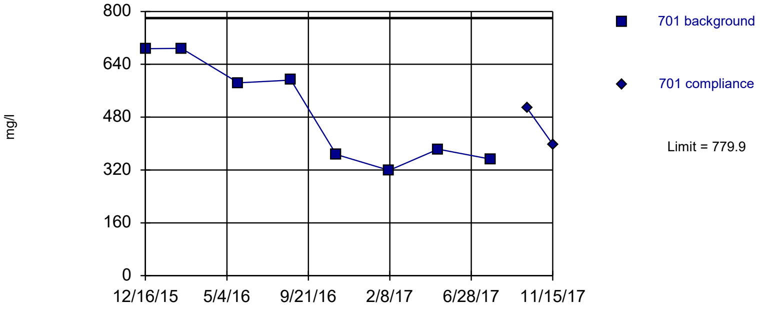
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=496.6, Std. Dev.=156.5, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8398, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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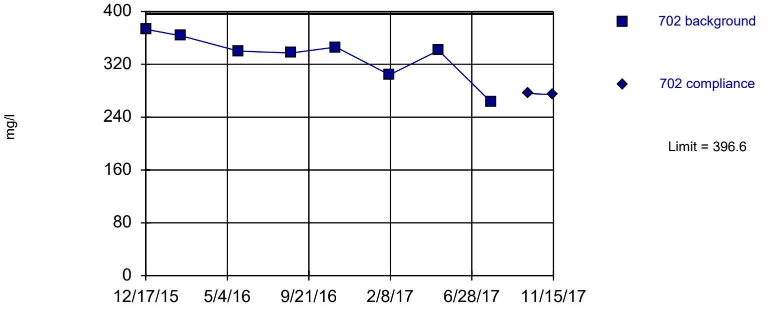
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=333.4, Std. Dev.=34.92, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8838, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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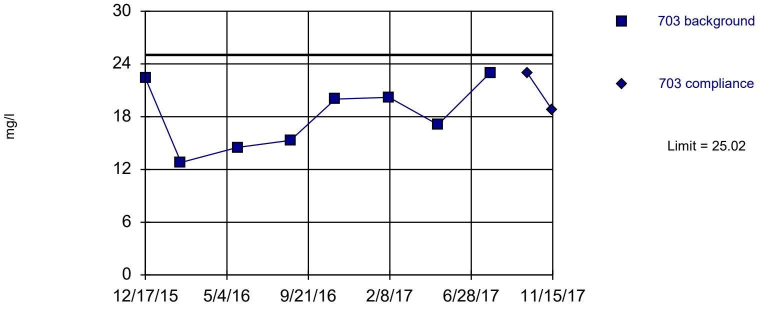
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=18.16, Std. Dev.=3.787, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9353, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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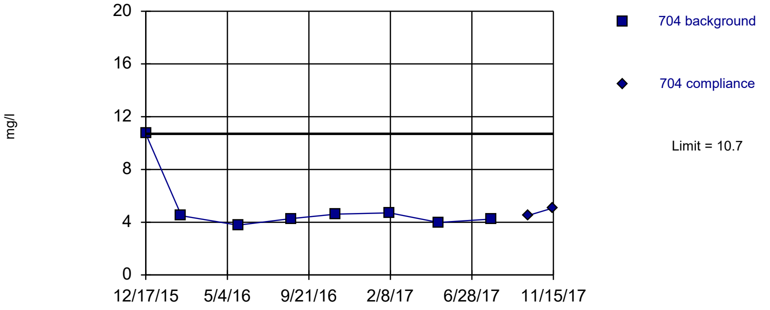
Within Limit

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: Chloride Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Chloride (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	701	701	
12/16/2015	687		
2/16/2016	688		
5/24/2016	584		
8/22/2016	592		
11/8/2016	367		
2/7/2017	319		
5/2/2017	383		
7/31/2017	353		
10/2/2017		507	
11/15/2017		398	extra sample

Prediction Limit

Constituent: Chloride (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	702	702	
12/17/2015	373		
2/16/2016	363		
5/24/2016	340		
8/22/2016	337		
11/7/2016	346		
2/7/2017	304		
5/2/2017	341		
7/31/2017	263		
10/2/2017		276	
11/15/2017		274	extra sample

Prediction Limit

Constituent: Chloride (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	703	703	
12/17/2015	22.4		
2/16/2016	12.8		
5/23/2016	14.5		
8/22/2016	15.3		
11/7/2016	20		
2/7/2017	20.2		
5/2/2017	17.1		
7/31/2017	23		
10/2/2017		23	
11/15/2017		18.7	extra sample

Prediction Limit

Constituent: Chloride (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	704	704	
12/17/2015	10.7		
2/16/2016	4.49		
5/23/2016	3.77		
8/22/2016	4.27		
11/7/2016	4.61		
2/7/2017	4.71		
5/2/2017	3.98		
7/31/2017	4.24		
10/2/2017		4.5	
11/15/2017		5.09	extra sample

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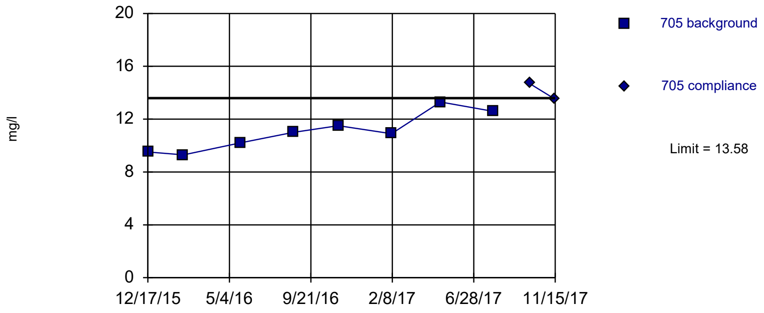
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=11.04, Std. Dev.=1.407, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9519, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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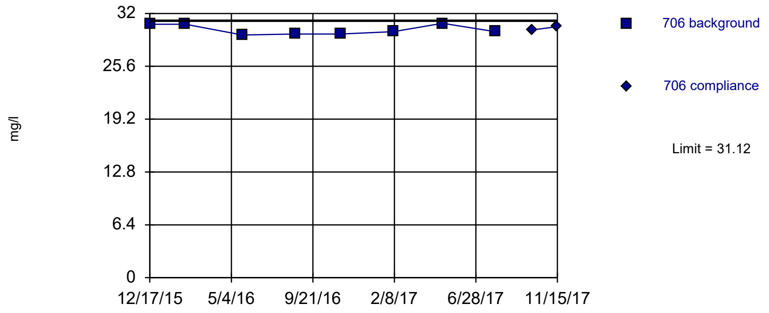
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.03, Std. Dev.=0.6042, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8072, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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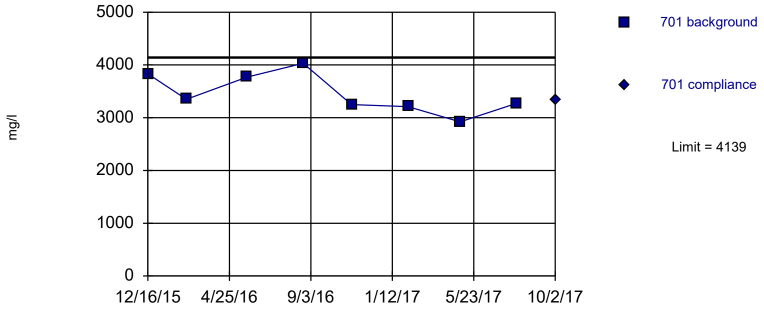
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=3454, Std. Dev.=378.7, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9238, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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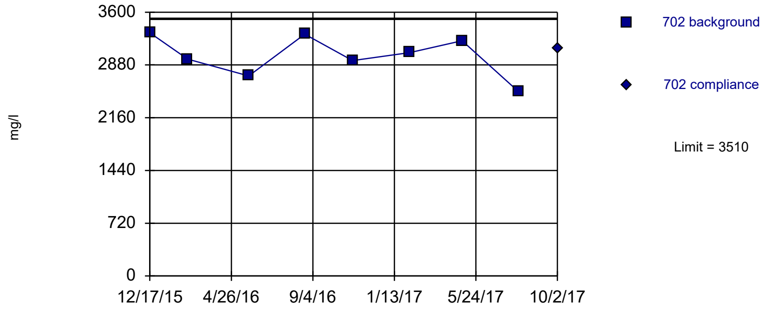
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=3004, Std. Dev.=279.6, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9382, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Chloride (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	705	705	
12/17/2015	9.51		
2/16/2016	9.3		
5/24/2016	10.2		
8/22/2016	11		
11/8/2016	11.5		
2/7/2017	10.9		
5/2/2017	13.3		
7/31/2017	12.6		
10/2/2017		14.7	
11/15/2017		13.5	1st verification re-sample

Prediction Limit

Constituent: Chloride (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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	706	706	
12/17/2015	30.7		
2/16/2016	30.7		
5/24/2016	29.4		
8/22/2016	29.5		
11/8/2016	29.5		
2/7/2017	29.8		
5/2/2017	30.8		
7/31/2017	29.8		
10/2/2017		30	
11/15/2017		30.4	extra sample

Prediction Limit

Constituent: Dissolved Solids (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	701	701
12/16/2015	3830	
2/16/2016	3350	
5/24/2016	3770	
8/22/2016	4030	
11/8/2016	3250	
2/7/2017	3210	
5/2/2017	2920	
7/31/2017	3270	
10/2/2017		3330

Prediction Limit

Constituent: Dissolved Solids (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

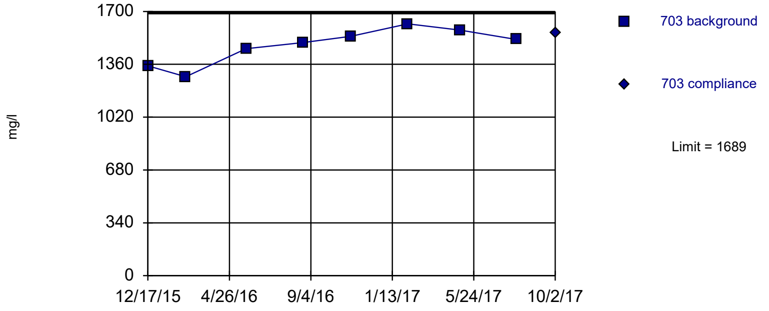
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	702	702
12/17/2015	3320	
2/16/2016	2960	
5/24/2016	2730	
8/22/2016	3300	
11/7/2016	2940	
2/7/2017	3050	
5/2/2017	3210	
7/31/2017	2520	
10/2/2017		3110

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1481, Std. Dev.=114.9, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9321, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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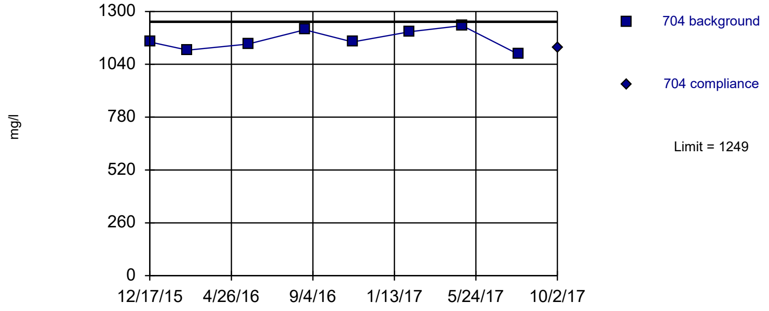
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1160, Std. Dev.=49.28, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9462, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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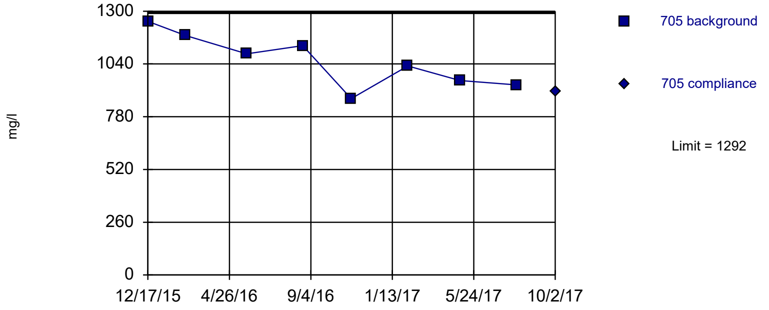
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1056, Std. Dev.=130.4, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9756, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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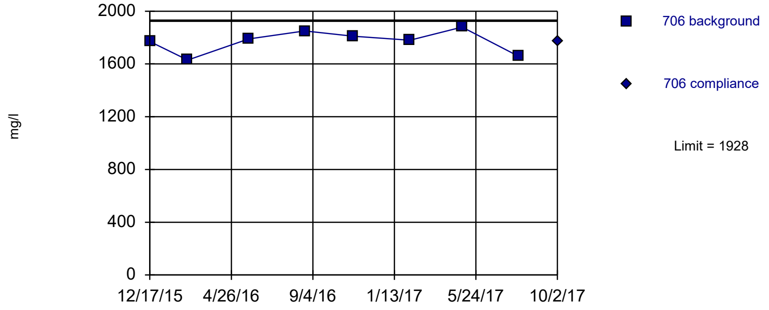
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1771, Std. Dev.=86.43, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9168, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Dissolved Solids (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	703	703
12/17/2015	1350	
2/16/2016	1280	
5/23/2016	1460	
8/22/2016	1500	
11/7/2016	1540	
2/7/2017	1620	
5/2/2017	1580	
7/31/2017	1520	
10/2/2017		1560

Prediction Limit

Constituent: Dissolved Solids (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	704	704
12/17/2015	1150	
2/16/2016	1110	
5/23/2016	1140	
8/22/2016	1210	
11/7/2016	1150	
2/7/2017	1200	
5/2/2017	1230	
7/31/2017	1090	
10/2/2017		1120

Prediction Limit

Constituent: Dissolved Solids (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	705	705
12/17/2015	1250	
2/16/2016	1180	
5/24/2016	1090	
8/22/2016	1130	
11/8/2016	869	
2/7/2017	1030	
5/2/2017	958	
7/31/2017	937	
10/2/2017		901

Prediction Limit

Constituent: Dissolved Solids (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	706	706
12/17/2015	1770	
2/16/2016	1630	
5/24/2016	1790	
8/22/2016	1850	
11/8/2016	1810	
2/7/2017	1780	
5/2/2017	1880	
7/31/2017	1660	
10/2/2017		1770

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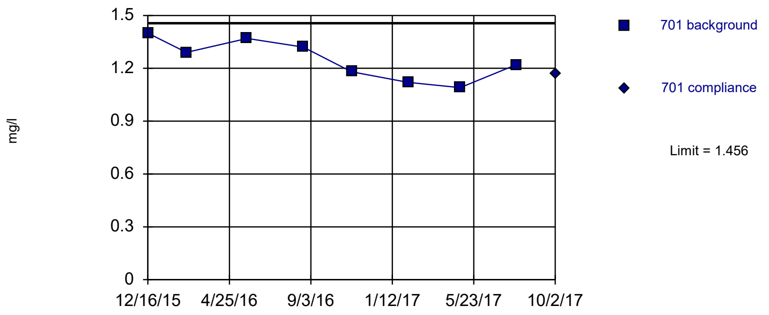
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.249, Std. Dev.=0.1144, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9494, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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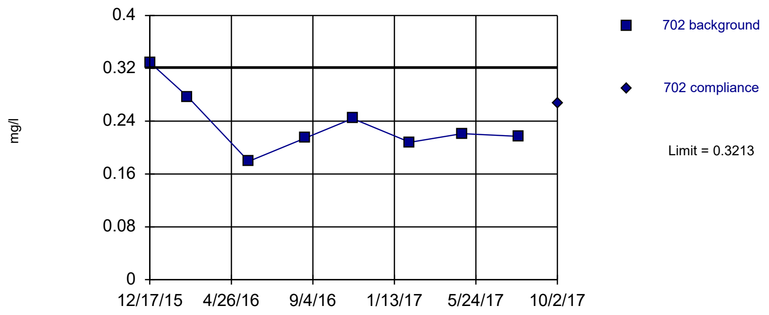
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2361, Std. Dev.=0.04705, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8995, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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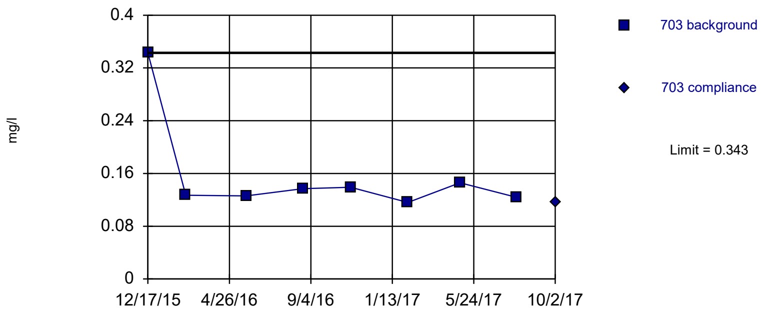
Within Limit

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 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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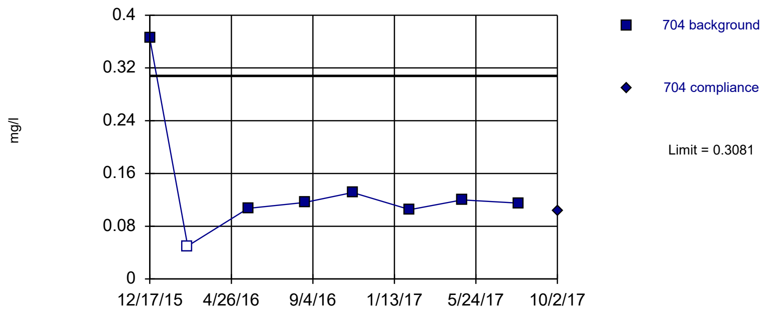
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=0.5006, Std. Dev.=0.09657, n=8, 12.5% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7706, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Fluoride (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	701	701
12/16/2015	1.4	
2/16/2016	1.29	
5/24/2016	1.37	
8/22/2016	1.32	
11/8/2016	1.18	
2/7/2017	1.12	
5/2/2017	1.09	
7/31/2017	1.22	
10/2/2017		1.17

Prediction Limit

Constituent: Fluoride (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	702	702
12/17/2015	0.329	
2/16/2016	0.277	
5/24/2016	0.179	
8/22/2016	0.214	
11/7/2016	0.244	
2/7/2017	0.208	
5/2/2017	0.221	
7/31/2017	0.217	
10/2/2017		0.267

Prediction Limit

Constituent: Fluoride (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	703	703
12/17/2015	0.343	
2/16/2016	0.127	
5/23/2016	0.126	
8/22/2016	0.137	
11/7/2016	0.139	
2/7/2017	0.116	
5/2/2017	0.146	
7/31/2017	0.124	
10/2/2017		0.117

Prediction Limit

Constituent: Fluoride (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III
Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	704	704
12/17/2015	0.365	
2/16/2016	<0.1	
5/23/2016	0.107	
8/22/2016	0.116	
11/7/2016	0.131	
2/7/2017	0.105	
5/2/2017	0.12	
7/31/2017	0.115	
10/2/2017		0.104

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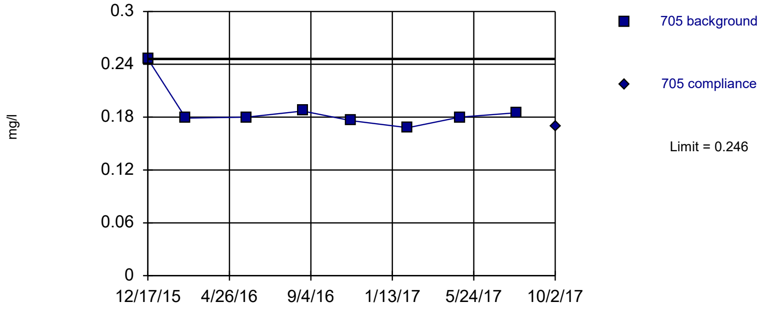
Within Limit

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 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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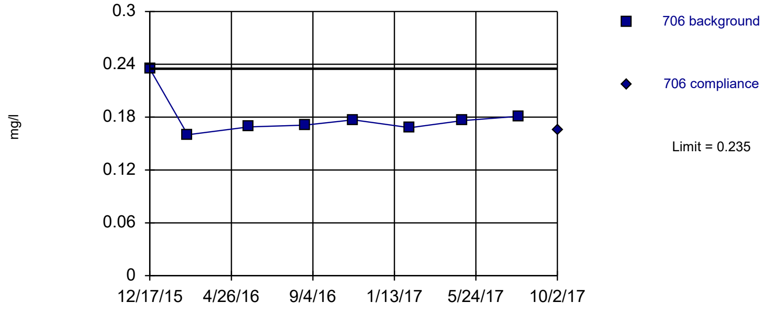
Within Limit

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 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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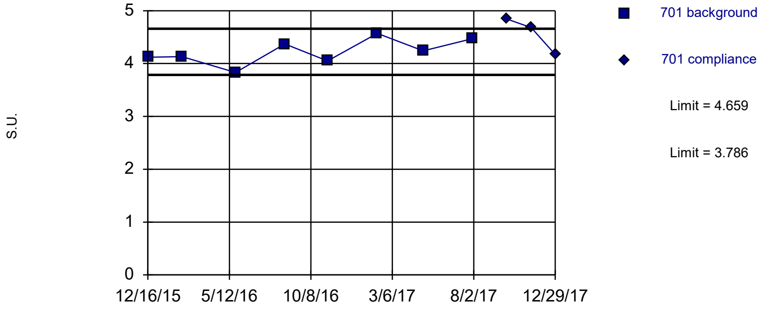
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=4.223, Std. Dev.=0.2411, 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 = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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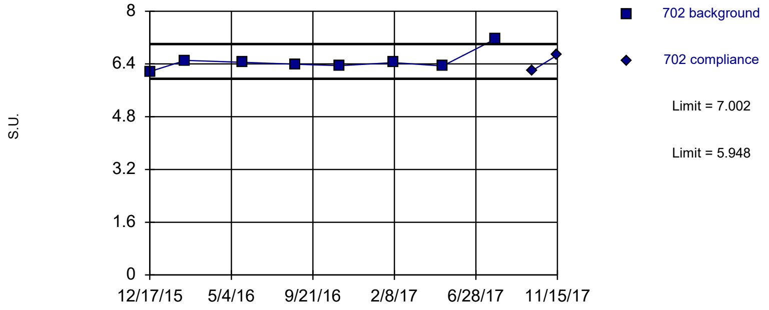
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.475, Std. Dev.=0.291, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7508, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Fluoride (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	705	705
12/17/2015	0.246	
2/16/2016	0.179	
5/24/2016	0.18	
8/22/2016	0.187	
11/8/2016	0.176	
2/7/2017	0.168	
5/2/2017	0.18	
7/31/2017	0.185	
10/2/2017		0.169

Prediction Limit

Constituent: Fluoride (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III
Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	706	706
12/17/2015	0.235	
2/16/2016	0.16	
5/24/2016	0.169	
8/22/2016	0.171	
11/8/2016	0.177	
2/7/2017	0.168	
5/2/2017	0.176	
7/31/2017	0.181	
10/2/2017		0.165

Prediction Limit

Constituent: pH (S.U.)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	701	701	
12/16/2015	4.12		
2/16/2016	4.13		
5/24/2016	3.83		
8/22/2016	4.37		
11/8/2016	4.05		
2/7/2017	4.57		
5/2/2017	4.24		
7/31/2017	4.47		
10/2/2017		4.84	
11/15/2017		4.68	1st verification re-sample
12/29/2017		4.17	2nd verification re-sample

Prediction Limit

Constituent: pH (S.U.) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	702	702	
12/17/2015	6.17		
2/16/2016	6.51		
5/24/2016	6.45		
8/22/2016	6.39		
11/7/2016	6.35		
2/7/2017	6.44		
5/2/2017	6.34		
7/31/2017	7.15		
10/2/2017		6.19	
11/15/2017		6.67	extra sample

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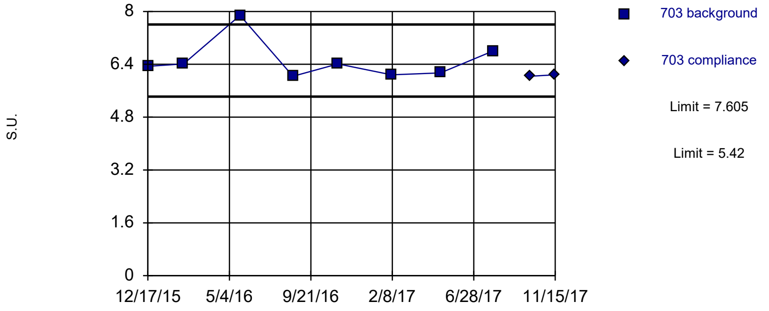
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.513, Std. Dev.=0.6039, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7595, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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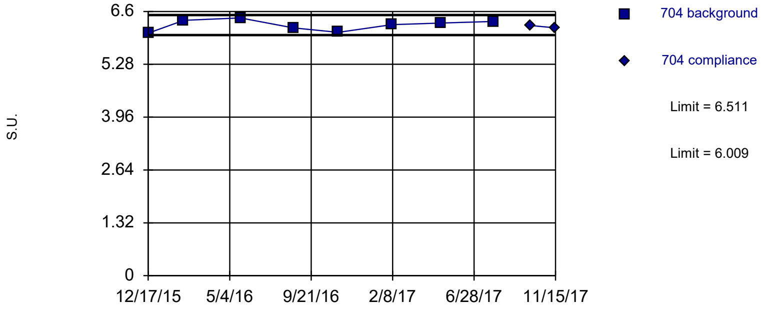
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.26, Std. Dev.=0.1388, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9351, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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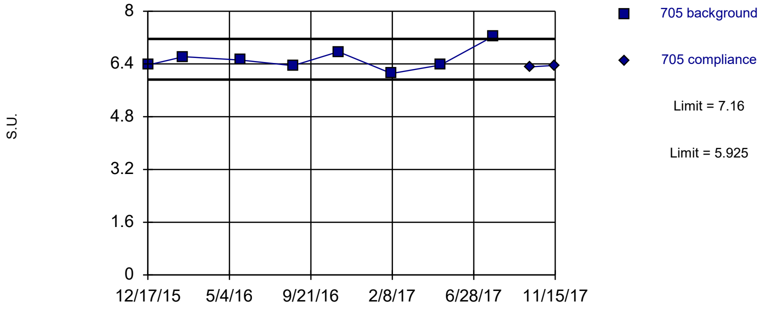
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.543, Std. Dev.=0.3411, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9137, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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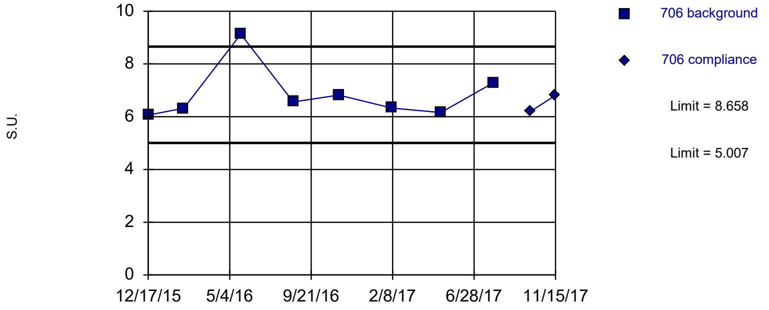
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.833, Std. Dev.=1.008, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7513, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: pH (S.U.)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	703	703	
12/17/2015	6.34		
2/16/2016	6.41		
5/23/2016	7.88		
8/22/2016	6.04		
11/7/2016	6.41		
2/7/2017	6.08		
5/2/2017	6.14		
7/31/2017	6.8		
10/2/2017		6.04	
11/15/2017		6.08	extra sample

Prediction Limit

Constituent: pH (S.U.)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	704	704	
12/17/2015	6.06		
2/16/2016	6.38		
5/23/2016	6.44		
8/22/2016	6.19		
11/7/2016	6.08		
2/7/2017	6.27		
5/2/2017	6.31		
7/31/2017	6.35		
10/2/2017		6.25	
11/15/2017		6.19	extra sample

Prediction Limit

Constituent: pH (S.U.)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	705	705	
12/17/2015	6.37		
2/16/2016	6.62		
5/24/2016	6.52		
8/22/2016	6.35		
11/8/2016	6.77		
2/7/2017	6.11		
5/2/2017	6.37		
7/31/2017	7.23		
10/2/2017		6.31	
11/15/2017		6.36	extra sample

Prediction Limit

Constituent: pH (S.U.)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	706	706	
12/17/2015	6.06		
2/16/2016	6.32		
5/24/2016	9.13		
8/22/2016	6.56		
11/8/2016	6.82		
2/7/2017	6.33		
5/2/2017	6.16		
7/31/2017	7.28		
10/2/2017		6.19	
11/15/2017		6.81	extra sample

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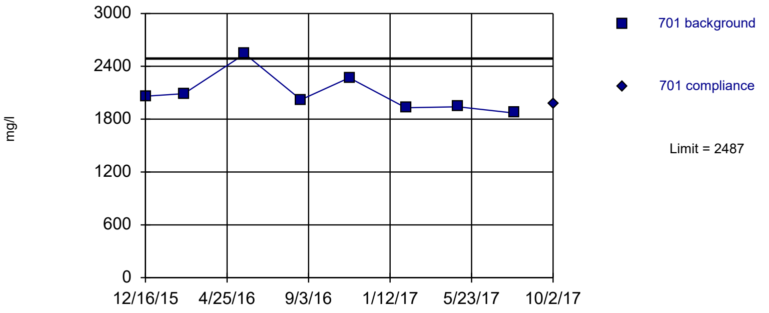
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2090, Std. Dev.=219.5, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8694, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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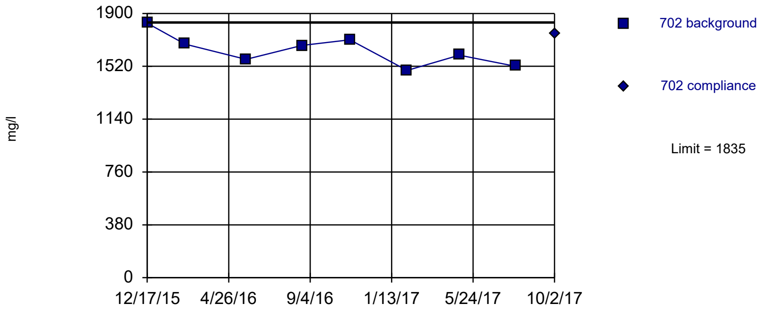
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1634, Std. Dev.=111.2, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9645, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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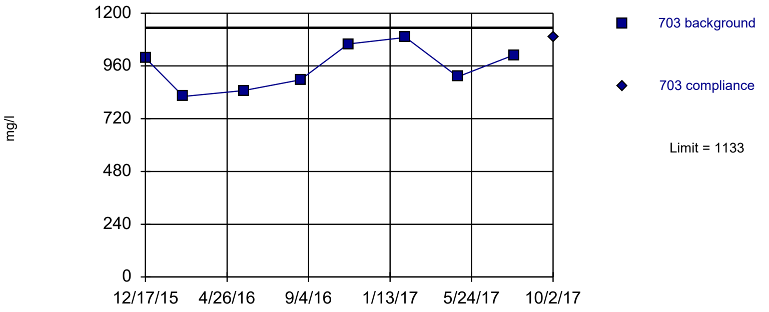
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=954.1, Std. Dev.=99.03, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9422, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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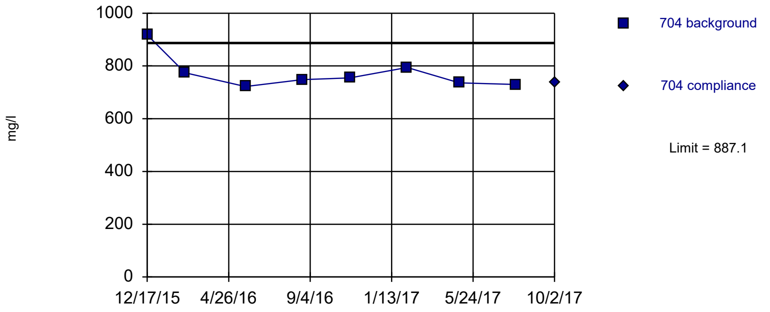
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=772.1, Std. Dev.=63.5, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7539, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 1/15/2018 10:48 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Sulfate (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	701	701
12/16/2015	2060	
2/16/2016	2090	
5/24/2016	2540	
8/22/2016	2020	
11/8/2016	2270	
2/7/2017	1930	
5/2/2017	1940	
7/31/2017	1870	
10/2/2017		1970

Prediction Limit

Constituent: Sulfate (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	702	702
12/17/2015	1830	
2/16/2016	1680	
5/24/2016	1570	
8/22/2016	1670	
11/7/2016	1710	
2/7/2017	1490	
5/2/2017	1600	
7/31/2017	1520	
10/2/2017		1750

Prediction Limit

Constituent: Sulfate (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	703	703
12/17/2015	996	
2/16/2016	821	
5/23/2016	848	
8/22/2016	897	
11/7/2016	1060	
2/7/2017	1090	
5/2/2017	911	
7/31/2017	1010	
10/2/2017		1090

Prediction Limit

Constituent: Sulfate (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	704	704
12/17/2015	918	
2/16/2016	774	
5/23/2016	722	
8/22/2016	748	
11/7/2016	755	
2/7/2017	794	
5/2/2017	736	
7/31/2017	730	
10/2/2017		739

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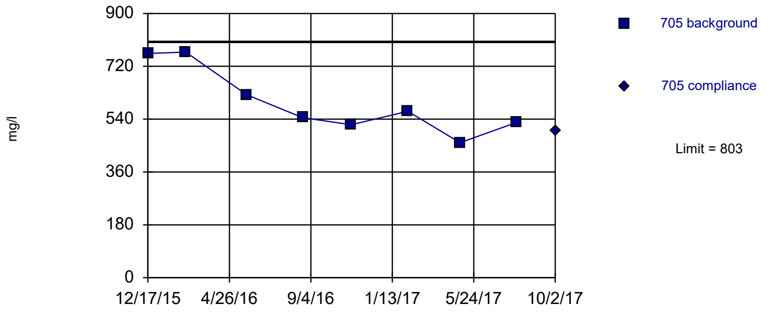
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=597, Std. Dev.=113.8, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8709, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 1/15/2018 10:48 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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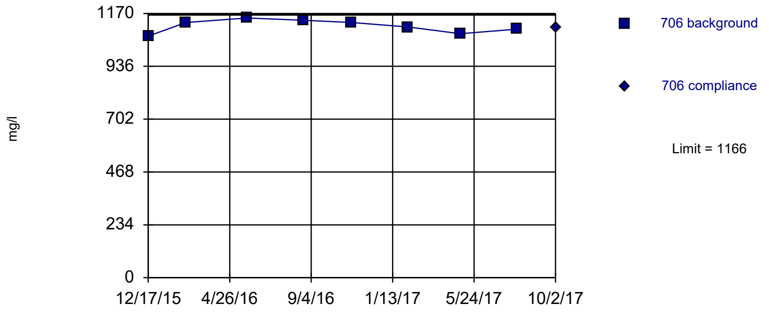
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1114, Std. Dev.=28.75, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9398, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 1/15/2018 10:48 AM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Sulfate (mg/l) Analysis Run 1/15/2018 10:52 AM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	705	705
12/17/2015	764	
2/16/2016	768	
5/24/2016	623	
8/22/2016	545	
11/8/2016	521	
2/7/2017	567	
5/2/2017	460	
7/31/2017	528	
10/2/2017		500

Prediction Limit

Constituent: Sulfate (mg/l)   Analysis Run 1/15/2018 10:52 AM   View: Ash CCR III
Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	706	706
12/17/2015	1070	
2/16/2016	1130	
5/24/2016	1150	
8/22/2016	1140	
11/8/2016	1130	
2/7/2017	1110	
5/2/2017	1080	
7/31/2017	1100	
10/2/2017		1110

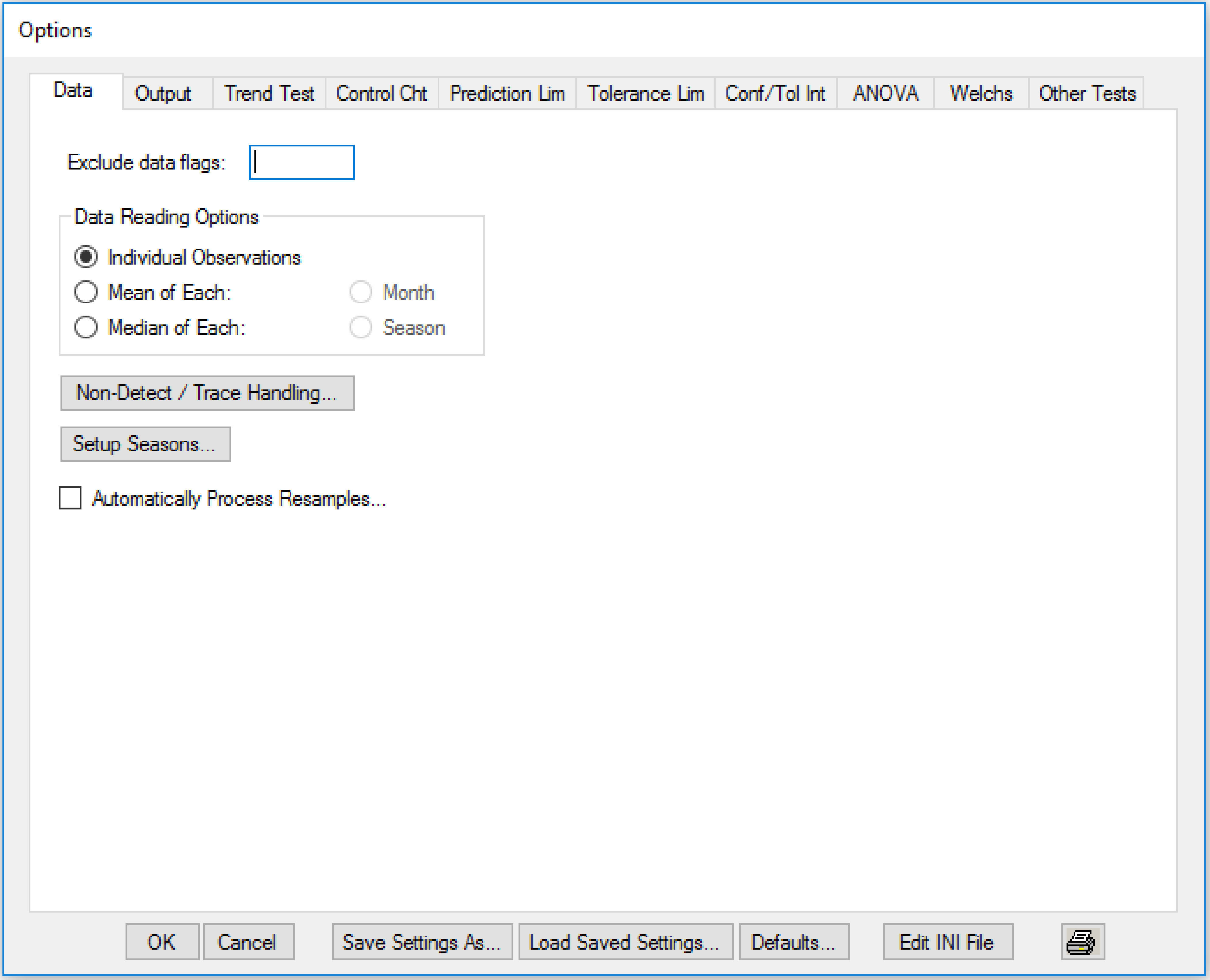
Intrawell Prediction Limit

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose Printed 1/15/2018, 10:52 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/l)	701	0.2	n/a	10/2/2017	0.1ND	No	8	100	n/a	0.005912	NP (NDs) 1 of 3
Boron (mg/l)	702	0.2	n/a	10/2/2017	0.1ND	No	8	100	n/a	0.005912	NP (NDs) 1 of 3
Boron (mg/l)	703	0.2	n/a	10/2/2017	0.1ND	No	8	100	n/a	0.005912	NP (NDs) 1 of 3
Boron (mg/l)	704	0.2	n/a	10/2/2017	0.1ND	No	8	100	n/a	0.005912	NP (NDs) 1 of 3
Boron (mg/l)	705	0.23	n/a	10/2/2017	0.1ND	No	8	75	n/a	0.005912	NP (NDs) 1 of 3
Boron (mg/l)	706	0.2481	n/a	10/2/2017	0.224	No	8	12.5	x^4	0.00188	Param 1 of 3
Calcium (mg/l)	701	566.7	n/a	11/15/2017	450	No	8	0	No	0.00188	Param 1 of 3
Calcium (mg/l)	702	549	n/a	11/15/2017	516	No	8	0	No	0.00188	Param 1 of 3
Calcium (mg/l)	703	265.9	n/a	11/15/2017	246	No	8	0	No	0.00188	Param 1 of 3
Calcium (mg/l)	704	174.7	n/a	11/15/2017	169	No	8	0	No	0.00188	Param 1 of 3
Calcium (mg/l)	705	186.5	n/a	11/15/2017	138	No	8	0	No	0.00188	Param 1 of 3
Calcium (mg/l)	706	316.6	n/a	11/15/2017	304	No	8	0	No	0.00188	Param 1 of 3
Chloride (mg/l)	701	779.9	n/a	11/15/2017	398	No	8	0	No	0.00188	Param 1 of 3
Chloride (mg/l)	702	396.6	n/a	11/15/2017	274	No	8	0	No	0.00188	Param 1 of 3
Chloride (mg/l)	703	25.02	n/a	11/15/2017	18.7	No	8	0	No	0.00188	Param 1 of 3
Chloride (mg/l)	704	10.7	n/a	11/15/2017	5.09	No	8	0	n/a	0.005912	NP (normality) 1 of 3
Chloride (mg/l)	705	13.58	n/a	11/15/2017	13.5	No	8	0	No	0.00188	Param 1 of 3
Chloride (mg/l)	706	31.12	n/a	11/15/2017	30.4	No	8	0	No	0.00188	Param 1 of 3
Dissolved Solids (mg/l)	701	4139	n/a	10/2/2017	3330	No	8	0	No	0.00188	Param 1 of 3
Dissolved Solids (mg/l)	702	3510	n/a	10/2/2017	3110	No	8	0	No	0.00188	Param 1 of 3
Dissolved Solids (mg/l)	703	1689	n/a	10/2/2017	1560	No	8	0	No	0.00188	Param 1 of 3
Dissolved Solids (mg/l)	704	1249	n/a	10/2/2017	1120	No	8	0	No	0.00188	Param 1 of 3
Dissolved Solids (mg/l)	705	1292	n/a	10/2/2017	901	No	8	0	No	0.00188	Param 1 of 3
Dissolved Solids (mg/l)	706	1928	n/a	10/2/2017	1770	No	8	0	No	0.00188	Param 1 of 3
Fluoride (mg/l)	701	1.456	n/a	10/2/2017	1.17	No	8	0	No	0.00188	Param 1 of 3
Fluoride (mg/l)	702	0.3213	n/a	10/2/2017	0.267	No	8	0	No	0.00188	Param 1 of 3
Fluoride (mg/l)	703	0.343	n/a	10/2/2017	0.117	No	8	0	n/a	0.005912	NP (normality) 1 of 3
Fluoride (mg/l)	704	0.3081	n/a	10/2/2017	0.104	No	8	12.5	x^(1/3)	0.00188	Param 1 of 3
Fluoride (mg/l)	705	0.246	n/a	10/2/2017	0.169	No	8	0	n/a	0.005912	NP (normality) 1 of 3
Fluoride (mg/l)	706	0.235	n/a	10/2/2017	0.165	No	8	0	n/a	0.005912	NP (normality) 1 of 3
pH (S.U.)	701	4.659	3.786	12/29/2017	4.17	No	8	0	No	0.000...	Param 1 of 3
pH (S.U.)	702	7.002	5.948	11/15/2017	6.67	No	8	0	No	0.000...	Param 1 of 3
pH (S.U.)	703	7.605	5.42	11/15/2017	6.08	No	8	0	No	0.000...	Param 1 of 3
pH (S.U.)	704	6.511	6.009	11/15/2017	6.19	No	8	0	No	0.000...	Param 1 of 3
pH (S.U.)	705	7.16	5.925	11/15/2017	6.36	No	8	0	No	0.000...	Param 1 of 3
pH (S.U.)	706	8.658	5.007	11/15/2017	6.81	No	8	0	No	0.000...	Param 1 of 3
Sulfate (mg/l)	701	2487	n/a	10/2/2017	1970	No	8	0	No	0.00188	Param 1 of 3
Sulfate (mg/l)	702	1835	n/a	10/2/2017	1750	No	8	0	No	0.00188	Param 1 of 3
Sulfate (mg/l)	703	1133	n/a	10/2/2017	1090	No	8	0	No	0.00188	Param 1 of 3
Sulfate (mg/l)	704	887.1	n/a	10/2/2017	739	No	8	0	No	0.00188	Param 1 of 3
Sulfate (mg/l)	705	803	n/a	10/2/2017	500	No	8	0	No	0.00188	Param 1 of 3
Sulfate (mg/l)	706	1166	n/a	10/2/2017	1110	No	8	0	No	0.00188	Param 1 of 3

ATTACHMENT 2

Sanitas^{TM} Configuration Settings


Data
Output
Trend Test
Control Cht
Prediction Lim
Tolerance Lim
Conf/Tol Int
ANOVA
Welchs
Other Tests
Non-Detect / Trace Handling...
Setup Seasons...
OK
Cancel
Save Settings As...
Load Saved Settings...
Defaults...
Edit INI File

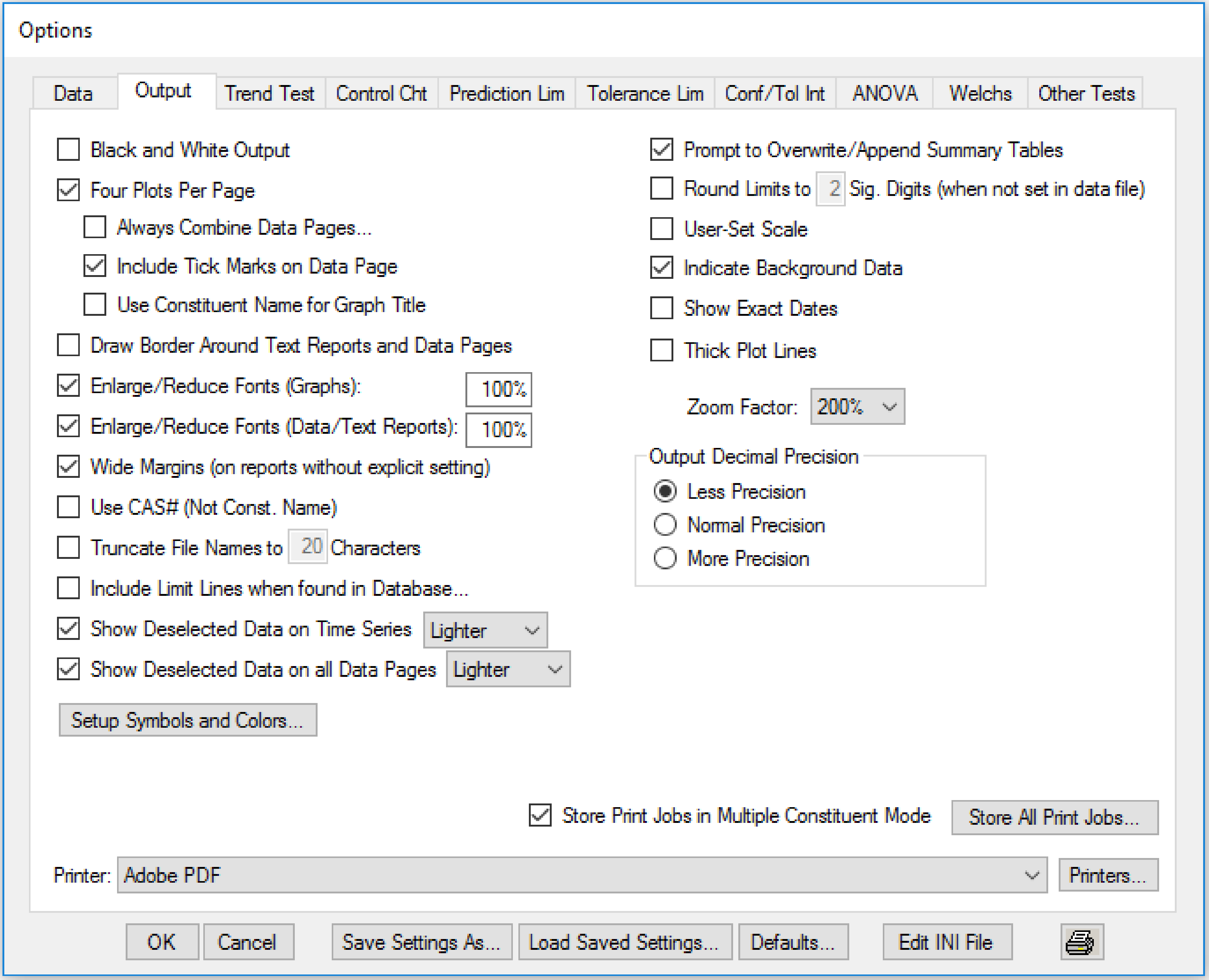
Options

Exclude data flags:

Data Reading Options

● Individual Observations
○ Mean of Each: ○ Month
○ Median of Each: ○ Season

☐ Automatically Process Resamples...


Options
Data
Output
Trend Test
Control Cht
Prediction Lim
Tolerance Lim
Conf/Tol Int
ANOVA
Welchs
Other Tests

☐ Black and White Output

☑ Four Plots Per Page

  ☐ Always Combine Data Pages...

  ☑ Include Tick Marks on Data Page

  ☐ Use Constituent Name for Graph Title

☐ Draw Border Around Text Reports and Data Pages

☑ Enlarge/Reduce Fonts (Graphs): 100%

☑ Enlarge/Reduce Fonts (Data/Text Reports): 100%

☑ 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...

☑ Show Deselected Data on Time Series: Lighter

☑ Show Deselected Data on all Data Pages: Lighter

☑ Prompt to Overwrite/Append Summary Tables

☐ Round Limits to 2 Sig. Digits (when not set in data file)

☐ User-Set Scale

☑ Indicate Background Data

☐ Show Exact Dates

☐ Thick Plot Lines

Zoom Factor: 200%

Output Decimal Precision

● Less Precision

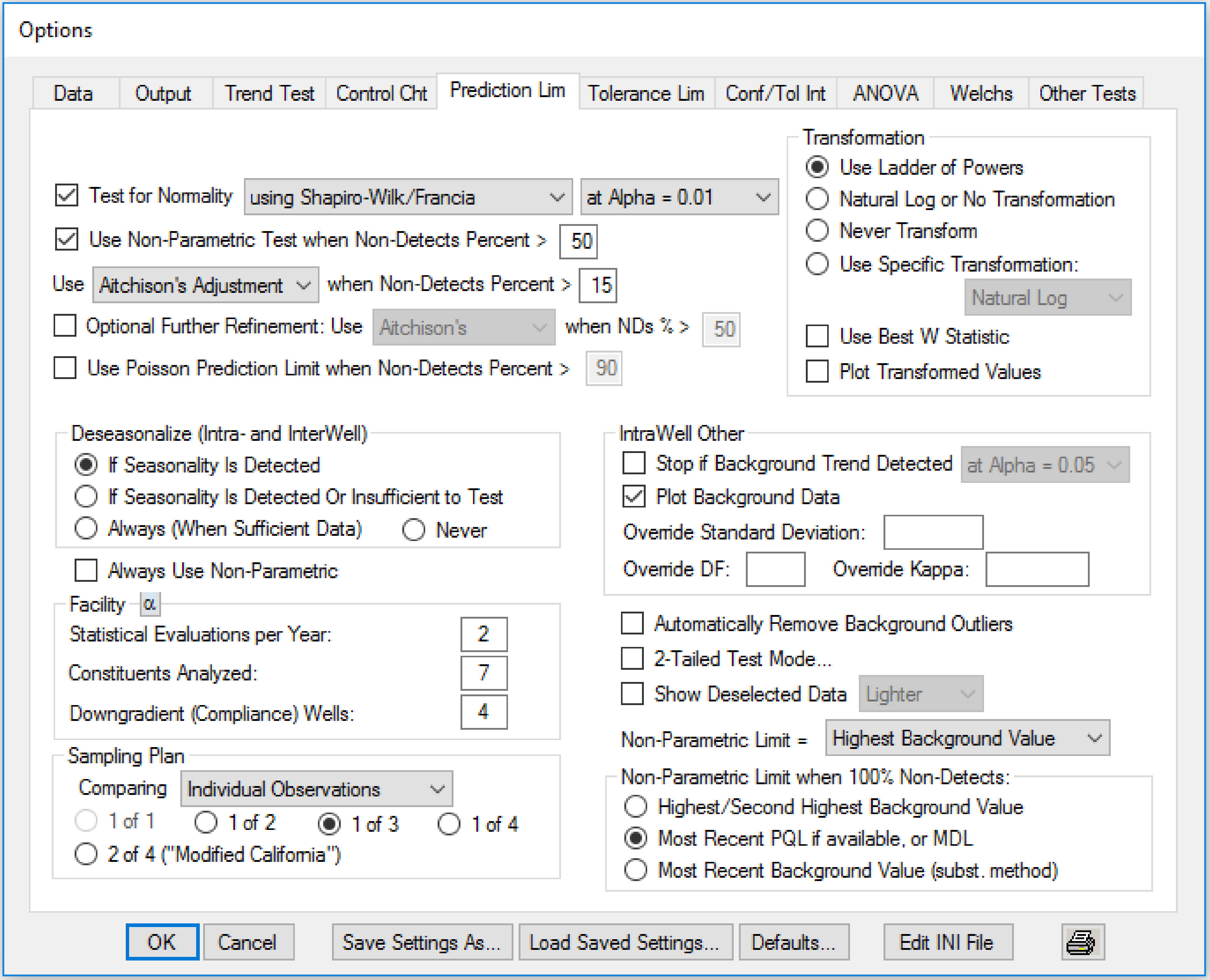
○ Normal Precision

○ More Precision

☑ Store Print Jobs in Multiple Constituent Mode

Printer: Adobe PDF

Setup Symbols and Colors...
Store All Print Jobs...
Printers...
OK
Cancel
Save Settings As...
Load Saved Settings...
Defaults...
Edit INI File


Options
Data
Output
Trend Test
Control Cht
Prediction Lim
Tolerance Lim
Conf/Tol Int
ANOVA
Welchs
Other Tests
OK
Cancel
Save Settings As...
Load Saved Settings...
Defaults...
Edit INI File

☑ Test for Normality [using Shapiro-Wilk/Francia] [at Alpha = 0.01]

☑ Use Non-Parametric Test when Non-Detects Percent > 50

Use [Aitchison's Adjustment] when Non-Detects Percent > 15

☐ Optional Further Refinement: Use [Aitchison's] when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 90

Transformation
● Use Ladder of Powers
○ Natural Log or No Transformation
○ Never Transform
○ Use Specific Transformation: [Natural Log]
☐ Use Best W Statistic
☐ Plot Transformed Values

Deseasonalize (Intra- and InterWell)
● If Seasonality Is Detected
○ If Seasonality Is Detected Or Insufficient to Test
○ Always (When Sufficient Data) ○ Never

☐ Always Use Non-Parametric

Facility α
Statistical Evaluations per Year: 2
Constituents Analyzed: 7
Downgradient (Compliance) Wells: 4

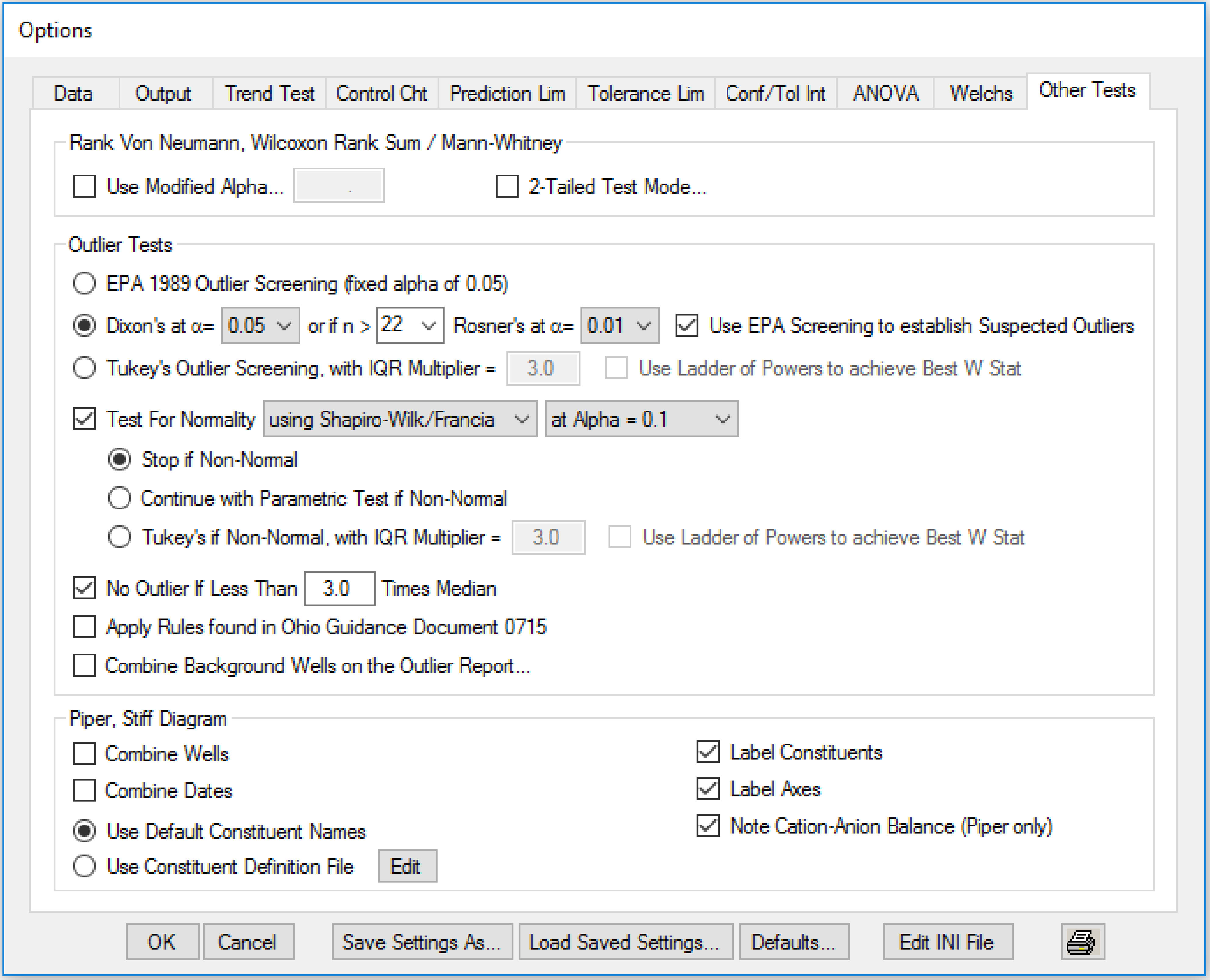
Sampling Plan
Comparing [Individual Observations]
○ 1 of 1 ○ 1 of 2 ● 1 of 3 ○ 1 of 4
○ 2 of 4 ("Modified California")

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)


Options
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 ☑ 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

☑ 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 ☐ Use Ladder of Powers to achieve Best W Stat

☑ 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

☑ Label Constituents

☑ Label Axes

☑ Note Cation-Anion Balance (Piper only)

Edit
OK
Cancel
Save Settings As...
Load Saved Settings...
Defaults...
Edit INI File

ATTACHMENT 2-2

Spring 2018 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

September 11, 2018

STATE OF MISSOURI
JOHN R. ROCKHOLD
9-11-18
RG0092
REGISTERED GEOLOGIST

To: **Montrose Generating Station**
400 SW Highway P
Clinton, MO 64735
Kansas City Power & Light Company

From: **SCS Engineers**

RE: **Determination of Statistically Significant Increases**
North and South Ash Impoundments
Spring 2018 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the multiunit groundwater monitoring system for the North and South Ash Impoundments at the Montrose Generating Station has been completed in substantial compliance with the “Statistical Method Certification by A Qualified Professional Engineer” dated October 12, 2017. Detection monitoring groundwater samples were collected on May 14, 2018. Review and validation of the results from the May 2018 Detection Monitoring Event was completed on June 12, 2018, which constitutes completion and finalization of detection monitoring laboratory analyses. A statistical analysis was then conducted to determine whether there was a statistically significant increase (SSI) over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring. One round of verification sampling was conducted for certain constituents on June 26, 2018.

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation did not identify any SSIs above background.

Attached to this memorandum are the following backup information:

Attachment 1: Sanitas^{TM} Output:

Statistical evaluation output from Sanitas^{TM} for the prediction limit analysis. This includes prediction limit plots, prediction limit background data, detection sample results, 1st verification re-sample results (when applicable), extra sample results for pH for wells which were re-sampled for verification, and a Prediction Limit summary table. Output documentation includes the analytical data used for the statistical analyses.

Attachment 2: Sanitas^{TM} Configuration Settings:

Screen shots of the applicable Sanitas^{TM} 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**

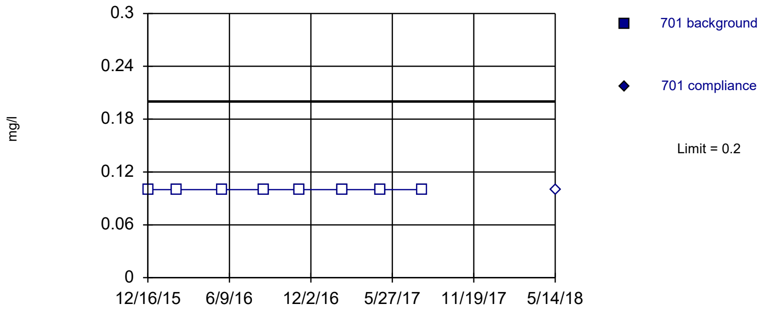
ATTACHMENT 1

Sanitas^{TM} Output

Sanitas™ v.9.6.09 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.

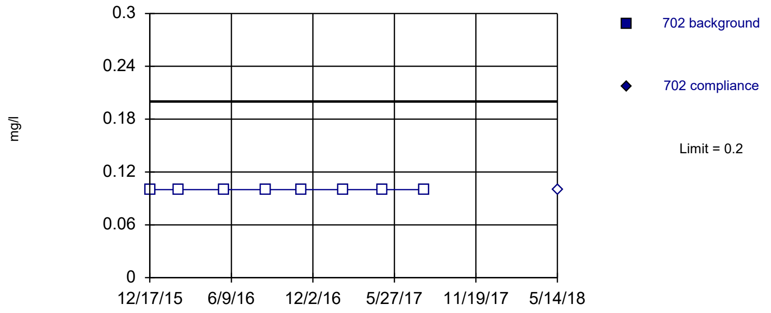
Constituent: Boron Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

---

Sanitas™ v.9.6.09 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: Boron Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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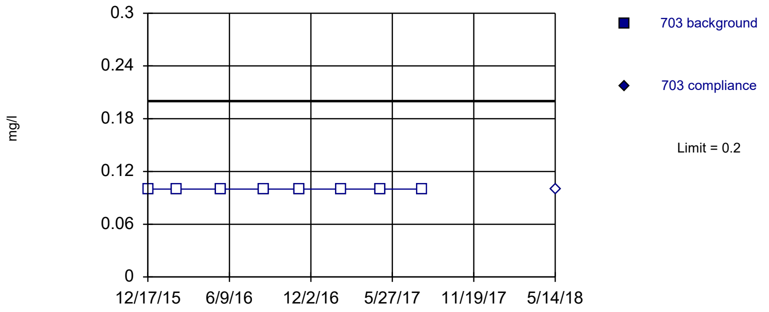
Sanitas™ v.9.6.09 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.
Within Limit

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.

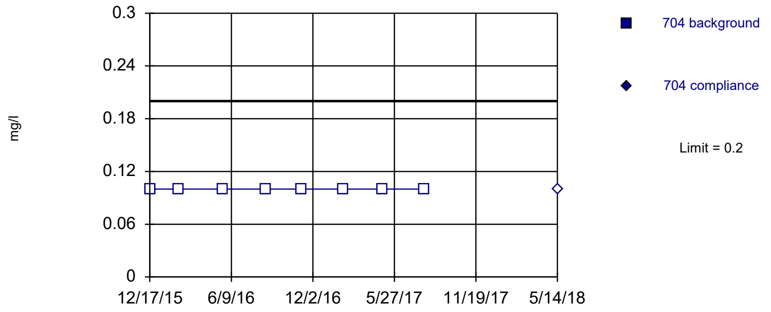
Constituent: Boron Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

---

Sanitas™ v.9.6.09 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: Boron Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Boron (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	701	701
12/16/2015	<0.2	
2/16/2016	<0.2	
5/24/2016	<0.2	
8/22/2016	<0.2	
11/8/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
5/14/2018		<0.2

Prediction Limit

Constituent: Boron (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	702	702
12/17/2015	<0.2	
2/16/2016	<0.2	
5/24/2016	<0.2	
8/22/2016	<0.2	
11/7/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
5/14/2018		<0.2

Prediction Limit

Constituent: Boron (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	703	703
12/17/2015	<0.2	
2/16/2016	<0.2	
5/23/2016	<0.2	
8/22/2016	<0.2	
11/7/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
5/14/2018		<0.2

Prediction Limit

Constituent: Boron (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

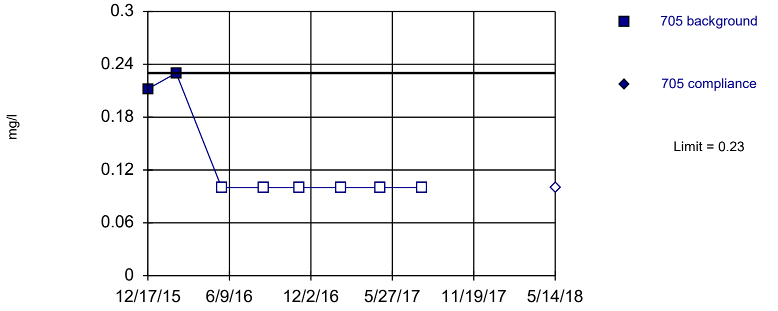
	704	704
12/17/2015	<0.2	
2/16/2016	<0.2	
5/23/2016	<0.2	
8/22/2016	<0.2	
11/7/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
5/14/2018		<0.2

Sanitas™ v.9.6.09 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.

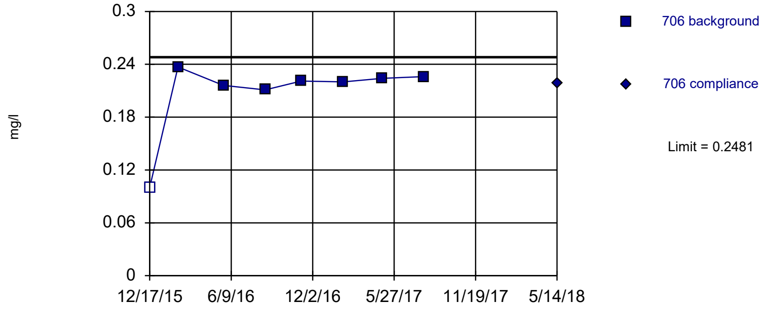
Constituent: Boron Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Sanitas™ v.9.6.09 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^4 transformation): Mean=0.002159, Std. Dev.=0.0009007, n=8, 12.5% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7832, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

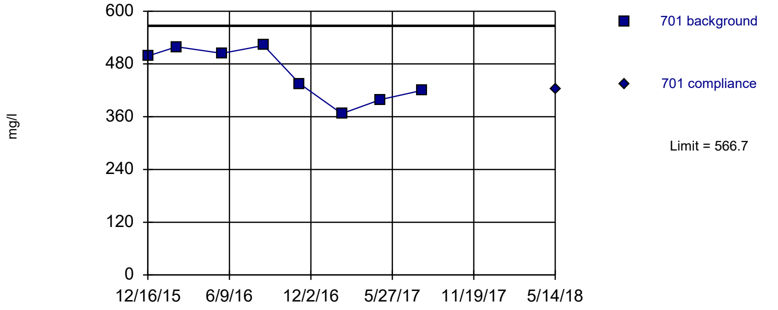
Constituent: Boron Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Sanitas™ v.9.6.09 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=458, Std. Dev.=60.08, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8899, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

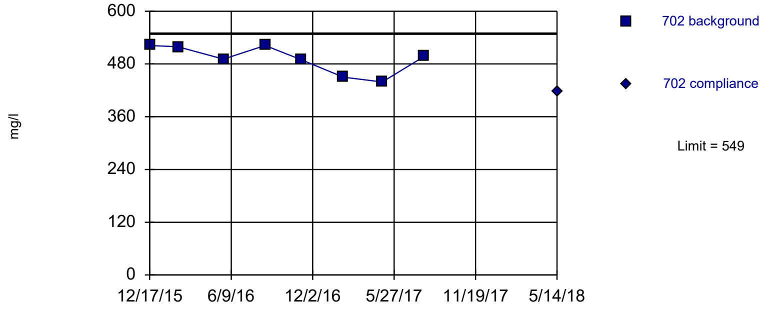
Constituent: Calcium Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Sanitas™ v.9.6.09 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=491.3, Std. Dev.=31.91, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8625, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Boron (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	705	705
12/17/2015	0.212	
2/16/2016	0.23	
5/24/2016	<0.2	
8/22/2016	<0.2	
11/8/2016	<0.2	
2/7/2017	<0.2	
5/2/2017	<0.2	
7/31/2017	<0.2	
5/14/2018		<0.2

Prediction Limit

Constituent: Boron (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III
Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	706	706
12/17/2015	<0.2	
2/16/2016	0.237	
5/24/2016	0.216	
8/22/2016	0.211	
11/8/2016	0.221	
2/7/2017	0.22	
5/2/2017	0.224	
7/31/2017	0.226	
5/14/2018		0.219

Prediction Limit

Constituent: Calcium (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	701	701
12/16/2015	498	
2/16/2016	519	
5/24/2016	504	
8/22/2016	522	
11/8/2016	435	
2/7/2017	367	
5/2/2017	399	
7/31/2017	420	
5/14/2018		424

Prediction Limit

Constituent: Calcium (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

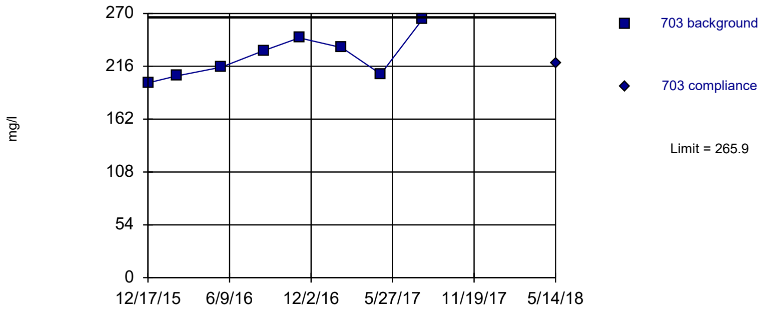
	702	702
12/17/2015	522	
2/16/2016	519	
5/24/2016	491	
8/22/2016	522	
11/7/2016	490	
2/7/2017	450	
5/2/2017	439	
7/31/2017	497	
5/14/2018		416

Sanitas™ v.9.6.09 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=225.5, Std. Dev.=22.34, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9409, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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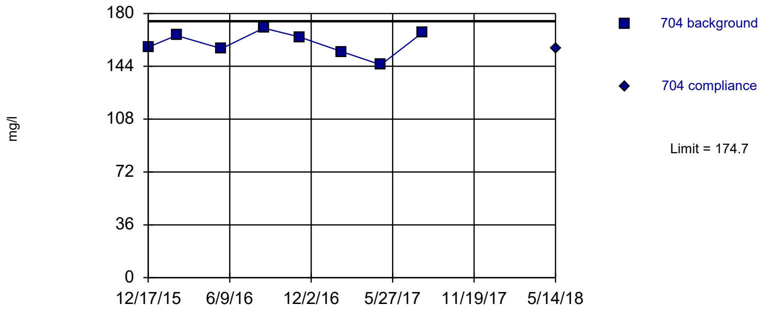
Sanitas™ v.9.6.09 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=159.8, Std. Dev.=8.242, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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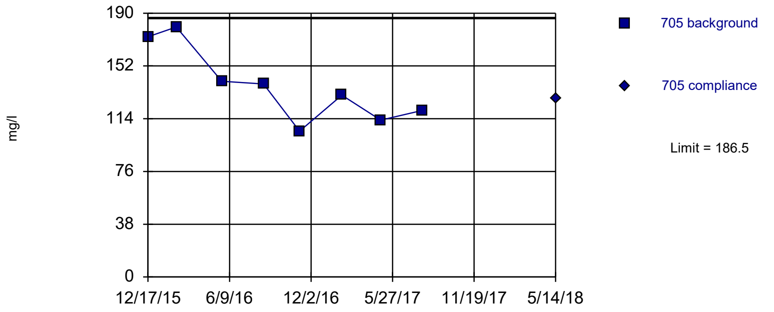
Sanitas™ v.9.6.09 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=137.8, Std. Dev.=26.95, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9222, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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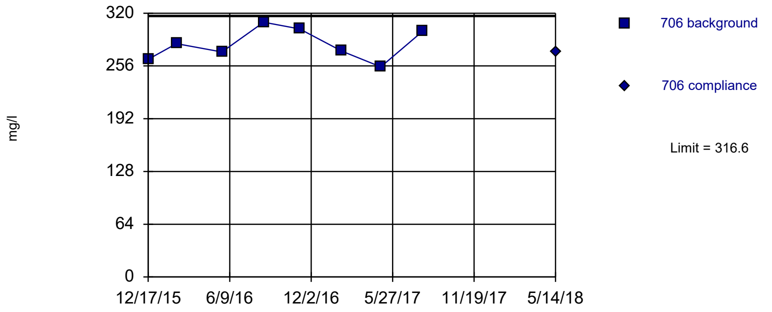
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=282.1, Std. Dev.=19.07, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9531, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Calcium (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III
Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	703	703
12/17/2015	199	
2/16/2016	206	
5/23/2016	215	
8/22/2016	232	
11/7/2016	245	
2/7/2017	235	
5/2/2017	208	
7/31/2017	264	
5/14/2018		219

Prediction Limit

Constituent: Calcium (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	704	704
12/17/2015	157	
2/16/2016	165	
5/23/2016	156	
8/22/2016	170	
11/7/2016	164	
2/7/2017	154	
5/2/2017	145	
7/31/2017	167	
5/14/2018		156

Prediction Limit

Constituent: Calcium (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	705	705
12/17/2015	173	
2/16/2016	180	
5/24/2016	141	
8/22/2016	139	
11/8/2016	105	
2/7/2017	131	
5/2/2017	113	
7/31/2017	120	
5/14/2018		129

Prediction Limit

Constituent: Calcium (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III
Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	706	706
12/17/2015	264	
2/16/2016	283	
5/24/2016	273	
8/22/2016	309	
11/8/2016	301	
2/7/2017	274	
5/2/2017	255	
7/31/2017	298	
5/14/2018		273

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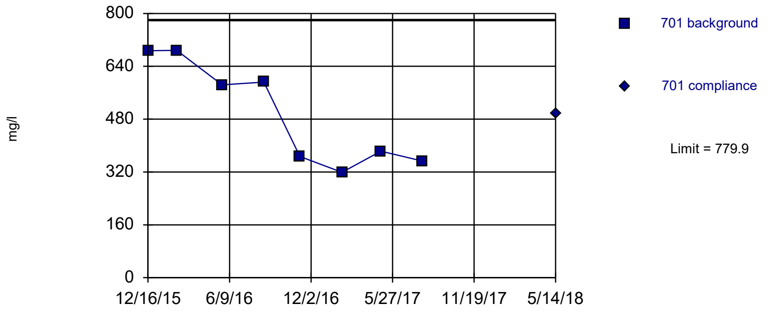
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=496.6, Std. Dev.=156.5, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8398, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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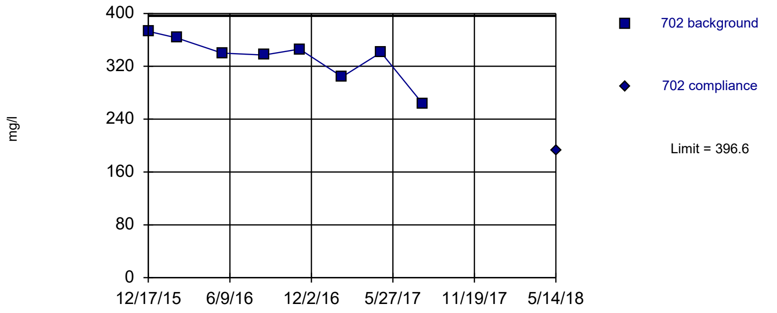
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=333.4, Std. Dev.=34.92, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8838, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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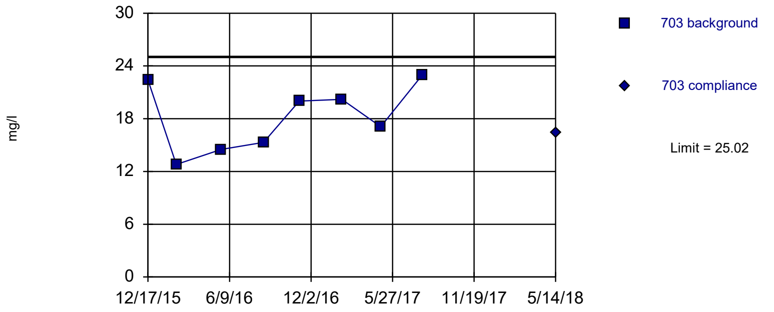
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=18.16, Std. Dev.=3.787, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9353, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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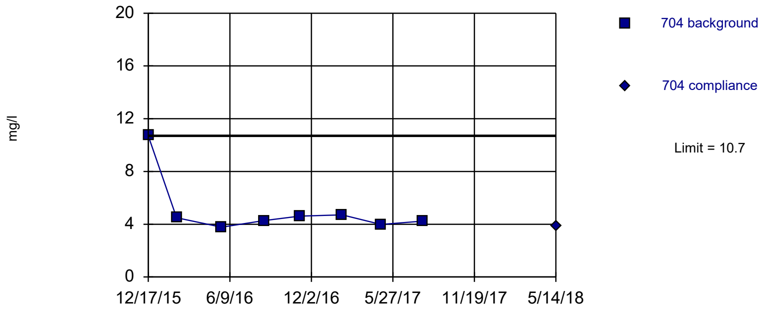
Within Limit

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: Chloride Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Chloride (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	701	701
12/16/2015	687	
2/16/2016	688	
5/24/2016	584	
8/22/2016	592	
11/8/2016	367	
2/7/2017	319	
5/2/2017	383	
7/31/2017	353	
5/14/2018		497

Prediction Limit

Constituent: Chloride (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	702	702
12/17/2015	373	
2/16/2016	363	
5/24/2016	340	
8/22/2016	337	
11/7/2016	346	
2/7/2017	304	
5/2/2017	341	
7/31/2017	263	
5/14/2018		192

Prediction Limit

Constituent: Chloride (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	703	703
12/17/2015	22.4	
2/16/2016	12.8	
5/23/2016	14.5	
8/22/2016	15.3	
11/7/2016	20	
2/7/2017	20.2	
5/2/2017	17.1	
7/31/2017	23	
5/14/2018		16.4

Prediction Limit

Constituent: Chloride (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	704	704
12/17/2015	10.7	
2/16/2016	4.49	
5/23/2016	3.77	
8/22/2016	4.27	
11/7/2016	4.61	
2/7/2017	4.71	
5/2/2017	3.98	
7/31/2017	4.24	
5/14/2018		3.86

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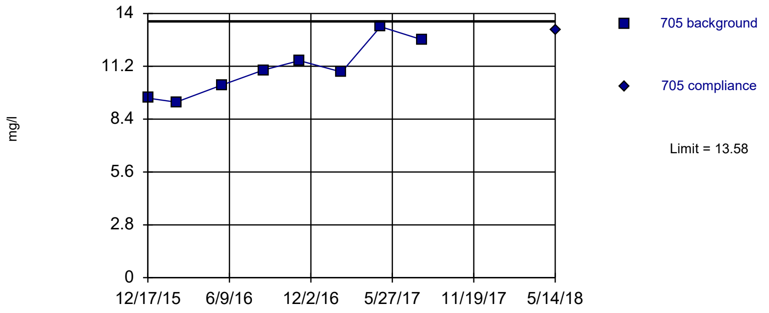
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=11.04, Std. Dev.=1.407, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9519, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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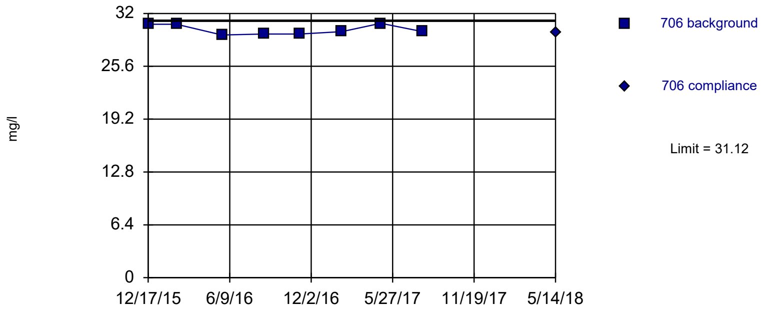
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.03, Std. Dev.=0.6042, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8072, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Chloride Analysis Run 7/18/2018 4:27 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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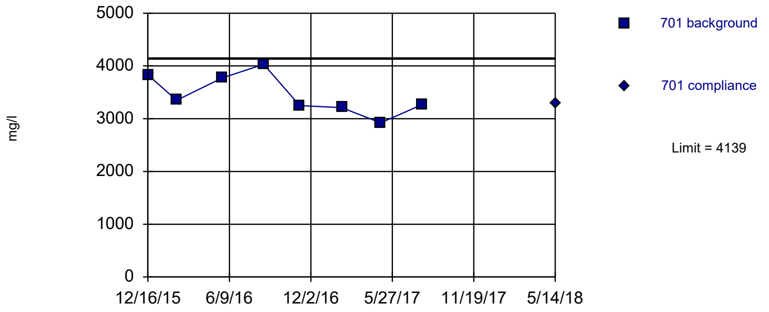
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=3454, Std. Dev.=378.7, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9238, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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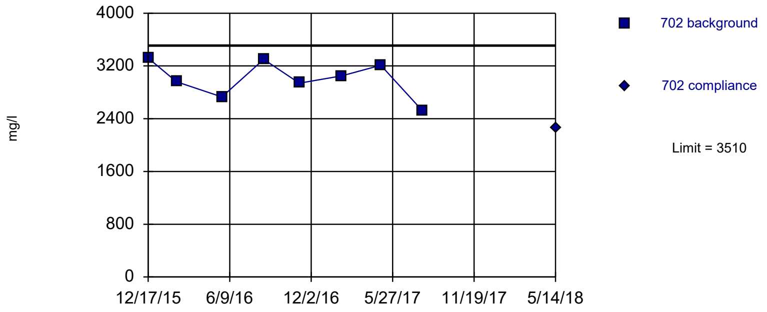
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=3004, Std. Dev.=279.6, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9382, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Chloride (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	705	705
12/17/2015	9.51	
2/16/2016	9.3	
5/24/2016	10.2	
8/22/2016	11	
11/8/2016	11.5	
2/7/2017	10.9	
5/2/2017	13.3	
7/31/2017	12.6	
5/14/2018		13.1

Prediction Limit

Constituent: Chloride (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	706	706
12/17/2015	30.7	
2/16/2016	30.7	
5/24/2016	29.4	
8/22/2016	29.5	
11/8/2016	29.5	
2/7/2017	29.8	
5/2/2017	30.8	
7/31/2017	29.8	
5/14/2018		29.7

Prediction Limit

Constituent: Dissolved Solids (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	701	701
12/16/2015	3830	
2/16/2016	3350	
5/24/2016	3770	
8/22/2016	4030	
11/8/2016	3250	
2/7/2017	3210	
5/2/2017	2920	
7/31/2017	3270	
5/14/2018		3290

Prediction Limit

Constituent: Dissolved Solids (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	702	702
12/17/2015	3320	
2/16/2016	2960	
5/24/2016	2730	
8/22/2016	3300	
11/7/2016	2940	
2/7/2017	3050	
5/2/2017	3210	
7/31/2017	2520	
5/14/2018		2260

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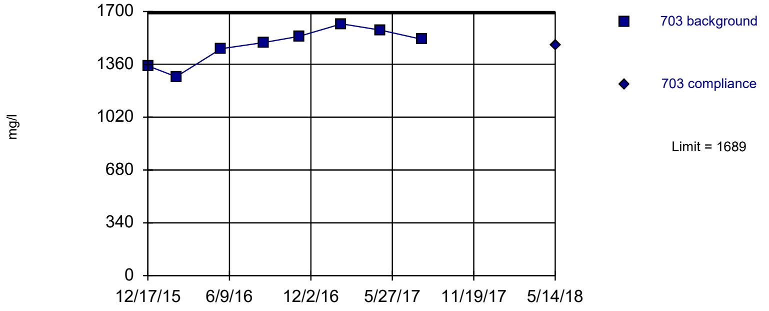
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1481, Std. Dev.=114.9, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9321, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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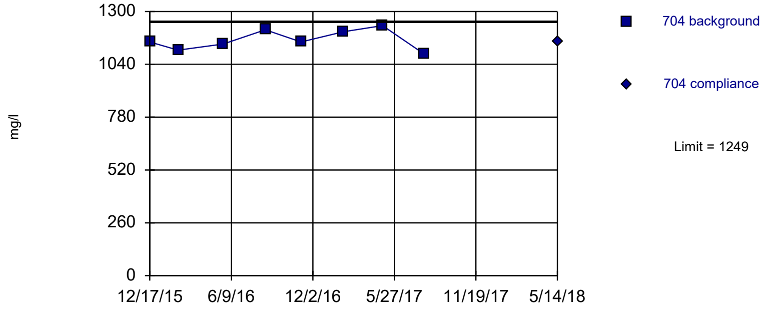
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1160, Std. Dev.=49.28, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9462, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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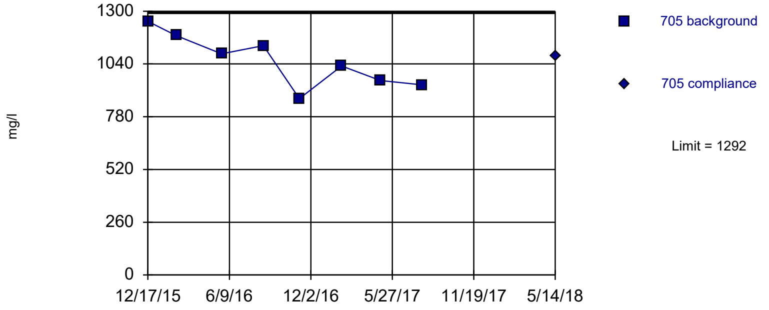
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1056, Std. Dev.=130.4, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9756, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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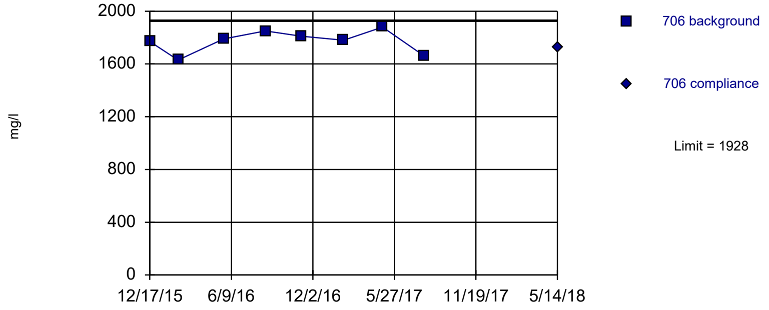
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1771, Std. Dev.=86.43, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9168, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Dissolved Solids Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Dissolved Solids (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III
Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	703	703
12/17/2015	1350	
2/16/2016	1280	
5/23/2016	1460	
8/22/2016	1500	
11/7/2016	1540	
2/7/2017	1620	
5/2/2017	1580	
7/31/2017	1520	
5/14/2018		1480

Prediction Limit

Constituent: Dissolved Solids (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	704	704
12/17/2015	1150	
2/16/2016	1110	
5/23/2016	1140	
8/22/2016	1210	
11/7/2016	1150	
2/7/2017	1200	
5/2/2017	1230	
7/31/2017	1090	
5/14/2018		1150

Prediction Limit

Constituent: Dissolved Solids (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	705	705
12/17/2015	1250	
2/16/2016	1180	
5/24/2016	1090	
8/22/2016	1130	
11/8/2016	869	
2/7/2017	1030	
5/2/2017	958	
7/31/2017	937	
5/14/2018		1080

Prediction Limit

Constituent: Dissolved Solids (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	706	706
12/17/2015	1770	
2/16/2016	1630	
5/24/2016	1790	
8/22/2016	1850	
11/8/2016	1810	
2/7/2017	1780	
5/2/2017	1880	
7/31/2017	1660	
5/14/2018		1730

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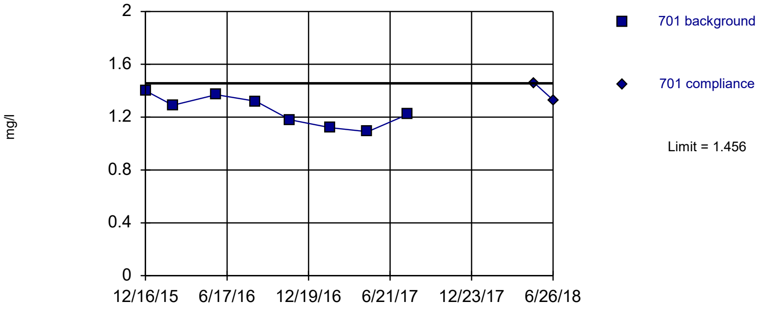
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.249, Std. Dev.=0.1144, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9494, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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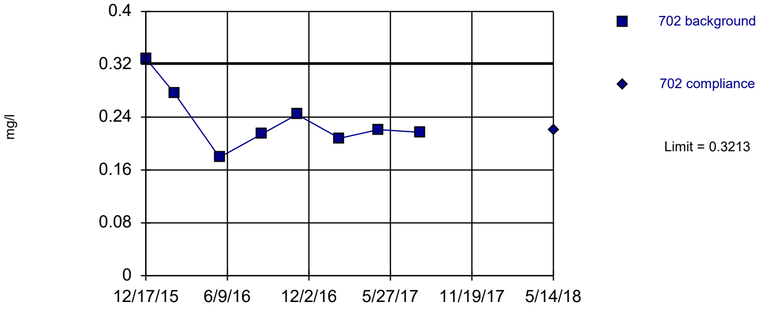
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2361, Std. Dev.=0.04705, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8995, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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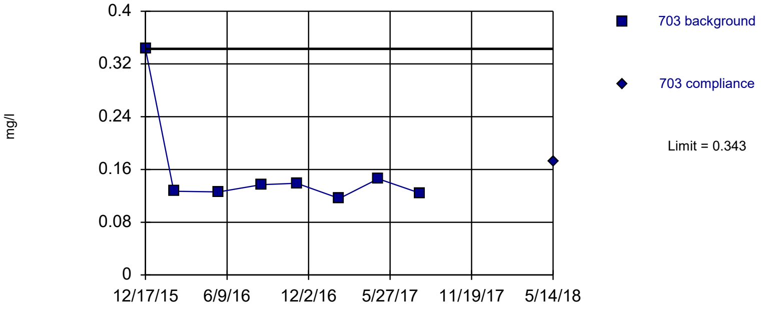
Within Limit

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 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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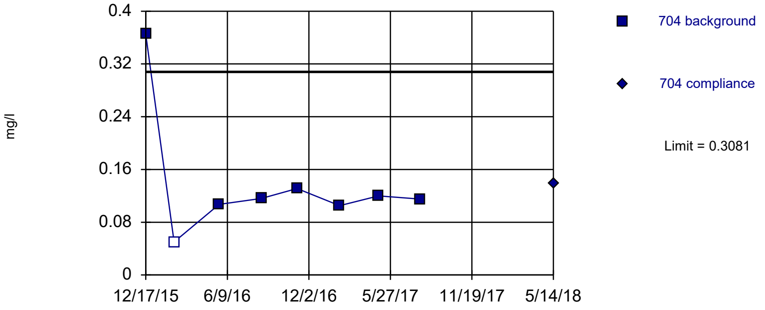
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=0.5006, Std. Dev.=0.09657, n=8, 12.5% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7706, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Fluoride (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	701	701	
12/16/2015	1.4		
2/16/2016	1.29		
5/24/2016	1.37		
8/22/2016	1.32		
11/8/2016	1.18		
2/7/2017	1.12		
5/2/2017	1.09		
7/31/2017	1.22		
5/14/2018		1.46	
6/26/2018		1.33	1st verification re-sample

Prediction Limit

Constituent: Fluoride (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	702	702
12/17/2015	0.329	
2/16/2016	0.277	
5/24/2016	0.179	
8/22/2016	0.214	
11/7/2016	0.244	
2/7/2017	0.208	
5/2/2017	0.221	
7/31/2017	0.217	
5/14/2018		0.22

Prediction Limit

Constituent: Fluoride (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	703	703
12/17/2015	0.343	
2/16/2016	0.127	
5/23/2016	0.126	
8/22/2016	0.137	
11/7/2016	0.139	
2/7/2017	0.116	
5/2/2017	0.146	
7/31/2017	0.124	
5/14/2018		0.173

Prediction Limit

Constituent: Fluoride (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	704	704
12/17/2015	0.365	
2/16/2016	<0.1	
5/23/2016	0.107	
8/22/2016	0.116	
11/7/2016	0.131	
2/7/2017	0.105	
5/2/2017	0.12	
7/31/2017	0.115	
5/14/2018		0.139

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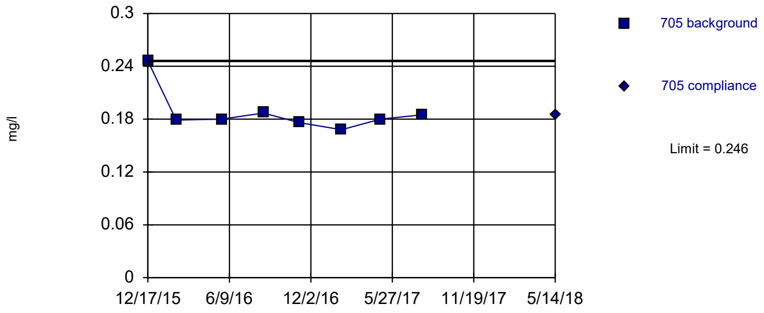
Within Limit

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 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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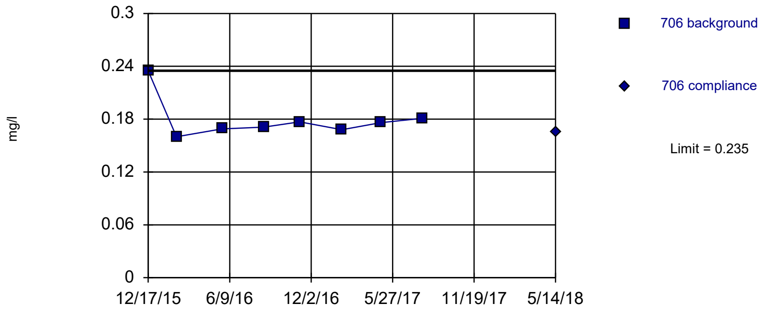
Within Limit

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 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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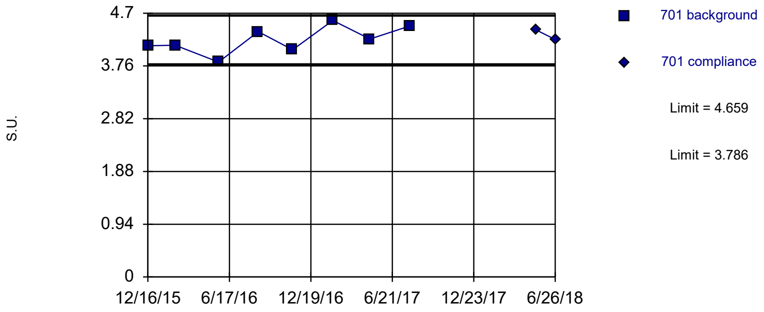
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=4.223, Std. Dev.=0.2411, 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 = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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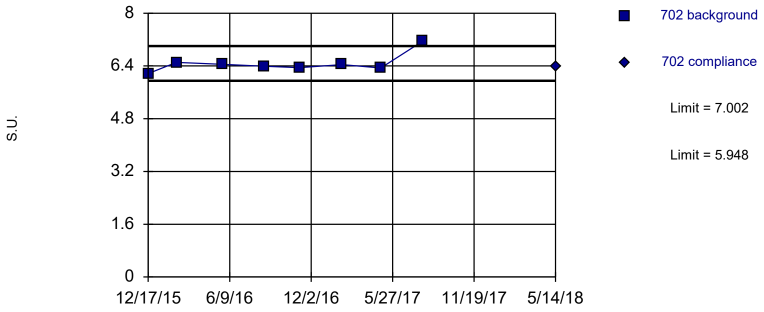
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.475, Std. Dev.=0.291, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7508, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Fluoride (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	705	705
12/17/2015	0.246	
2/16/2016	0.179	
5/24/2016	0.18	
8/22/2016	0.187	
11/8/2016	0.176	
2/7/2017	0.168	
5/2/2017	0.18	
7/31/2017	0.185	
5/14/2018		0.185

Prediction Limit

Constituent: Fluoride (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	706	706
12/17/2015	0.235	
2/16/2016	0.16	
5/24/2016	0.169	
8/22/2016	0.171	
11/8/2016	0.177	
2/7/2017	0.168	
5/2/2017	0.176	
7/31/2017	0.181	
5/14/2018		0.165

Prediction Limit

Constituent: pH (S.U.) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	701	701	
12/16/2015	4.12		
2/16/2016	4.13		
5/24/2016	3.83		
8/22/2016	4.37		
11/8/2016	4.05		
2/7/2017	4.57		
5/2/2017	4.24		
7/31/2017	4.47		
5/14/2018		4.4	
6/26/2018		4.23	extra sample

Prediction Limit

Constituent: pH (S.U.)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	702	702
12/17/2015	6.17	
2/16/2016	6.51	
5/24/2016	6.45	
8/22/2016	6.39	
11/7/2016	6.35	
2/7/2017	6.44	
5/2/2017	6.34	
7/31/2017	7.15	
5/14/2018		6.4

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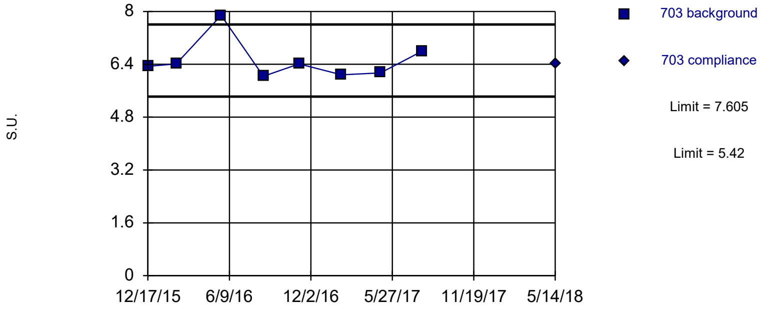
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.513, Std. Dev.=0.6039, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7595, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 7/18/2018 4:28 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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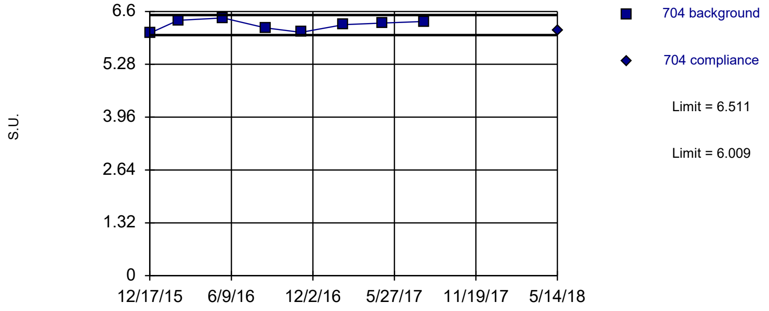
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.26, Std. Dev.=0.1388, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9351, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 7/18/2018 4:28 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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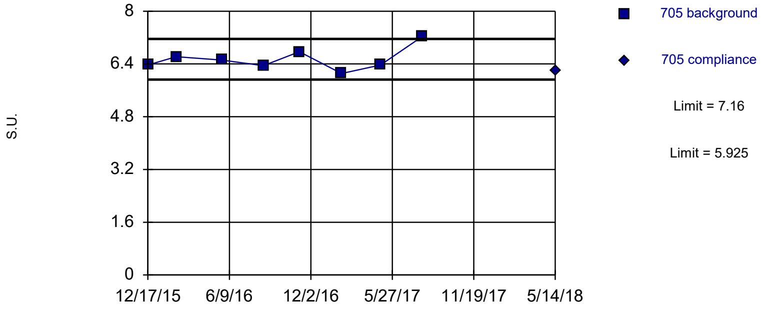
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.543, Std. Dev.=0.3411, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9137, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 7/18/2018 4:28 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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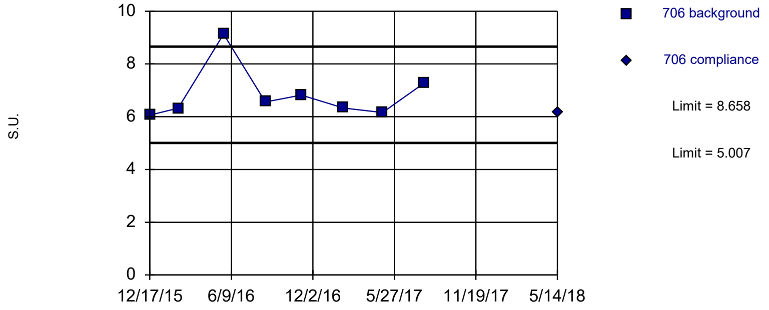
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.833, Std. Dev.=1.008, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7513, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 7/18/2018 4:28 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: pH (S.U.)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	703	703
12/17/2015	6.34	
2/16/2016	6.41	
5/23/2016	7.88	
8/22/2016	6.04	
11/7/2016	6.41	
2/7/2017	6.08	
5/2/2017	6.14	
7/31/2017	6.8	
5/14/2018		6.41

Prediction Limit

Constituent: pH (S.U.) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	704	704
12/17/2015	6.06	
2/16/2016	6.38	
5/23/2016	6.44	
8/22/2016	6.19	
11/7/2016	6.08	
2/7/2017	6.27	
5/2/2017	6.31	
7/31/2017	6.35	
5/14/2018		6.13

Prediction Limit

Constituent: pH (S.U.) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	705	705
12/17/2015	6.37	
2/16/2016	6.62	
5/24/2016	6.52	
8/22/2016	6.35	
11/8/2016	6.77	
2/7/2017	6.11	
5/2/2017	6.37	
7/31/2017	7.23	
5/14/2018		6.18

Prediction Limit

Constituent: pH (S.U.) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	706	706
12/17/2015	6.06	
2/16/2016	6.32	
5/24/2016	9.13	
8/22/2016	6.56	
11/8/2016	6.82	
2/7/2017	6.33	
5/2/2017	6.16	
7/31/2017	7.28	
5/14/2018		6.16

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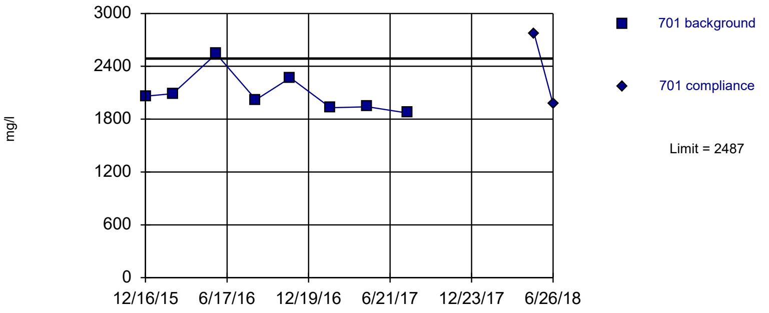
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2090, Std. Dev.=219.5, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8694, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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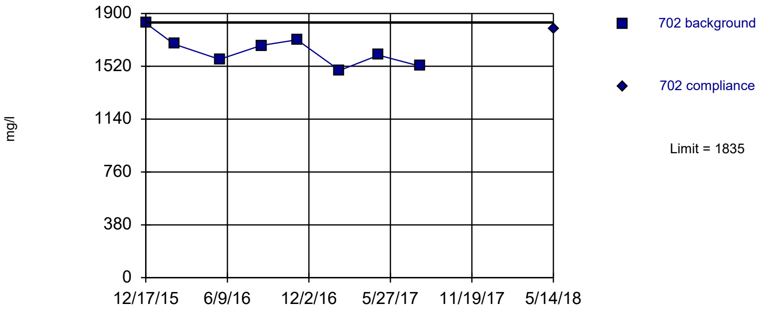
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1634, Std. Dev.=111.2, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9645, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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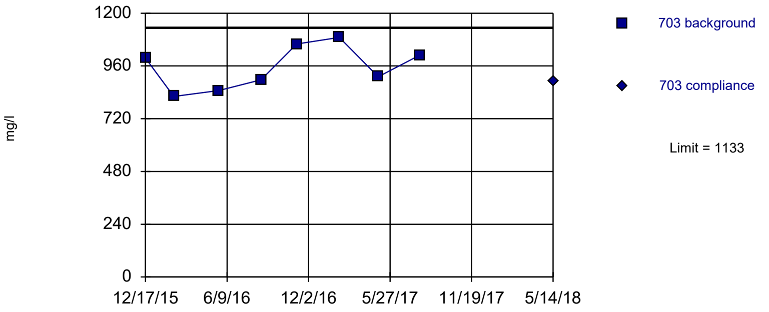
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=954.1, Std. Dev.=99.03, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9422, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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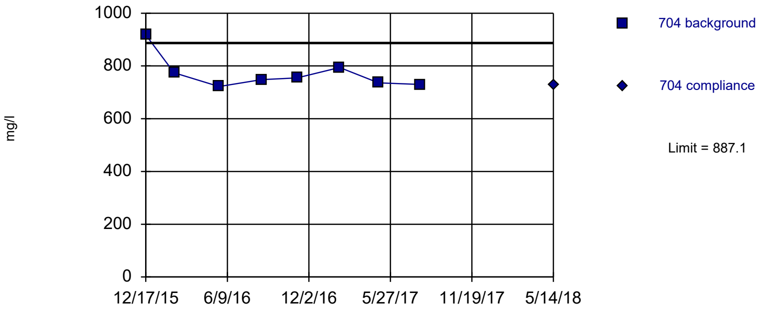
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=772.1, Std. Dev.=63.5, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7539, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 7/18/2018 4:28 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Sulfate (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	701	701	
12/16/2015	2060		
2/16/2016	2090		
5/24/2016	2540		
8/22/2016	2020		
11/8/2016	2270		
2/7/2017	1930		
5/2/2017	1940		
7/31/2017	1870		
5/14/2018		2770	
6/26/2018		1970	1st verification re-sample

Prediction Limit

Constituent: Sulfate (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III
Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	702	702
12/17/2015	1830	
2/16/2016	1680	
5/24/2016	1570	
8/22/2016	1670	
11/7/2016	1710	
2/7/2017	1490	
5/2/2017	1600	
7/31/2017	1520	
5/14/2018		1790

Prediction Limit

Constituent: Sulfate (mg/l)   Analysis Run 7/18/2018 4:29 PM   View: Ash CCR III
Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose

	703	703
12/17/2015	996	
2/16/2016	821	
5/23/2016	848	
8/22/2016	897	
11/7/2016	1060	
2/7/2017	1090	
5/2/2017	911	
7/31/2017	1010	
5/14/2018		892

Prediction Limit

Constituent: Sulfate (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

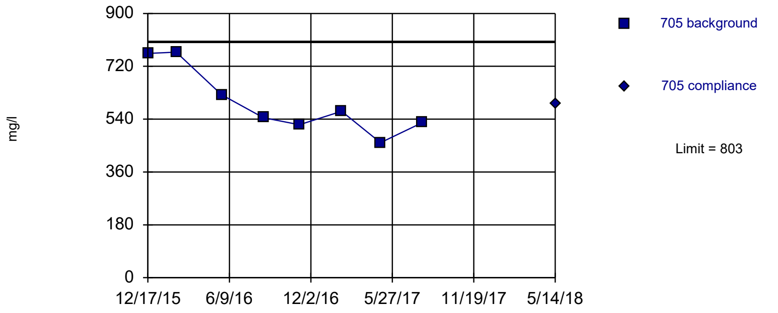
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	704	704
12/17/2015	918	
2/16/2016	774	
5/23/2016	722	
8/22/2016	748	
11/7/2016	755	
2/7/2017	794	
5/2/2017	736	
7/31/2017	730	
5/14/2018		726

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=597, Std. Dev.=113.8, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8709, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 7/18/2018 4:28 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

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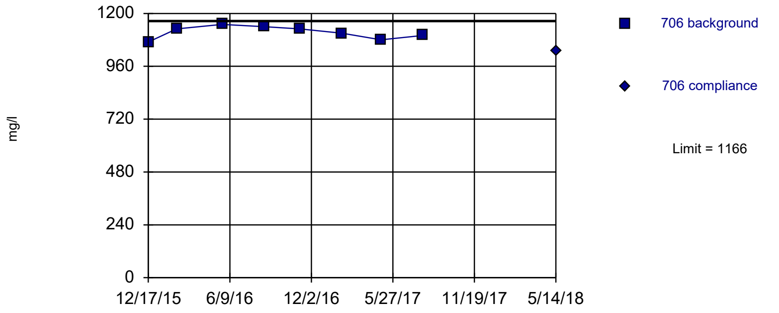
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1114, Std. Dev.=28.75, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9398, critical = 0.749. Kappa = 1.81 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate Analysis Run 7/18/2018 4:28 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

Prediction Limit

Constituent: Sulfate (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III
Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	705	705
12/17/2015	764	
2/16/2016	768	
5/24/2016	623	
8/22/2016	545	
11/8/2016	521	
2/7/2017	567	
5/2/2017	460	
7/31/2017	528	
5/14/2018		594

Prediction Limit

Constituent: Sulfate (mg/l) Analysis Run 7/18/2018 4:29 PM View: Ash CCR III

Montrose Generating Station UWL Client: SCS Engineers Data: Montrose

	706	706
12/17/2015	1070	
2/16/2016	1130	
5/24/2016	1150	
8/22/2016	1140	
11/8/2016	1130	
2/7/2017	1110	
5/2/2017	1080	
7/31/2017	1100	
5/14/2018		1030

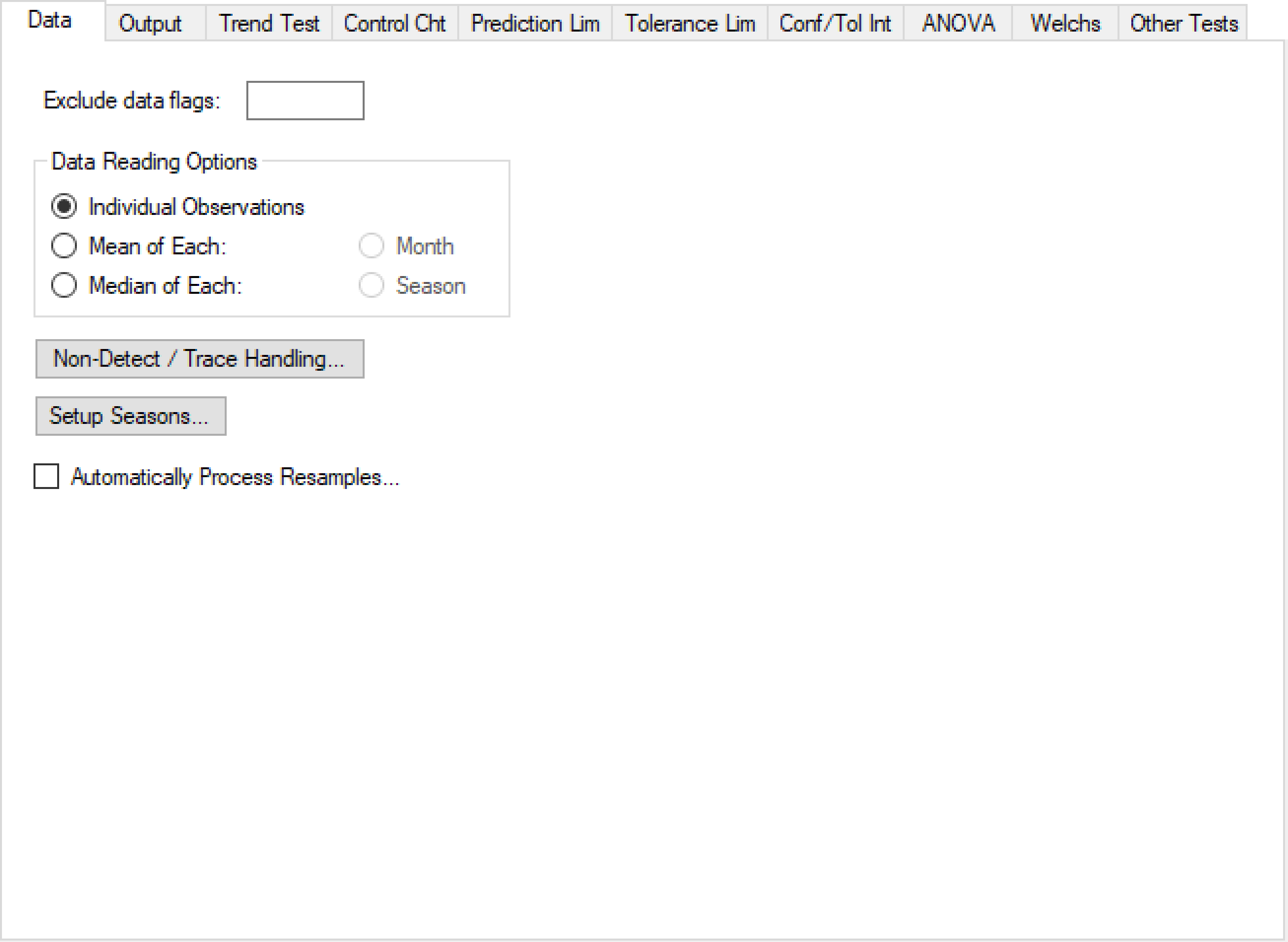
Prediction Limit

Montrose Generating Station UWL   Client: SCS Engineers   Data: Montrose   Printed 7/18/2018, 4:29 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/l)	701	0.2	n/a	5/14/2018	0.1ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Boron (mg/l)	702	0.2	n/a	5/14/2018	0.1ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Boron (mg/l)	703	0.2	n/a	5/14/2018	0.1ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Boron (mg/l)	704	0.2	n/a	5/14/2018	0.1ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Boron (mg/l)	705	0.23	n/a	5/14/2018	0.1ND	No	8	75	n/a	0.005912	NP Intra (NDs) 1 of 3
Boron (mg/l)	706	0.2481	n/a	5/14/2018	0.219	No	8	12.5	x^4	0.00188	Param Intra 1 of 3
Calcium (mg/l)	701	566.7	n/a	5/14/2018	424	No	8	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	702	549	n/a	5/14/2018	416	No	8	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	703	265.9	n/a	5/14/2018	219	No	8	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	704	174.7	n/a	5/14/2018	156	No	8	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	705	186.5	n/a	5/14/2018	129	No	8	0	No	0.00188	Param Intra 1 of 3
Calcium (mg/l)	706	316.6	n/a	5/14/2018	273	No	8	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	701	779.9	n/a	5/14/2018	497	No	8	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	702	396.6	n/a	5/14/2018	192	No	8	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	703	25.02	n/a	5/14/2018	16.4	No	8	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	704	10.7	n/a	5/14/2018	3.86	No	8	0	n/a	0.005912	NP Intra (normality) ...
Chloride (mg/l)	705	13.58	n/a	5/14/2018	13.1	No	8	0	No	0.00188	Param Intra 1 of 3
Chloride (mg/l)	706	31.12	n/a	5/14/2018	29.7	No	8	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	701	4139	n/a	5/14/2018	3290	No	8	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	702	3510	n/a	5/14/2018	2260	No	8	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	703	1689	n/a	5/14/2018	1480	No	8	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	704	1249	n/a	5/14/2018	1150	No	8	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	705	1292	n/a	5/14/2018	1080	No	8	0	No	0.00188	Param Intra 1 of 3
Dissolved Solids (mg/l)	706	1928	n/a	5/14/2018	1730	No	8	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	701	1.456	n/a	6/26/2018	1.33	No	8	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	702	0.3213	n/a	5/14/2018	0.22	No	8	0	No	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	703	0.343	n/a	5/14/2018	0.173	No	8	0	n/a	0.005912	NP Intra (normality) ...
Fluoride (mg/l)	704	0.3081	n/a	5/14/2018	0.139	No	8	12.5	x^(1/3)	0.00188	Param Intra 1 of 3
Fluoride (mg/l)	705	0.246	n/a	5/14/2018	0.185	No	8	0	n/a	0.005912	NP Intra (normality) ...
Fluoride (mg/l)	706	0.235	n/a	5/14/2018	0.165	No	8	0	n/a	0.005912	NP Intra (normality) ...
pH (S.U.)	701	4.659	3.786	6/26/2018	4.23	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	702	7.002	5.948	5/14/2018	6.4	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	703	7.605	5.42	5/14/2018	6.41	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	704	6.511	6.009	5/14/2018	6.13	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	705	7.16	5.925	5/14/2018	6.18	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	706	8.658	5.007	5/14/2018	6.16	No	8	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/l)	701	2487	n/a	6/26/2018	1970	No	8	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	702	1835	n/a	5/14/2018	1790	No	8	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	703	1133	n/a	5/14/2018	892	No	8	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	704	887.1	n/a	5/14/2018	726	No	8	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	705	803	n/a	5/14/2018	594	No	8	0	No	0.00188	Param Intra 1 of 3
Sulfate (mg/l)	706	1166	n/a	5/14/2018	1030	No	8	0	No	0.00188	Param Intra 1 of 3

ATTACHMENT 2

Sanitas$^{\text{TM}}$ Configuration Settings


Data
Output
Trend Test
Control Cht
Prediction Lim
Tolerance Lim
Conf/Tol Int
ANOVA
Welchs
Other Tests
Non-Detect / Trace Handling...
Setup Seasons...

Exclude data flags:

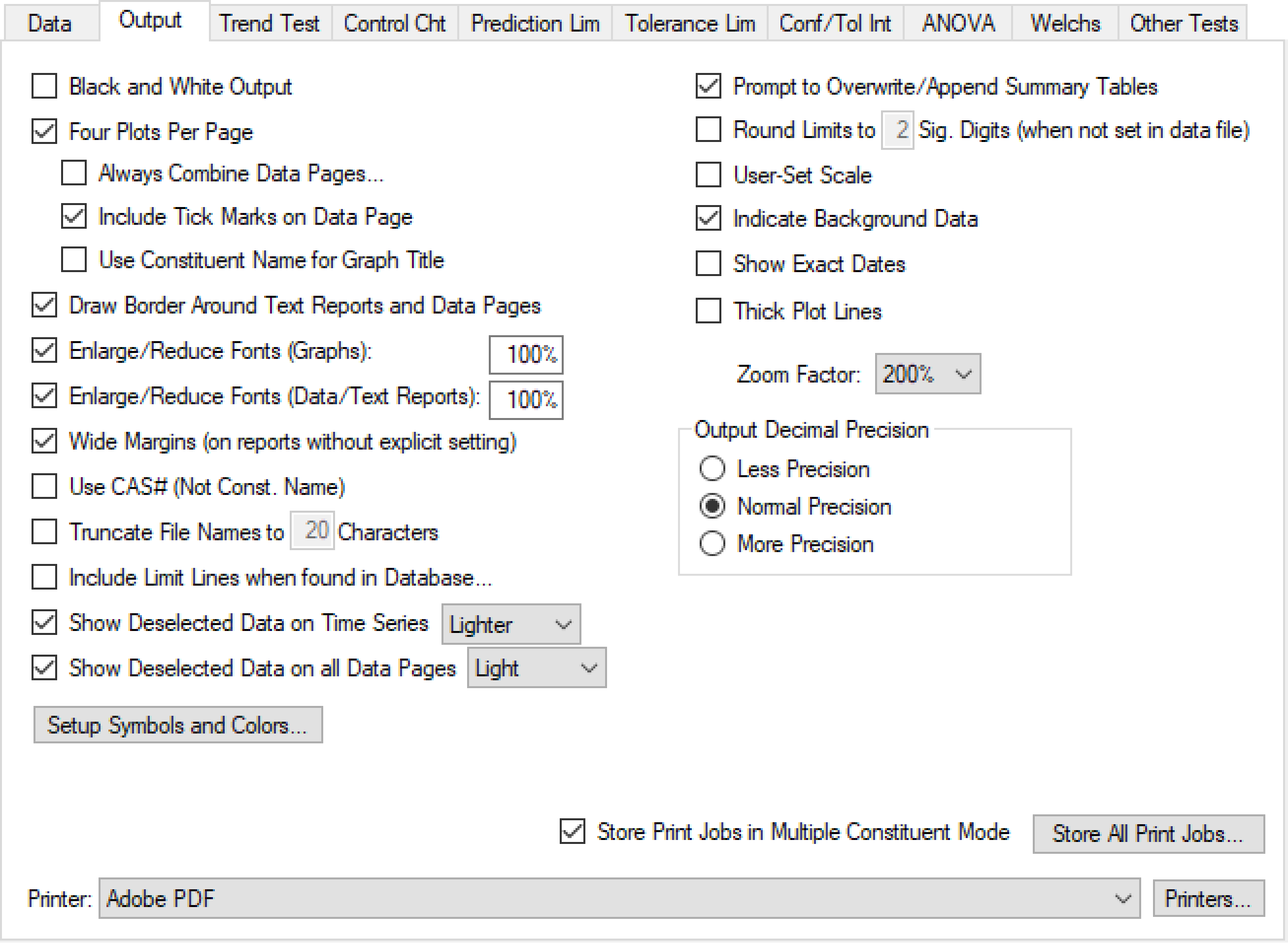
Data Reading Options

● Individual Observations

○ Mean of Each: ○ Month

○ Median of Each: ○ Season

☐ Automatically Process Resamples...


Data
Output
Trend Test
Control Cht
Prediction Lim
Tolerance Lim
Conf/Tol Int
ANOVA
Welchs
Other Tests

☐ Black and White Output

☑ Four Plots Per Page

  ☐ Always Combine Data Pages...

  ☑ Include Tick Marks on Data Page

  ☐ Use Constituent Name for Graph Title

☑ Draw Border Around Text Reports and Data Pages

☑ Enlarge/Reduce Fonts (Graphs): 100%

☑ Enlarge/Reduce Fonts (Data/Text Reports): 100%

☑ 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...

☑ Show Deselected Data on Time Series: Lighter

☑ Show Deselected Data on all Data Pages: Light

☑ Prompt to Overwrite/Append Summary Tables

☐ Round Limits to 2 Sig. Digits (when not set in data file)

☐ User-Set Scale

☑ Indicate Background Data

☐ Show Exact Dates

☐ Thick Plot Lines

Zoom Factor: 200%

Output Decimal Precision

○ Less Precision

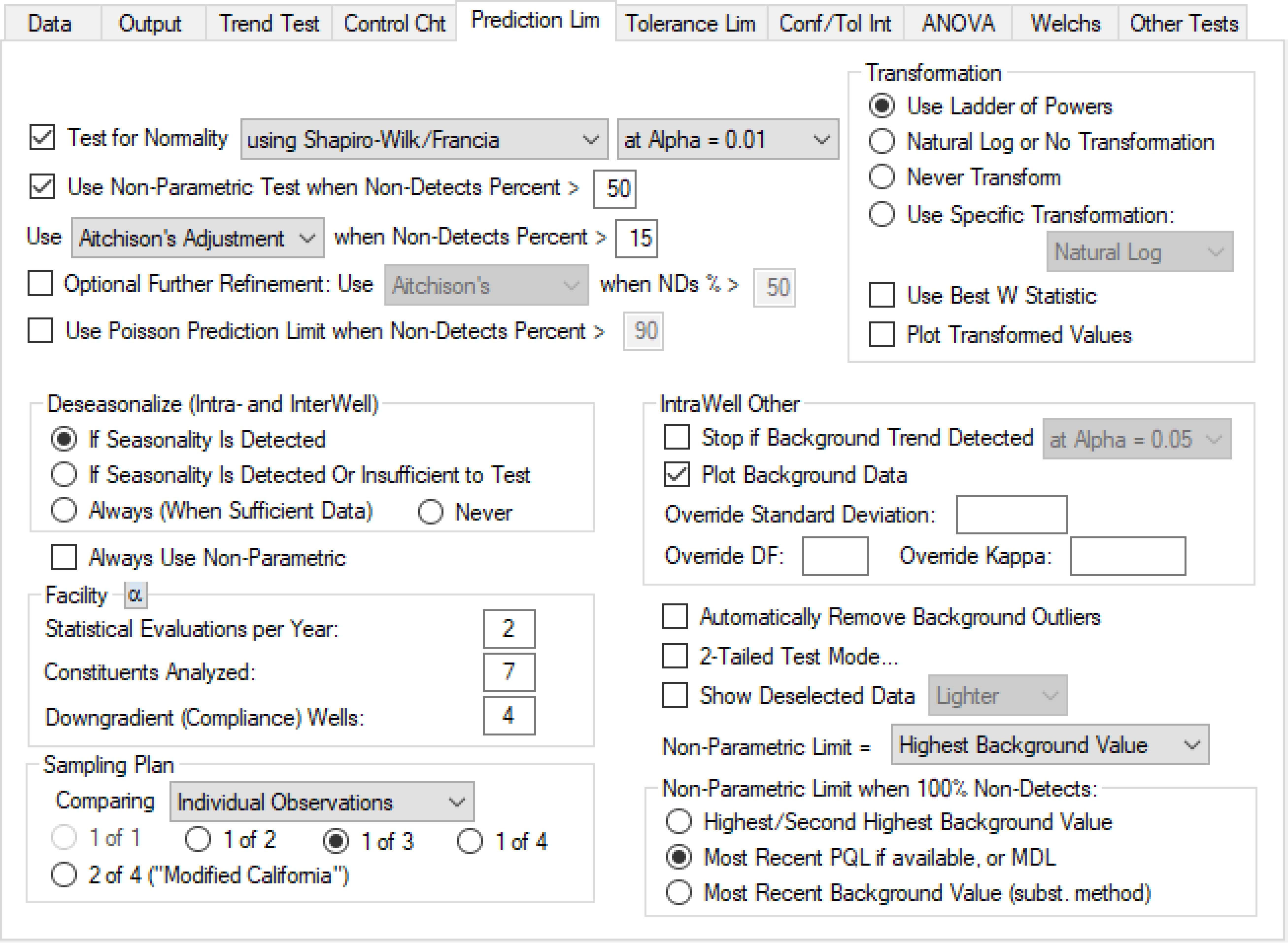
● Normal Precision

○ More Precision

☑ Store Print Jobs in Multiple Constituent Mode

Printer: Adobe PDF

Setup Symbols and Colors...
Store All Print Jobs...
Printers...



☑ Test for Normality using Shapiro-Wilk/Francia at Alpha = 0.01

☑ Use Non-Parametric Test when Non-Detects Percent > 50

Use Aitchison's Adjustment when Non-Detects Percent > 15

☐ Optional Further Refinement: Use Aitchison's when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 90

Transformation
- ● Use Ladder of Powers
- ○ Natural Log or No Transformation
- ○ Never Transform
- ○ Use Specific Transformation: Natural Log
- ☐ Use Best W Statistic
- ☐ Plot Transformed Values

Deseasonalize (Intra- and InterWell)
- ● If Seasonality Is Detected
- ○ If Seasonality Is Detected Or Insufficient to Test
- ○ Always (When Sufficient Data) ○ Never

☐ Always Use Non-Parametric

Facility α
- Statistical Evaluations per Year: 2
- Constituents Analyzed: 7
- Downgradient (Compliance) Wells: 4

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:

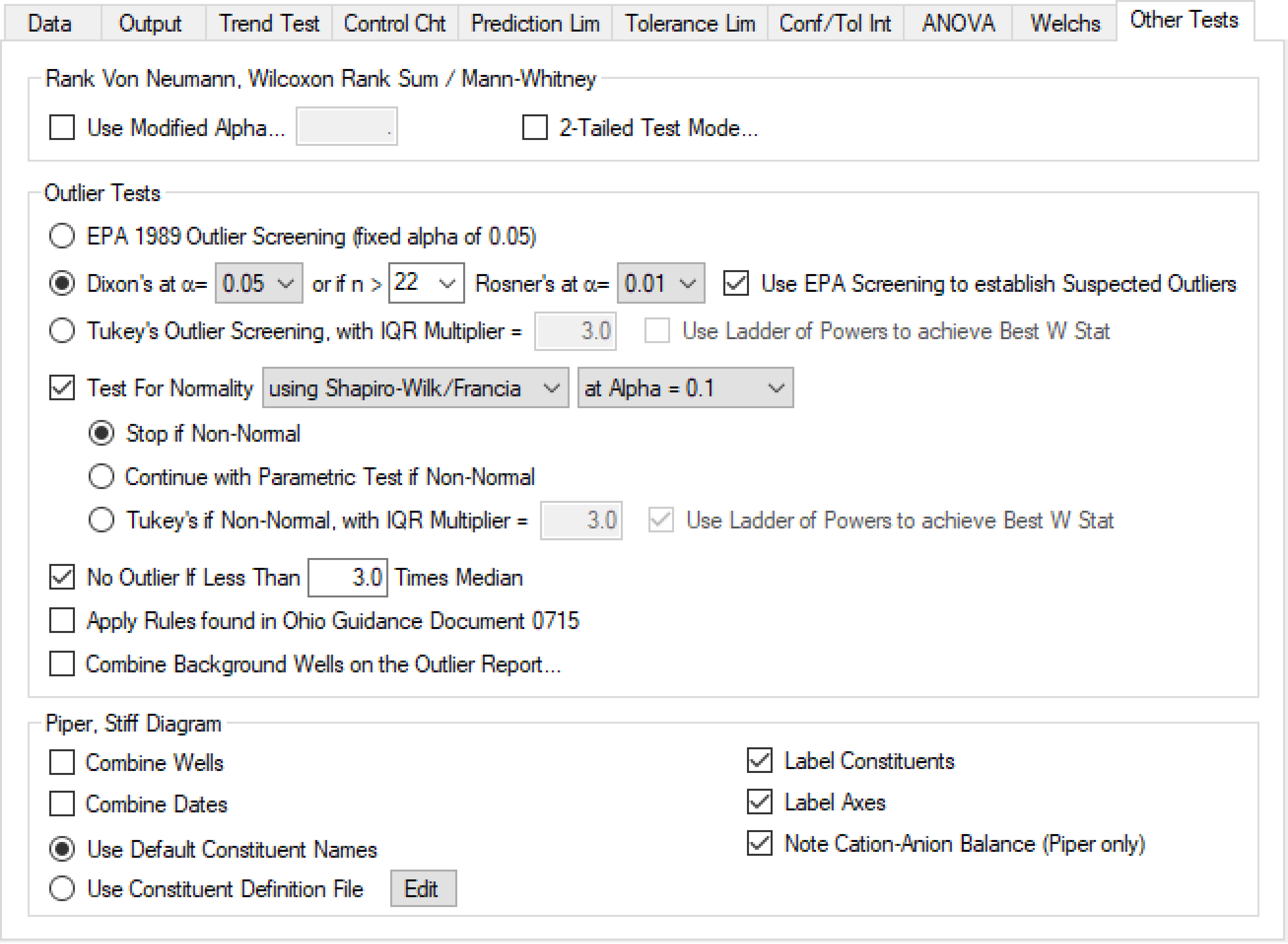
☐ Automatically Remove Background Outliers

☐ 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 ☑ 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

☑ 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 ☑ Use Ladder of Powers to achieve Best W Stat

☑ No Outlier If Less Than 3.0 Times Median
☐ Apply Rules found in Ohio Guidance Document 0715
☐ Combine Background Wells on the Outlier Report...

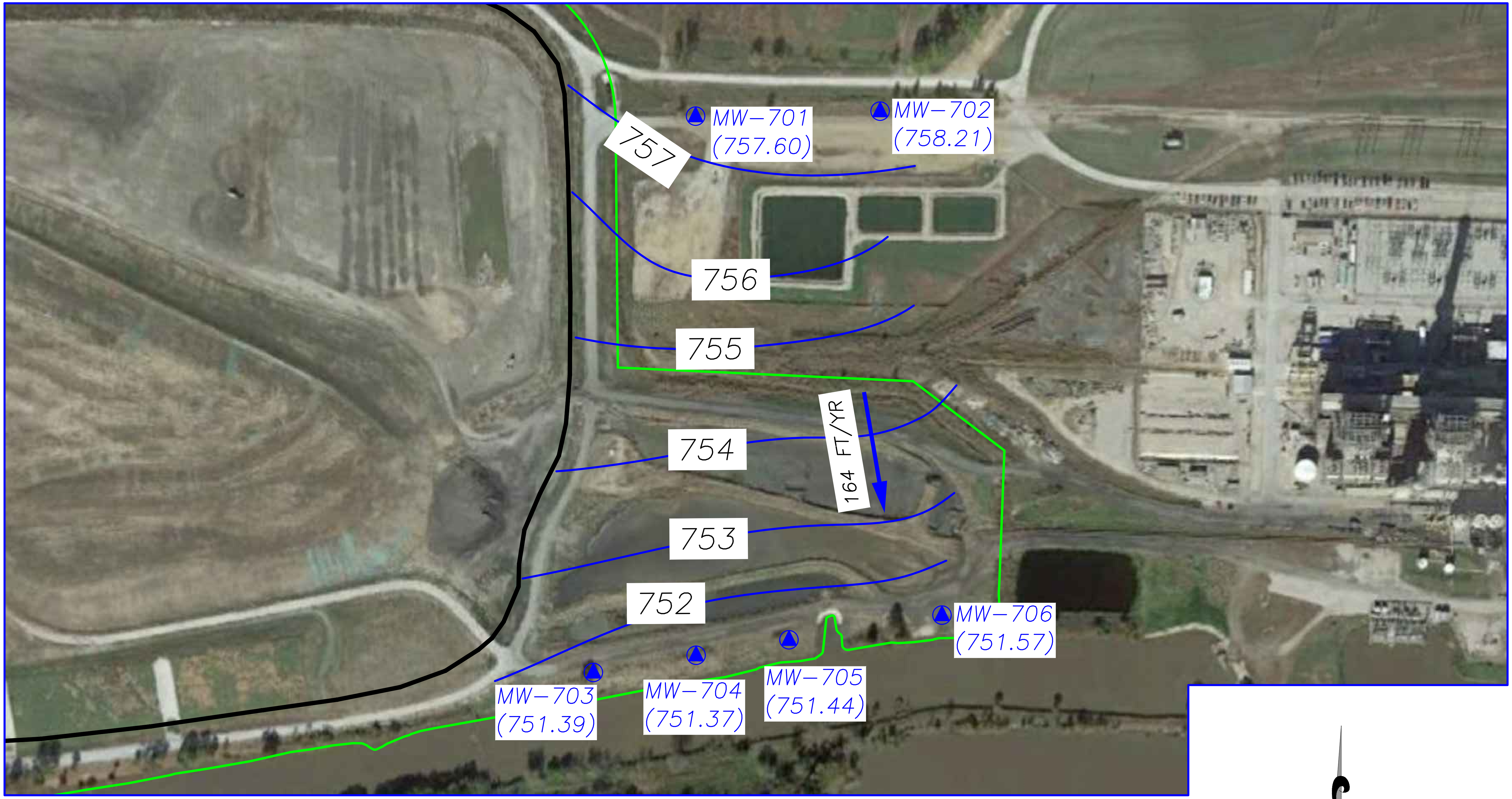
Piper, Stiff Diagram

☐ Combine Wells
☐ Combine Dates
● Use Default Constituent Names
○ Use Constituent Definition File Edit

☑ Label Constituents
☑ Label Axes
☑ Note Cation-Anion Balance (Piper only)

ATTACHMENT 3

Groundwater Potentiometric Surface Maps

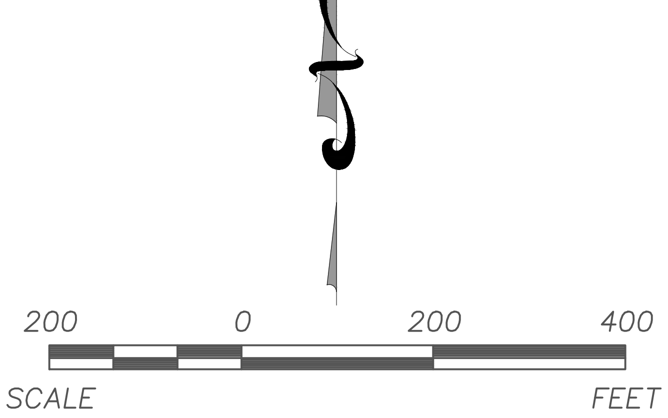


LEGEND:

🟩	PERMITTERED SOLID WASTE FACILITY BOUNDARY (APPROXIMATE)
▬	CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
▲ MW−506 (757.17)	CCR GROUNDWATER MONITORING WELL SYSTEM
▬	GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
← XX FT/YR	GROUNDWATER FLOW DIRECTION AND CALCULATED FLOW RATE (FT/YR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014.
4. APPROXIMATE BOUNDARY LOCATIONS PROVIDED BY AECOM.
5. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 14, 2018.



REV.	DATE		CK. BY
△	-		-
△	-		-
△	-		-
△	-		-
△	-		-
△	-		-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP
ASH IMPOUNDMENT
(MAY 2018)

PROJECT TITLE
2018 GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT ADDENDUM

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

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

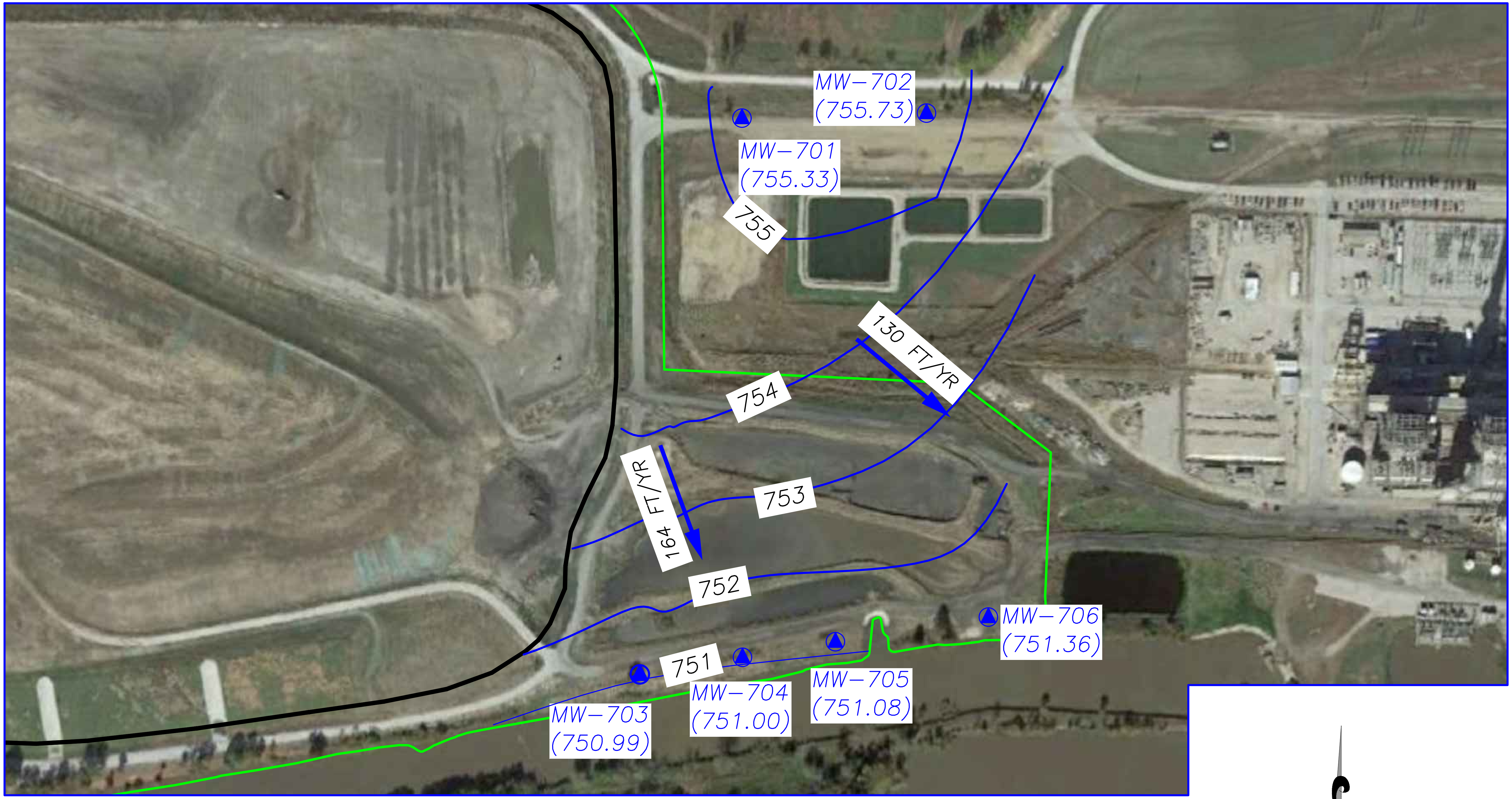
PROJ. NO. 27213168.18
DWN. BY: RCW
Q/A RVW BY: JRR
DSN. BY: RCW
CHK. BY: JRR
PROJ. MGR JRF

CADD FILE:
27213168.18_MAY18_FIG2-V2.DWG

DATE: 12/20/22

FIGURE NO.
1

N:\KCPL\PROJECTS\GROUNDWATER\DWG\MONTROSE\2018\2018 GROUNDWATER\27213168.18_MAY18_FIG2-V2.DWG



LEGEND:

🟩	PERMITTERED SOLID WASTE FACILITY BOUNDARY (APPROXIMATE)
■	CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
● MW–506 (757.17)	CCR GROUNDWATER MONITORING WELL SYSTEM
🟦	GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
← XX FT/YR	GROUNDWATER FLOW DIRECTION AND CALCULATED FLOW RATE (FT/YR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014.
4. APPROXIMATE BOUNDARY LOCATIONS PROVIDED BY AECOM.
5. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 19, 2018.

200 0 200 400

SCALE FEET

REV.	DATE	CK. BY
△	-	-
△	-	-
△	-	-
△	-	-
△	-	-
△	-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP
ASH IMPOUNDMENT
(NOVEMBER 2018)

PROJECT TITLE
2018 GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT ADDENDUM

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MONTROSE GENERATING STATION
MONTROSE, MISSOURI

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

PROJ. NO. 27213168.18
DSN. BY: TGW
DWN. BY: TGW
CHK. BY: JRR
Q/A RVW BY: JRR
PROJ. MGR JRF

CADD FILE: 27213168.18_NOV18_FIG2.DWG

DATE: 12/20/22

FIGURE NO. 2

N:\KCPL\PROJECTS\GROUNDWATER\DWG\MONTROSE\2018\2018 GROUNDWATER\27213168.18_NOV18_FIG2.DWG