



**Sikeston Power Station
2024 Annual Groundwater Monitoring Report
for Bottom Ash Pond
For Compliance with USEPA 40 CFR 257.90(e)**

Prepared for:



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January 2025

Sikeston Power Station
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Bottom Ash Pond
For Compliance with USEPA 40 CFR 257.90(e)

Prepared for:
Sikeston Board of Municipal Utilities
1551 West Wakefield Avenue
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January 2025

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1.0 EXECUTIVE SUMMARY

This report has been developed for Sikeston Board of Municipal Utilities (SBMU) by GREDELL Engineering Resources, Inc. (GER) to fulfill the requirements of the United States Environmental Protection Agency (USEPA) 40 CFR 257 Subpart A – Classification of Solid Waste Disposal Facilities and Practices. This “CCR Rule” requires owners or operators to provide an Annual Groundwater Monitoring Report. This report, completed during 2024 for the Bottom Ash Pond (BAP) at the Sikeston Power Station (SPS) is presented to document the relevant groundwater monitoring activities.

The BAP at the SPS remained in Detection Monitoring status during 2024. The two semiannual Detection Monitoring events conducted in 2024 are the 14th groundwater sampling event conducted at the SPS-BAP. The 14th event was initiated in April 2024. The 15th event was initiated in September 2024, however resampling data review and statistical analysis were not completed at the time of this report.

Table 1 2024 Bottom Ash Pond Groundwater Sampling Summary

Event Name and Purpose	Event Start	Final Data Received from Laboratory	Constituents Sampled	Verified SSIs	Verified SSLs	Statistical Analysis Results Completed
14 th CCR Compliance Sampling Event (1st 2024 Semi-annual Detection Monitoring Event)	4/24/2024	5/9/2024	Appendix III Constituents	None	None	5/15/2024

Detection Monitoring statistical evaluations were completed after the 14th sampling event to assess apparent significant increases relative to background data. Results from this event did not indicate a significant change relative to the background database. As a result, the BAP remained in Detection Monitoring status during 2024.

2.0 INTRODUCTION

The Sikeston Power Station (SPS), owned and operated by the Sikeston Board of Municipal Utilities (SBMU), is an electric power producer and distributor located within the western city limits of Sikeston, in southern Scott County, Missouri. The SBMU-SPS began operation in 1981 and produces approximately 235 megawatts. Coal combustion residuals (approximately 10,000 tons per annum) are currently sold for reuse/recycling but were historically placed in the facility's Bottom Ash Pond (BAP) (approximately 61 acres in size). SBMU-SPS successfully completed a conversion to dry-handling methods of disposal as of May 1, 2023 and the BAP is now in the process of closure.

Pursuant to USEPA's 40 CFR Part 257 (§257) Federal Criteria for Classification of Solid Waste Disposal Facilities and Practices, Subpart D – Standards for Disposal of Coal Combustion Residuals (CCR) in Landfills and Surface Impoundments (ponds), the establishment of a groundwater monitoring system and routine detection sampling and reporting is required at all coal ash surface impoundments. The purpose of a monitoring well system is to evaluate the quality of groundwater as it passes beneath the waste mass within an impoundment. Groundwater samples are collected and analyzed on a semi-annual basis in accordance with §257.93, or as otherwise detailed in a site-specific Groundwater Monitoring and Sampling Plan (GMSAP). Statistical analyses of the resulting data are conducted in accordance with §257.93(f), and the results are included in this Annual Groundwater Monitoring Report in accordance with §257.90(e). If results suggest a statistically significant increase (SSI) in one or more constituents for detection monitoring listed in Appendix III of §257, a written demonstration is required to determine if the SSI is attributable to an ash pond release or to other causative factors. If a successful demonstration is not made, an assessment monitoring program must be initiated as required under §257.95.

Baseline data sets for each well are updated in accordance with Unified Guidance. The most recent update included previous sampling data through the 11th round of detection monitoring (last sampling event of 2022). The next background update may follow the fifteenth detection sampling event. A collection of statistical tools, including time series plots, box and whiskers plots, histograms, probability plots, outlier analysis, trend analysis, and analysis of variation, was used to explore, understand, and prepare the data sets for statistical analysis. This analysis allowed for censoring of outliers and data set detrending. Prediction limits were then calculated with the revised data sets described above for comparison to detection monitoring results compiled after 2022. The statistical analysis was performed in accordance with §257.93(f) using the appropriate statistical analysis method as filed in the SBMU-SPS operating record on October 17, 2017.

This report describes the results of the 14th semiannual detection groundwater sampling event conducted at the SPS BAP beginning on April 24, 2024. Included are descriptions of the sampling event, groundwater elevations, water table surfaces, summaries of field activities,

analytical results, and statistical analysis results. Field sampling and reporting activities were conducted in accordance with the site-specific GMSAP. The 15th semiannual groundwater sampling event was initiated in September 2024. Resampling data review and statistical analysis for the 15th event was not completed at the time of this report but will be included in the next annual report.

3.0 GROUNDWATER MONITORING SYSTEM

The groundwater monitoring system for the BAP consists of five monitoring wells. The wells are identified as MW-3, MW-4, MW-5, MW-6, and MW-8. Monitoring wells MW-3 and MW-6 are located hydraulically upgradient of the BAP, whereas MW-4, MW-5 and MW-8 are hydraulically downgradient of the BAP. MW-3 through MW-6 were installed during characterization of the site in May 2016 (GER, 2017). MW-8 was installed in April 2017 to serve as an additional downgradient monitoring well. Well construction activities were performed under the direction of a Registered Geologist in the State of Missouri. Well design and installation techniques were completed in accordance with 10 CSR 23-4, which is consistent with the standards summarized in 40 CFR 257.91(e). All five wells monitor uppermost groundwater, which is within the alluvial aquifer at the BAP site. Each well is between 34 and 36 feet deep as measured from ground surface and yields a sufficient quantity of water for the purposes of sampling and analysis.

Table 2 presents a construction summary of the wells comprising the BAP groundwater monitoring system. Figure 1 depicts well locations and a groundwater contour map of the uppermost aquifer for the 14th semi-annual sampling event. This map and the historical piezometric data summarized in Table 3 confirm that water in the uppermost aquifer continues to move in a west-southwesterly direction, consistent with the conclusions of the Site Characterization Report (GER, 2017). All groundwater wells are equipped with dedicated tubing for use with a peristaltic pump. This system has been used for chemical sampling since the inception of groundwater sampling with the BAP monitoring system. The BAP monitoring system is described in more detail in the site-specific GMSAP for this facility.

3.1 Installation or Decommissioning of Monitoring Wells

No monitoring wells were installed or decommissioned for the BAP detection groundwater monitoring system in 2024.

4.0 DETECTION MONITORING SAMPLING SUMMARY

SPS environmental staff initiated the 14th BAP semi-annual detection groundwater sampling event on April 24, 2024. The results for each of the detection monitoring constituents listed in §257 Appendix III and required under §257.94(b) did not exceed their respective prediction limits, and therefore SSIs are not apparent in the 14th semi-annual detection groundwater sampling event.

Sampling procedures for the sampling event were consistent with the GMSAP. Groundwater samples were collected using low-flow sampling techniques and dedicated sampling equipment. Field tests of indicator parameters were performed using an In-Situ, Inc. Aqua TROLL 400 Multiparameter Probe with flow cell unit and HF Scientific MicroTPI field portable turbidimeter. Each groundwater sample was subsequently analyzed for the detection monitoring constituents listed in §257 Appendix III. All monitoring wells produced sufficient volumes of groundwater for full analysis.

SPS environmental staff inspected each monitoring well upon arrival. Wells were reported to be in good condition and had locks in place. Staff initially gauged water levels in the monitoring wells using a standard electronic water level meter graduated in increments of 0.01 feet. Static water levels were recorded on forms provided in the GMSAP. Each well was then purged while staff monitored water quality until indicator parameters (pH and specific conductance) stabilized in accordance with the criteria in the GMSAP. Additional parameters (turbidity, temperature, dissolved oxygen, and oxidation/reduction potential) were also monitored for stability prior to groundwater sample collection. Following stabilization of indicator parameters, final field data were recorded, and groundwater samples were then collected.

Field notes documenting the sampling events and copies of the chain-of-custody forms are presented in Appendix 1. Field sampling notes are also summarized in Table 4, including initial and final water level measurements, purge volumes, and pH. Laboratory analytical reports for the sampling event, including the field blanks and sample duplicates, and Quality Assurance/Quality Control (QA/QC) documentation are presented in Appendix 2. A summary of background and detection monitoring analytical data, including field parameters, is presented in Appendix 3.

4.1 Field Quality Assurance/Quality Control

Field QA/QC during the April 24, 2024, (14th) sampling event included the collection of one field blank and one field duplicate. The duplicate was collected from MW-6 (Table 6). Rinsate blanks were not collected because dedicated sampling equipment was used. Samples were shipped to Teklab, Inc. (Teklab) in Collinsville, Illinois using standard chain-of-custody documentation procedures. Samples collected during this sampling event were received by Teklab on April 26, 2024, and subsequently analyzed for the six detection monitoring

constituents listed in §257 Appendix III and required under §257.94(b) (Table 5). Results for these six detection monitoring constituents and field-measured pH are provided in the final analytical report, which was received from Teklab on May 13, 2024 (Appendix 2).

5.0 ANALYTICAL SUMMARY

Analytical data summary reports for each monitoring well sampled during the 14th detection monitoring event are provided in Appendix 2. The data pertains to water quality results from the uppermost aquifer beneath the BAP, along with sample duplicates and field blank results.

5.1 Laboratory Quality Control

Laboratory analyses of all groundwater samples collected during the 14th detection monitoring event were completed by Teklab Inc. located in Collinsville, Illinois. Results for the sampling event are accompanied by appropriate QA/QC documentation. That documentation is presented in Appendix 2.

5.2 Precision and Accuracy

Precision is a measure of the reproducibility of analytical results, generally expressed as a *Relative Percent Difference (RPD)*. Laboratory quality control procedures to measure precision consist of laboratory control sample (LCS) analysis and analysis of matrix spike/matrix spike duplicates (MS/MSD). These analyses are used to define analytical variability. Accuracy is defined as the degree of agreement between the measured amount of a species and the amount actually known to be present, expressed as a percentage. It is generally determined by calculating the percent recoveries for analyses of surrogate compounds, laboratory control samples, continuing calibration check standards and matrix spike samples. Acceptable percent recoveries are established for SW-846 and USEPA methods. Field and laboratory blank analyses are also used to address measurement bias.

The analyses of the samples collected during the 14th detection monitoring event were performed within appropriate hold times. Both initial and continuing calibrations met acceptance criteria for all analyses.

Additional QA/QC comments for these sampling events include the following:

- *Field Duplicates:* Analyses of duplicate samples are used to define the total variability of the sampling/analytical system as a whole. One field duplicate was collected during each of the sampling events. RPDs were calculated for all detected chemical parameters, and a summary table showing the results of the RPD calculations is included as Table 6. Using a tolerance level of ± 20 percent, no calculated RPDs were within acceptable ranges for the detected parameters. Inquiries were made with the technical staff responsible for sample and duplicate collection to confirm the duplicate collection location.

-
- *Field Blank:* One field blank was incorporated into the data set for this sampling event. The field blank analytical results for the 14th event indicate a low detection (0.1 mg/L) Calcium
 - *Trip Blank:* One trip blank was incorporated into the data set for this sampling event. The trip blank analytical results for the 14th event do not indicate detectable concentrations of the analytes.
 - *Laboratory Blanks:* Method blanks, artificial, and matrix-less samples are analyzed to monitor the laboratory system for interferences and contamination from glassware, reagents, etc. Method blanks are taken throughout the entire sample preparation process. They are included with each batch of extractions or digestions prepared, or with each 20 samples, whichever is more frequent. Reference to Appendix 2 should be made for comments related to these and other laboratory control samples.

5.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely reflect site conditions. Representativeness of the data is determined by comparing actual sampling procedures to those delineated in the field sampling plan, comparing results from field duplicate samples and reviewing the results of field blanks.

Approved sampling procedures are described in the GMSAP. Procedures specified in that plan have been followed. Approved sampling procedures should be reviewed annually. Groundwater monitoring data is evaluated using an intrawell statistical analysis methodology and is conducted separately for each constituent in each monitoring well using prediction limits in accordance with §257.93(f)(3) and the performance standards in §257.93(g). The stated statistical approach, along with supporting documentation and engineering certification, are available in the SBMU-SPS On-Site Operating Record.

5.4 Comparability

Comparability expresses the confidence with which one data set can be compared to another data set measuring the same property. Comparability is ensured by using established and approved sample collection techniques and analytical methods, consistent basis of analysis, consistent reporting units, and analyzing standard reference materials.

5.5 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected under controlled laboratory conditions. Completeness is defined as the valid data percentage of the total tests requested. Valid data are defined as those where the sample arrived at the laboratory intact, properly preserved, in sufficient quantity to perform the requested analyses, and accompanied by a completed chain-of-custody form

(Appendix 2). Furthermore, the sample must have been analyzed within the specified holding time and in such a manner that analytical QC acceptance criteria are met.

6.0 STATISTICAL ANALYSIS

The BAP remained in detection monitoring status in 2024. The statistical analysis method used to evaluate detection monitoring data within the uppermost aquifer for the BAP monitoring system at SBMU-SPS consists of intra-well analysis using prediction limits. Groundwater sampling data are evaluated using appropriate statistical analysis methodologies and is conducted separately for each constituent in each of the five monitoring wells in accordance with §257.93(f) and the performance standards in §257.93(g).

6.1 Detection Monitoring Statistical Procedures

A complete background data set has been obtained for groundwater, representing the uppermost aquifer, moving below the BAP at the SPS Data from each event is compared to a comprehensive background data set resulting from previous sampling events. Updates to the background data set are permitted every two years, but SSIs will not be included in background unless they are unconfirmed in accordance with Unified Guidance (USEPA, 2009). A background update was conducted following the 11th groundwater compliance sampling event. The next background update may be conducted in 2025 following the fifteenth groundwater compliance sampling event.

Statistical analysis is performed in accordance with §257.93 using Sanitas© for Ground Water. The groundwater analytical results from each detection monitoring event are compared to the respective intra-well prediction limits at the 99 percent confidence level (Table 8) to determine if SSIs over background exist in the data sets.

If the number of reportable concentrations of a given constituent in a database for a given well is not sufficient to permit parametric analysis, non-parametric prediction interval analysis is conducted. Both parametric and non-parametric prediction limit analysis were performed for the BAP groundwater monitoring well network data. Following review of baseline data for outliers and trends, prediction intervals are computed based on the reviewed and screened background monitoring data sets (Appendix 3), including values reported as less than detection limits.

6.1.1 May 2023 (14th) Event Statistical Procedures

The background data set used to evaluate the 14th groundwater compliance sampling event groundwater quality in MW-3, MW-4, MW-5, and MW-6 is based on 22 rounds of groundwater sampling spanning November 2016 to November 2022. The MW-8 background data is based on 22 rounds of groundwater sampling spanning May 2017 to November 2022. In general, all background data were used for each well constituent pair. However, data trend removal and screening of outliers reduced the background sample population for some well constituent pairs (Appendix 3). The background may be updated every two years in accordance with Unified Guidance (USEPA, 2009).

Accordingly, the background may be updated again in 2025 following the fifteenth compliance sampling event.

Statistical analysis was performed in accordance with §257.93 using Sanitas© for Ground Water. The groundwater analytical results from the 14th semiannual detection groundwater sampling event were compared to the prediction limits (Table 8) to determine if SSIs over background were apparent.

6.2 Exploratory Data Analysis and Detection Data Screening

Exploratory Data Analysis (EDA) of the data refers to a collection of descriptive and graphical statistical tools used to explore and understand a data set (ITRC, 2013). Generally, EDA includes a numerical summary and graphical displays such as Time Series Plots, Box and Whisker Plots, Histograms and Probability Plots that are reviewed during a background data update to help identify trends or outliers. EDA methods are supplemented with outlier and trend analysis tools included with Sanitas© software to screen the detection data during each background update. EDA and Data Screening were completed following the 11th groundwater compliance sampling event and are discussed in the previous annual report (GER, 2024).

6.3 Detection Monitoring Statistical Summary

The results of the statistical analysis for the 14th semiannual detection groundwater sampling event are described in this report. A complete database summarizing the sample results, dates of sampling, and the purpose of sampling event, as per §257.90(e)(3), is provided in Appendix 3. A statistical power curve, based on the background data, is provided in Appendix 4. Time series plots of background data for all detection monitoring constituents are presented in Appendix 5. Box and whiskers plots of background data are presented in Appendix 6. Prediction limit charts are provided in Appendix 7.

The results of the statistical analysis for the 14th semiannual detection groundwater sampling event did not suggest the presence of confirmed SSIs associated with a release from the BAP at the Sikeston Power Station. Consequently, semi-annual detection monitoring should continue in 2025 as specified in §257.94(b).

7.0 LIMITATIONS

This report has been prepared for the exclusive use of the client and GREDELL Engineering Resources, Inc. for the specific project discussed in accordance with generally accepted environmental practices common to this locale at this time. The report is applicable only to this specific project and identified site conditions as they existed at the time of report preparation. The use of this report by others to develop independent interpretations of data or conclusions not explicitly stated in this report are the sole responsibility of those firms or individuals.

This report is not a guarantee of subsurface conditions. Variations in subsurface conditions may be present that were not identified during this or previous investigations. Interpretations of data and recommendations made in this report are based on observations of data that were available and referred to in this report unless otherwise noted. No other warranties, expressed or implied, are provided.

8.0 REFERENCES

GER, 2017, *Sikeston Power Station Site Characterization for Compliance with Missouri State Operating Permit #MO-0095575*, dated May 2017.

GER, 2021, Sikeston Power Station, Groundwater Monitoring and Sampling Plan for Compliance with Missouri State Operating Permit #MO-0095575. Revised November 1, 2021.

GREDELL Engineering Resources, Inc., 2024, *Sikeston Power Station, 2023 Annual Groundwater Monitoring Report for Bottom Ash Pond for Compliance with USEPA 40 CFR 257.90(e)*, dated January 2024.

Sanitas Statistical Software, © 1992-2025 SANITAS TECHNOLOGIES, Alamosa Colorado 81101-0012.

U.S. Environmental Protection Agency, March 2009, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance: USEPA 530/R-09-007*, Office of Resource Conservation and Recovery, Program Implementation and Information Division, Washington, D.C.

FIGURES

ORIGINAL SHEET SIZE: 11" X 17" FILE PATH AND FILENAME: c:\saddles\Sikeston\groundwater map\2024\GW CONT MAP BAP 04-2024.dwg PRINTED ON: 1/10/25 BY: cm



LEGEND

PROPERTY LINE	— PL —
GROUNDWATER CONTOUR	—
MONITORING WELL	⊙ MW
UP GRADIENT MONITORING LOCATION	UG
DOWN GRADIENT MONITORING LOCATION	DG
GENERAL FLOW DIRECTION	←

- NOTES:**
1. IMAGE PROVIDED BY BING MAPS.
 2. MONITORING WELL LOCATIONS, CASING ELEVATIONS & UNDERGROUND CULVERT ELEVATIONS SURVEYED BY BOWEN ENGINEERING & SURVEYING.
 3. GROUNDWATER ELEVATIONS MEASURED BY SIKESTON POWER STATION STAFF ON THE DATE INDICATED.
 4. MAP DEVELOPMENT BASED ON CONTOURS GENERATED BY SURFER® SOFTWARE.
 5. RANGE OF HYDRAULIC GRADIENT AS DETERMINED BY SURFER® SOFTWARE 0.0005 FT./FT. TO 0.001 FT./FT.

WELL ID	GROUNDWATER ELEVATION	CASING ELEVATION	NORTHING	EASTING
MW-3	296.20	308.55	381130.00	1079946.62
MW-4	294.11	305.61	380804.62	1077766.95
MW-5	294.66	305.91	379858.94	1078477.85
MW-6	295.37	307.72	379874.77	1079384.36
MW-8	294.22	304.77	380311.20	1077940.08

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**SIKESTON POWER STATION
 BOTTOM ASH POND
 2024 ANNUAL GROUNDWATER
 MONITORING & REPORT**

**FIGURE 1
 APRIL 24, 2024
 GROUNDWATER CONTOUR MAP**

THE GEOLOGIST WHO REVIEWED AND APPROVED THIS REPORT ASSUMES RESPONSIBILITY ONLY FOR GEOLOGIC INTERPRETATIONS OF DATA APPEARING ON THE PAGE AND DISCLAIMS PURSUANT TO SECTION 256.456 RSMO ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS OR OTHER DOCUMENTS OR INSTRUMENTS NOT PREPARED UNDER THE SUPERVISION OF THE GEOLOGIST RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS FIGURE REFERS.

PROJECT NAME	GW CONT MAP BAP 04-2024	SHEET #	4 OF XX
DATE	11/24	SCALE	1" = 400'
APPROVED	MCC	CHECKED	KE
DRAWN	BM	DESIGNED	N/A
CHECKED	KE	DATE	11/24

TABLES

**Annual Groundwater Monitoring Report
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SBMU - Sikeston Power Station
Scott County, Missouri**

**Table 2
Groundwater Monitoring Network Summary**

Monitoring Well ID^{1,2}	Northing Location^{3,4}	Easting Location^{3,4}	Ground Surface Elevation^{3,4} (feet)	Top of Riser Elevation^{3,4} (feet)	Well Depth⁵ (feet)	Base of Well Elevation⁶ (feet)	Screen Length⁷ (feet)	Top of Screen Elevation (feet)
MW-3	381130.00	1079946.62	306.11	308.55	37.21	271.34	10	281.5
MW-4	380804.62	1077766.95	303.26	305.61	37.55	268.06	10	278.3
MW-5	379858.94	1078477.85	303.57	305.91	37.17	268.74	10	278.9
MW-6	379874.77	1079384.36	305.37	307.72	38.03	269.69	10	279.9
MW-8	380311.20	1077940.08	302.37	304.77	37.41	267.36	10	277.6

NOTES:

1. Refer to Figure 1 for monitoring well locations.
2. Refer to Sikeston Power Station On-Site Operating Record for well construction diagrams.
3. Monitoring well survey data provided by Bowen Engineering & Surveying, Inc.
4. Horizontal Datum: Missouri State Plane Coordinates - NAD 83 (Feet), Vertical Datum: NAVD 88 (Feet).
5. Depth measurements relative to surveyed point on top of well casing.
6. Sump installed at base of screen (0.2 feet length).
7. Actual screen length (9.7 feet) is the machine-slotted section of the 10-foot length of Schedule 40 PVC pipe.

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**Table 3
Historical Groundwater Level Summary**

Well ID	MW-3	MW-4	MW-5	MW-6	MW-8
Date	Groundwater Elevation (feet MSL)				
05/12/16	298.13	296.01	296.68	297.41	NM
06/28/16	297.58	294.75	295.51	296.57	NM
07/15/16	297.37	294.77	295.53	296.44	NM
08/08/16	297.05	294.66	294.87	295.77	NM
09/08/16	296.76	294.40	294.96	295.84	NM
10/05/16	296.40	294.02	294.70	295.57	NM
11/01/16	296.10	293.99	294.49	295.24	NM
11/30/16	296.03	294.26	294.80	295.37	NM
01/24/17	296.35	294.73	295.19	295.77	NM
01/26/17	296.35	294.73	295.19	295.77	NM
02/22/17	296.00	294.40	294.81	295.41	NM
02/24/17	296.00	294.40	294.81	295.41	NM
03/20/17	296.45	295.10	295.46	295.97	NM
04/19/17	296.35	294.73	295.19	295.81	NM
04/27/17	296.72	295.41	295.78	296.20	NM
05/17/17	297.81	295.76	296.31	297.11	NM
06/08/17	297.81	295.64	296.17	296.96	NM
07/13/17	296.98	294.60	295.22	296.06	294.70
10/31/17	295.22	293.11	293.65	294.41	293.20
06/13/18	297.33	294.93	295.60	296.47	295.02
11/26/18	295.63	293.76	294.27	294.91	293.88
12/26/18	296.04	294.19	294.64	295.36	294.31
01/08/19	296.38	294.62	295.17	295.77	294.73
02/05/19	296.73	294.99	295.46	296.06	295.07
02/22/19	298.35	296.58	297.33	297.94	296.79
03/27/19	298.51	296.05	296.72	297.69	296.15
04/16/19	298.93	296.58	297.31	298.22	296.67
05/14/19	299.25	296.36	297.10	298.21	296.45
05/28/19	298.95	296.01	296.80	297.91	296.16
06/12/19	298.82	296.00	296.71	297.82	296.10
07/17/19	298.38	295.84	296.46	297.44	295.97
07/24/19	298.41	295.97	296.66	297.57	296.13
08/14/19	297.80	295.03	295.70	296.76	295.12
08/28/19	297.55	294.81	295.47	296.51	294.91
09/16/19	297.22	294.51	295.20	296.20	294.63
10/10/19	296.84	294.29	294.89	295.85	294.36
10/22/19	296.80	294.40	295.00	295.88	294.50
11/04/19	297.34	295.24	295.80	296.57	295.32
02/18/20	299.00	296.50	297.28	298.22	296.66
03/30/20	300.09	297.66	298.48	299.40	297.81
07/21/20	298.35	295.16	295.98	297.19	295.32
10/20/20	297.08	294.53	295.29	296.17	294.77
04/16/21	298.03	295.55	296.08	297.06	295.55
11/01/21	295.95	293.74	294.31	295.11	293.86
08/03/22	296.52	293.79	294.40	295.47	293.87
11/01/22	295.25	293.19	293.68	294.41	293.27
12/13/23	295.02	293.08	293.60	294.24	293.22
04/18/23	297.50	295.50	295.88	296.70	295.46
05/23/23	297.44	295.23	295.64	296.50	295.21
10/11/23	296.13	293.91	294.52	295.30	294.07
04/24/24	296.20	294.11	294.66	295.37	294.22

NOTES:

1. Refer to Figure 1 for monitoring well locations.
2. Refer to Sikeston Power Station On-Site Operating Record for well construction diagrams.
3. NM - Not Measured.
4. Maximum and minimum groundwater elevations are shaded.

**Annual Groundwater Monitoring Report
USEPA 40 CFR 257.90(e)
SBMU - Sikeston Power Station
Scott County, Missouri**

**Table 4
Water Level and Field Parameter Summary
April 24, 2024**

Monitoring Well I.D.	Hydraulic Position	Initial Water Level (ft, BTOC²)	Final Water Level (ft, BTOC²)	Minimum³ Purge Vol. (mL⁴)	Actual Purge Vol. (mL⁴)	pH (S.U.⁵)
MW-3	Upgradient	12.35	12.35	300	2,760	6.65
MW-4	Downgradient	11.50	11.50	300	11,400	7.27
MW-5	Downgradient	11.25	11.25	300	6,600	6.79
MW-6	Upgradient	12.35	12.35	300	4,360	6.84
MW-8	Downgradient	10.55	10.55	300	6,900	7.13

NOTES:

1. Sequence of sampling was MW-3, MW-4, MW-8, MW-5, MW-6.
2. BTOC: Below Top of Casing
3. Purge calculations based on 1/4" ID tubing and complete evacuation of single tubing volume.
4. mL: milliliter
5. S.U.: Standard Unit.

**Annual Groundwater Monitoring Report
USEPA 40 CFR 257.90(e)
SBMU - Sikeston Power Station
Scott County, Missouri**

**Table 5
Groundwater Monitoring Constituents**

USEPA 40 CFR 257			
Appendix III - Constituents for Detection Monitoring		Appendix IV - Constituents for Assessment Monitoring	
Chemical Constituent	Method	Chemical Constituent	Method
pH (S.U.)	Field	Antimony (µg/L)	SW 6020
Boron (µg/L)	SW 6020	Arsenic (µg/L)	SW 6020
Calcium (mg/L)	SW 6020	Barium (µg/L)	SW 6020
Chloride (mg/L)	EPA 300.0	Beryllium (µg/L)	SW 6020
Fluoride (mg/L)	EPA 300.0	Cadmium (µg/L)	SW 6020
Sulfate (mg/L)	EPA 300.0	Chromium (µg/L)	SW 6020
Total Dissolved Solids (mg/L)	SM 2540C	Cobalt (µg/L)	SW 6020
		Fluoride (mg/L)	EPA 300
		Lead (µg/L)	SW 6020
		Lithium (µg/L)	SW 6020
		Mercury (µg/L)	SW 6020
		Molybdenum (µg/L)	SW 6020
		Selenium (µg/L)	SW 6020
		Thallium (µg/L)	SW 6020
		Radium 226 and 228 combined (pCi/L)	EPA 903.1 & 904.0

NOTES:

1. S.U. = Standard Unit.
2. µg/L = micrograms per liter.
3. mg/L = milligrams per liter.
4. pCi/L = picocurie per liter.

**Annual Groundwater Monitoring Report
 USEPA 40 CFR 257.90(e)
 SBMU - Sikeston Power Station
 Scott County, Missouri**

**Table 6
 Relative Percent Difference Summary -
 April 24, 2024**

Chemical Parameter	Units	MW-6	DUP	Relative Percent Difference
Boron	µg/L	29.4	<10	N/A
Calcium	mg/L	49.3	15.2	106
Chloride	mg/L	4	1 "J"	120
Fluoride	mg/L	<0.25	<0.25	N/A
Sulfate	mg/L	23	<10	N/A
Total Dissolved Solids	mg/L	245	112	74.5

NOTES:

2. µg/L = micrograms per liter.
3. mg/L = milligrams per liter.
4. Relative Percent Difference tolerance = 20%.
5. N/A = Not applicable - parameter concentration below reporting limit.

**Annual Groundwater Monitoring Report
 USEPA 40 CFR 257.90(e)
 SBMU - Sikeston Power Station
 Scott County, Missouri**

**Table 7
 Alternate Data Sets - 14th Detection Sampling Event**

Constituent-Well Pair¹		Alternate Background Data Base (to eliminate trending data)²	Background set size (n)
Well ID	Constituent		
MW-3	pH	June 2017 through November 2022	16
MW-6	Calcium	February 2019 through November 2022	11
	Boron	June 2018 through November 2022	13
MW-8	Calcium	September 2017 through November 2022	16
	Total Dissolved Solids	September 2017 through November 2022	16

NOTES:

1. Trending constituent-well pairs identified based on Mann-Kendall Sen's Slope Trend Analysis of data.
2. Alternate background data sets eliminate significant increasing (or decreasing for pH) trends in data sets.

**Annual Groundwater Monitoring Report
USEPA 40 CFR 257.90(e)
SBMU - Sikeston Power Station
Scott County, Missouri**

**Table 8
Intra-Well Prediction Limit Summary - 14th Detection Sampling Event**

40 CFR 257 Appendix III Constituents for Detection Monitoring	Units	MW-3	MW-4	MW-5	MW-6	MW-8
pH Upper	S.U.	6.771	7.495	6.996	7.00	7.241
pH Lower	S.U.	6.308	7.224	6.699	6.67	7.033
Chloride	mg/L	2.354	19.7	17.47	4.382	67.53
Fluoride	mg/L	0.438	0.259	0.272	0.338	0.26
Sulfate	mg/L	29.65	138.1	269	38.7	151.9
Total Dissolved Solids	mg/L	184	415.2	584.9	253	521.7
Boron	µg/L	47.74	1511	518	60.06	571.3
Calcium	mg/L	23	95.44	137.6	50.19	120.6

Notes:

1. Prediction limits for MW-3 through MW-6 based on data spanning November 2016 to November 2022, except as noted in Table 7.
2. Prediction limits for MW-8 based on data spanning May 2017 to November 2022, except as noted in Table 7.
3. Shaded cells indicate where alternate data sets (Table 7) were used to calculate Prediction Limits after trend removal.

APPENDICES

Appendix 1

Field Sampling Notes

Field Instrumentation Calibration Log

 Facility: Ameren RIEC Ash Ponds - Groundwater Monitoring

 Calibrated by: JL/AW

Field Instruments:		In-Situ SmartROLL MP or In-Situ AquaTROLL 400						HF scientific, inc. Micro TPI Field Portable Turbidimeter							
S/N #:		<u>897508</u>													
Date	Time	pH Standards (S.U.)	pH Measurements (S.U./mV)	Specific Conductance Standard (µS/cm)	Specific Conductance Measurement (µS/cm)	Oxidation Reduction Potential Standard (mV)	Oxidation Reduction Potential Measurement (mV)	Dissolved Oxygen (%)		Turbidity Standards (NTU)	Turbidity Measurements (NTU)				
Beginning of Day Calibration	4/24/24	0751	4.00 @ 25.00°C	=	1413 @ 25.00°C	=	1384 @ 21.73	=	220 @ 21.73	Temperature (°C)	=	21.73	0.02	=	.02
			Standard is 4 @ 25 °C								SDMU	10.0			
			7.00 @ 25.00°C										1000	=	1006
			Standard is 7 @ 25 °C								755.90				
		10.00 @ 25.00°C				Standard is 229 mV @ 25 °C		Measurement	=	100.01					
End of Day Check	4/24/24	1603	4.00 @ 25.00°C	=	1413 @ 25.00°C	=	1464.5 @ 21.21	=	247.7 @ 21.96	Temperature (°C)	=	22.27	0.02	=	.03
			Standard is 4.00 @ 25 °C								SDMU	10.0			
			7.00 @ 25.00°C										1000	=	1004
			Standard is 7.00 @ 25 °C								1502.5				
		10.00 @ 25.00°C				Standard is 229 mV @ 25 °C		Measurement	=	99.83					

Notes: The In-Situ SmartROLL MP Field Meter and In-Situ AquaTROLL 400 measure Temperature, Specific Conductance, Dissolved Oxygen, pH, and Oxidation Reduction Potential.
The HF scientific, inc. Micro TPI Field Portable Turbidimeter measures Turbidity.
Dissolved oxygen is calibrated via % saturation method; however, field measurements are recorded as mg/L.

I certify that the aforementioned meters were calibrated within the manufacturers specifications.

 Date: 4/24/24

 By: JL/AW

Monitoring Well Field Inspection

Facility: SBMU SPS - CCR Groundwater Monitoring

Monitoring Well ID: 17W-3

Name (Field Staff): [Signature]

Date: 9/24/24

Access:

Accessibility: Good Fair Poor

Well clear of weeds and/or debris?: Yes No

Well identification clearly visible?: Yes No

Remarks:

Concrete Pad:

Condition of Concrete Pad: Good Inadequate

Depressions or standing water around well?: Yes No

Remarks:

Protective Outer Casing: Material = 4" x 4" Steel Hinged Casing with Hasp

Condition of Protective Casing: Good Damaged

Condition of Locking Cap: Good Damaged

Condition of Lock: Good Damaged

Condition of Weep Hole: Good Damaged

Remarks:

Well Riser: Material = 2" Diameter, Schedule 40 PVC, Flush Threaded

Condition of Riser: Good Damaged

Condition of Riser Cap: Good Damaged

Measurement Reference Point: Yes No

Remarks:

Dedicated Purging/Sampling Device: Type = 1/4" ID Semi-Rigid Polyethylene & 0.170" ID Flexible Silicone Tubing

Condition: Good Damaged Missing

Remarks:

Monitoring Well Locked/Secured Post Sampling?: Yes No

Remarks:

Field Certification

[Signature]
Signed

Lead Lab Tech
Title

9/24/24
Date

Field Sampling Log

Facility: SBMU Sikeston Power Station - CCR Groundwater Monitoring

Monitoring Well ID: MU-3

Sampling Information:

Method of Sampling: Low Flow - Peristaltic Pump & Tubing Dedicated: Y / N

Water Level @ Sampling (feet btoc): 12.35

Monitoring Event: Annual () Semi-Annual () Quarterly () Monthly () Other ()

Final Purge Stabilization Sampling Data:

Date Sample Time	Sample Rate (mL/min)	Temp (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH (S.U.)	Oxidation Reduction Potential (mV)	Turbidity (NTU)
<u>1/24/24</u> <u>0844</u>	<u>230</u>	<u>15.46</u>	<u>178.64</u>	<u>1.45</u>	<u>6.65</u>	<u>495.9</u>	<u>1.86</u>

Instrument Calibration Data:

See instrument calibration log of daily calibration data for the following instruments:

- 1 - In-Situ SmartTroll Multi-Probe Field Meter (Temperature, Specific Conductance, Dissolved Oxygen, pH, Oxidation Reduction Potential)
- 2 - HF scientific, inc. Micro TPI Field Portable Turbidimeter

General Information:

Weather Conditions @ time of sampling: Sunny

Sample Characteristics: colorless, odorless

Sample Collection Order: Per SAP

Comments and Observations:

I certify that sampling procedures were in accordance with applicable EPA and State protocols.

Date: 1/24/24 By: [Signature] Title: Lab Tech

Field Sampling Log

Monitoring Well ID: MW-4 Facility: SBMU Sikeston Power Station - Groundwater Monitoring

Initial Water Level (feet btoc): <u>11.50</u>	Date: <u>4/24/24</u>
Initial Groundwater Elevation (NAVD88): _____	Air Pressure in Well? Y / <input checked="" type="radio"/> N

PURGE INFORMATION

Date: <u>4/24/24</u>	
Name (Sample Collector): <u>AD/UL/AP</u>	
Method of Well Purge: <u>Low Flow Peristaltic Pump</u>	Dedicated Tubing? <input checked="" type="radio"/> Y / N
Time Purging Initiated: <u>1229</u>	One (1) Well Volume (mL): <u>NA</u>
Beginning Water Level (feet btoc): <u>11.50</u>	Total Volume Purged (mL): <u>11900</u>
Beginning Groundwater Elevation (NAVD88): _____	Well Purged To Dryness? Y / <input checked="" type="radio"/> N
Well Total Depth (feet btoc): <u>37.45</u>	Water Level after Sampling (feet btoc): <u>11.50</u> (i.e., pump is off)
Casing Diameter (feet): <u>2" Sch 40 PVC</u>	Time Sampling Completed: <u>1326</u>

PURGE STABILIZATION DATA

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH (S.U.)	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Water Level (feet btoc)	Notes (e.g., opacity, color, odor)
1231		540	19.15	557.92	1.17	7.11	685.0	60.24	11.50	White Plakes
1233	270	1080	17.82	578.57	1.10	7.14	608.5	263.8	11.50	White Plakes
1235	280	1600	17.97	590.00	.76	7.16	575.3	306.9	11.50	White Plakes
1237	250	2100	17.39	567	.64	7.18	532.9	233.9	11.50	White Plakes
1239	250	2600	17.36	585.58	.60	7.20	541.8	221.0	11.50	White Plakes
1241	270	3140	17.92	586.0	.57	7.22	532.4	102.6	11.50	White Plakes
1243	250	3640	17.58	591.51	.56	7.22	537.2	67.6	11.50	White Plakes
1245	280	4200	17.94	589.11	.54	7.23	555.9	47.34	11.50	White Plakes
1247	260	4720	17.41	591.06	.53	7.24	569.9	38.1	11.50	White Plakes
1249	260	5240	17.41	592.0	.51	7.24	585.5	38.0	11.50	White Plakes
1251	240	5720	17.39	583.70	.47	7.25	602.9	28.37	11.50	White Plakes
1253	270	6260	17.41	589.94	.47	7.25	619.9	22.14	11.50	White Plakes
1255	250	6760	17.43	586.9	.46	7.25	658.3	26.90	11.50	White Plakes
1257	280	7080	17.47	583.5	.46	7.25	657.1	14.81	11.50	White Plakes
1259	250	7780	17.49	589.5	.46	7.26	663.2	26.0	11.50	White Plakes
1301	310	8400	17.46	584.9	.45	7.26	672.6	21.12	11.50	White Plakes
1303	200	8800	17.27	592.96	.45	7.26	676.6	16.1	11.50	White Plakes
1305	260	9320	17.28	585.22	.44	7.27	683.3	11.39	11.50	White Plakes
1307	260	9840	17.28	587.31	.44	7.27	687.9	16.14	11.50	White Plakes

btoc - below top of casing

Field Sampling Log

Facility: SBMU Sikeston Power Station - CCR Groundwater Monitoring

Monitoring Well ID: MW-4

Sampling Information:

Method of Sampling: Low Flow - Peristaltic Pump & Tubing

Dedicated: Y / N

Water Level @ Sampling (feet btoc): 11.50

Monitoring Event: Annual () Semi-Annual Quarterly () Monthly () Other ()

Final Purge Stabilization Sampling Data:

Date Sample Time	Sample Rate (mL/min)	Temp (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH (S.U.)	Oxidation Reduction Potential (mV)	Turbidity (NTU)
<u>4/24/24</u> <u>1313</u>	<u>250</u>	<u>17.41</u>	<u>582.17</u>	<u>.45</u>	<u>7.27</u>	<u>701.0</u>	<u>10.03</u>

Instrument Calibration Data:

See instrument calibration log of daily calibration data for the following instruments:

- 1 - In-Situ SmarTroll Multi-Probe Field Meter (Temperature, Specific Conductance, Dissolved Oxygen, pH, Oxidation Reduction Potential)
- 2 - HF scientific, inc. Micro TPI Field Portable Turbidimeter

General Information:

Weather Conditions @ time of sampling: Sunny, windy

Sample Characteristics: odor less, color less

Sample Collection Order: Per SAP

Comments and Observations:

I certify that sampling procedures were in accordance with applicable EPA and State protocols.

Date: 4/24/24 By: Anthony [Signature] Title: Lead Lab Tech

Monitoring Well Field Inspection

Facility: <u>SBMU SPS – CCR Groundwater Monitoring</u> Monitoring Well ID: <u>MW-5</u> Name (Field Staff): <u>AD/DZ/AP</u> Date: <u>4/24/24</u>		
Access:		
Accessibility:	Good <input checked="" type="checkbox"/>	Fair <input type="checkbox"/> Poor <input type="checkbox"/>
Well clear of weeds and/or debris?:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Well identification clearly visible?:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:		
Concrete Pad:		
Condition of Concrete Pad:	Good <input checked="" type="checkbox"/> Inadequate <input type="checkbox"/>	
Depressions or standing water around well?:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:		
Protective Outer Casing: Material = <u>4" x 4" Steel Hinged Casing with Hasp</u>		
Condition of Protective Casing:	Good <input checked="" type="checkbox"/> Damaged <input type="checkbox"/>	
Condition of Locking Cap:	Good <input checked="" type="checkbox"/> Damaged <input type="checkbox"/>	
Condition of Lock:	Good <input checked="" type="checkbox"/> Damaged <input type="checkbox"/>	
Condition of Weep Hole:	Good <input checked="" type="checkbox"/> Damaged <input type="checkbox"/>	
Remarks:		
Well Riser: Material = <u>2" Diameter, Schedule 40 PVC, Flush Threaded</u>		
Condition of Riser:	Good <input checked="" type="checkbox"/> Damaged <input type="checkbox"/>	
Condition of Riser Cap:	Good <input checked="" type="checkbox"/> Damaged <input type="checkbox"/>	
Measurement Reference Point:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:		
Dedicated Purging/Sampling Device: Type = <u>1/4" ID Semi-Rigid Polyethylene & 0.170" ID Flexible Silicone Tubing</u>		
Condition:	Good <input checked="" type="checkbox"/> Damaged <input type="checkbox"/> Missing <input type="checkbox"/>	
Remarks:		
Monitoring Well Locked/Secured Post Sampling?: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks:		

Field Certification


Signed

Lead Lab Tech
Title

4/24/24
Date

Monitoring Well Field Inspection

Facility: SBMU SPS - CCR Groundwater Monitoring

Monitoring Well ID: MW-6

Name (Field Staff): AD/AP/JL

Date: 4/24/24

Access:

Accessibility: Good Fair _____ Poor _____

Well clear of weeds and/or debris?: Yes No _____

Well identification clearly visible?: Yes No _____

Remarks:

Concrete Pad:

Condition of Concrete Pad: Good Inadequate _____

Depressions or standing water around well?: Yes _____ No

Remarks:

Protective Outer Casing: Material = 4" x 4" Steel Hinged Casing with Hasp

Condition of Protective Casing: Good Damaged _____

Condition of Locking Cap: Good Damaged _____

Condition of Lock: Good Damaged _____

Condition of Weep Hole: Good Damaged _____

Remarks:

Well Riser: Material = 2" Diameter, Schedule 40 PVC, Flush Threaded

Condition of Riser: Good Damaged _____

Condition of Riser Cap: Good Damaged _____

Measurement Reference Point: Yes No _____

Remarks:

Dedicated Purging/Sampling Device: Type = 1/4" ID Semi-Rigid Polyethylene & 0.170" ID Flexible Silicone Tubing

Condition: Good Damaged _____ Missing _____

Remarks:

Monitoring Well Locked/Secured Post Sampling?: Yes No _____

Remarks:

Field Certification


Signed

Lead Lab Tech
Title

4/24/24
Date

Monitoring Well Field Inspection

Facility: SBMU SPS – CCR Groundwater Monitoring

Monitoring Well ID: MW-8

Name (Field Staff): AD/JL/AP

Date: 4/24/24

Access:

Accessibility: Good Fair Poor

Well clear of weeds and/or debris?: Yes No

Well identification clearly visible?: Yes No

Remarks:

Concrete Pad:

Condition of Concrete Pad: Good Inadequate

Depressions or standing water around well?: Yes No

Remarks:

Protective Outer Casing: Material = 4" x 4" Steel Hinged Casing with Hasp

Condition of Protective Casing: Good Damaged

Condition of Locking Cap: Good Damaged

Condition of Lock: Good Damaged

Condition of Weep Hole: Good Damaged

Remarks:

Well Riser: Material = 2" Diameter, Schedule 40 PVC, Flush Threaded

Condition of Riser: Good Damaged

Condition of Riser Cap: Good Damaged

Measurement Reference Point: Yes No

Remarks:

Dedicated Purging/Sampling Device: Type = 1/4" ID Semi-Rigid Polyethylene & 0.170" ID Flexible Silicone Tubing

Condition: Good Damaged Missing

Remarks:

Monitoring Well Locked/Secured Post Sampling?: Yes No

Remarks:

Field Certification


Signed

Lead Lab Tech
Title

4/24/24
Date

Appendix 2

Laboratory Analytical Results and Quality Assurance/Quality Control Data

May 13, 2024

Luke St. Mary
Sikeston Board of Municipal Utilities
107 E Malone Ave
PO Box 370
Sikeston, MO 63801
TEL: (573) 475-3119
FAX:



Illinois	100226
Illinois	1004652024-2
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Bottom Ash Pond (BAP)

WorkOrder: 24042193

Dear Luke St. Mary:

TEKLAB, INC received 8 samples on 4/26/2024 10:18:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Quality Control Results	15
Receiving Check List	29
Chain of Custody	Appended

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

Qualifiers

- # - Unknown hydrocarbon
- C - RL shown is a Client Requested Quantitation Limit
- H - Holding times exceeded
- J - Analyte detected below quantitation limits
- ND - Not Detected at the Reporting Limit
- S - Spike Recovery outside recovery limits
- X - Value exceeds Maximum Contaminant Level
- B - Analyte detected in associated Method Blank
- E - Value above quantitation range
- I - Associated internal standard was outside method criteria
- M - Manual Integration used to determine area response
- R - RPD outside accepted recovery limits
- T - TIC(Tentatively identified compound)



Case Narrative

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

Cooler Receipt Temp: 4.3 °C

Per Ken Ewers (Gredell Eng.), field pH is not required for Duplicate reporting. (ehurley - 5/8/2024 1:56:09 PM)

Field data was provided via email from Gredell Engineering Resources, Inc.

This report was revised on May 13, 2024 per Ken Ewers (Gredell)'s request for rechecks of MW-3 and MW-4 Fluoride results. The reason for the revision is to replace the originally reported values with the re-analysis data. Please replace report dated May 8, 2024 with this report. EAH 5/13/24

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
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Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2025	Collinsville
Illinois	IEPA	1004652024-2	NELAP	4/30/2025	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2025	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2024	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2024	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2024	Collinsville
Arkansas	ADEQ	88-0966		3/14/2025	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2024	Collinsville
Kentucky	UST	0073		1/31/2025	Collinsville
Mississippi	MSDH			4/30/2025	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities
 Client Project: Bottom Ash Pond (BAP)
 Lab ID: 24042193-001
 Matrix: GROUNDWATER

Work Order: 24042193
 Report Date: 13-May-24

Client Sample ID: MW-3

Collection Date: 04/24/2024 8:41

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9040B FIELD									
pH	*	0	1.00		6.65		1	04/24/2024 8:41	R346951
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	20	20		94	mg/L	1	04/29/2024 10:09	R346521
SW-846 9036 (TOTAL)									
Sulfate	NELAP	10	10		10	mg/L	1	05/01/2024 20:52	R346635
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.25	0.25	R	< 0.25	mg/L	1	05/10/2024 15:53	R347102
<i>RPD for DUP was outside control limits due to sample composition.</i>									
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4	J	1	mg/L	1	05/01/2024 20:52	R346639
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Boron	NELAP	10.0	10.0		< 10.0	µg/L	1	04/30/2024 13:23	222071
Calcium	NELAP	0.035	0.100		14.8	mg/L	1	04/29/2024 18:12	222071



Laboratory Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities
 Client Project: Bottom Ash Pond (BAP)
 Lab ID: 24042193-002
 Matrix: GROUNDWATER

Work Order: 24042193
 Report Date: 13-May-24

Client Sample ID: MW-4

Collection Date: 04/24/2024 13:13

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9040B FIELD									
pH	*	0	1.00		7.27		1	04/24/2024 13:13	R346951
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	20	20		344	mg/L	1	04/29/2024 10:09	R346521
SW-846 9036 (TOTAL)									
Sulfate	NELAP	50	50		107	mg/L	5	05/01/2024 20:59	R346635
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.25	0.25		< 0.25	mg/L	1	05/10/2024 15:57	R347102
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		14	mg/L	1	05/01/2024 20:54	R346639
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Boron	NELAP	10.0	10.0		581	µg/L	1	04/30/2024 13:24	222071
Calcium	NELAP	0.035	0.100		83.6	mg/L	1	04/29/2024 18:14	222071



Laboratory Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities
Client Project: Bottom Ash Pond (BAP)
Lab ID: 24042193-003
Matrix: GROUNDWATER

Work Order: 24042193
Report Date: 13-May-24
Client Sample ID: MW-5
Collection Date: 04/24/2024 14:49

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9040B FIELD									
pH	*	0	1.00		6.79		1	04/24/2024 14:49	R346951
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	50	50		475	mg/L	2.5	04/29/2024 10:09	R346521
SW-846 9036 (TOTAL)									
Sulfate	NELAP	100	100		171	mg/L	10	05/01/2024 21:08	R346635
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.25	0.25		0.27	mg/L	1	05/03/2024 11:39	R346729
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		14	mg/L	1	05/01/2024 21:02	R346639
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Boron	NELAP	10.0	10.0		312	µg/L	1	04/30/2024 13:00	222071
Calcium	NELAP	0.035	0.100	S	106	mg/L	1	04/29/2024 18:24	222071
<i>Matrix spike control limits are not applicable due to high sample/spike ratio.</i>									



Laboratory Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

Lab ID: 24042193-004

Client Sample ID: MW-6

Matrix: GROUNDWATER

Collection Date: 04/24/2024 15:25

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9040B FIELD									
pH	*	0	1.00		6.84		1	04/24/2024 15:25	R346951
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	50	50		245	mg/L	2.5	04/29/2024 10:10	R346521
SW-846 9036 (TOTAL)									
Sulfate	NELAP	10	10		23	mg/L	1	05/01/2024 21:13	R346635
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.25	0.25		< 0.25	mg/L	1	05/03/2024 11:42	R346729
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		4	mg/L	1	05/01/2024 21:13	R346639
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Boron	NELAP	10.0	10.0		29.4	µg/L	1	04/30/2024 13:26	222071
Calcium	NELAP	0.035	0.100		49.3	mg/L	1	04/29/2024 18:15	222071



Laboratory Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities
 Client Project: Bottom Ash Pond (BAP)
 Lab ID: 24042193-005
 Matrix: GROUNDWATER

Work Order: 24042193
 Report Date: 13-May-24
 Client Sample ID: MW-8
 Collection Date: 04/24/2024 14:02

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9040B FIELD									
pH	*	0	1.00		7.13		1	04/24/2024 14:02	R346951
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	50	50		365	mg/L	2.5	04/29/2024 10:31	R346521
SW-846 9036 (TOTAL)									
Sulfate	NELAP	50	50		91	mg/L	5	05/01/2024 21:56	R346635
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.25	0.25		< 0.25	mg/L	1	05/03/2024 11:52	R346729
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		34	mg/L	1	05/01/2024 21:50	R346639
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Boron	NELAP	10.0	10.0		355	µg/L	1	04/30/2024 13:27	222071
Calcium	NELAP	0.035	0.100		85.8	mg/L	1	04/29/2024 18:29	222071



Laboratory Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities
Client Project: Bottom Ash Pond (BAP)
Lab ID: 24042193-006
Matrix: GROUNDWATER

Work Order: 24042193
Report Date: 13-May-24
Client Sample ID: Duplicate
Collection Date: 04/24/2024 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	20	20		112	mg/L	1	04/29/2024 10:31	R346521
SW-846 9036 (TOTAL)									
Sulfate	NELAP	10	10		< 10	mg/L	1	05/01/2024 21:58	R346635
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.25	0.25		< 0.25	mg/L	1	05/03/2024 11:55	R346729
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4	J	1	mg/L	1	05/01/2024 21:58	R346639
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Boron	NELAP	10.0	10.0		< 10.0	µg/L	1	04/30/2024 13:29	222071
Calcium	NELAP	0.035	0.100		15.2	mg/L	1	04/29/2024 18:31	222071



Laboratory Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities
 Client Project: Bottom Ash Pond (BAP)
 Lab ID: 24042193-007
 Matrix: AQUEOUS

Work Order: 24042193
 Report Date: 13-May-24
 Client Sample ID: Field Blank
 Collection Date: 04/24/2024 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	20	20		< 20	mg/L	1	04/29/2024 10:32	R346521
SW-846 9036 (TOTAL)									
Sulfate	NELAP	10	10		< 10	mg/L	1	05/01/2024 22:06	R346635
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00	H	5.65		1	05/02/2024 12:14	R346659
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.25	0.25		< 0.25	mg/L	1	05/03/2024 11:56	R346729
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		< 4	mg/L	1	05/01/2024 22:06	R346639
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Boron	NELAP	10.0	10.0		< 10.0	µg/L	1	04/30/2024 13:31	222071
Calcium	NELAP	0.035	0.10	J	0.10	mg/L	1	04/29/2024 18:32	222071



Laboratory Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

Lab ID: 24042193-008

Client Sample ID: Trip Blank

Matrix: TRIP BLANK

Collection Date: 04/26/2024 10:18

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 2540 C (TOTAL) 1997, 2011									
Total Dissolved Solids	NELAP	20	20		< 20	mg/L	1	04/29/2024 10:32	R346521
SW-846 9036 (TOTAL)									
Sulfate	NELAP	10	10		< 10	mg/L	1	05/01/2024 22:09	R346635
SW-846 9040B, LABORATORY ANALYZED									
Lab pH	NELAP	0	1.00	H	5.44		1	05/02/2024 12:18	R346659
SW-846 9214 (TOTAL)									
Fluoride	NELAP	0.25	0.25		< 0.25	mg/L	1	05/03/2024 12:41	R346729
SW-846 9251 (TOTAL)									
Chloride	NELAP	1	4		< 4	mg/L	1	05/01/2024 22:09	R346639
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Boron	NELAP	10.0	10.0		< 10.0	µg/L	1	04/30/2024 13:32	222071
Calcium	NELAP	0.035	0.100		< 0.100	mg/L	1	04/29/2024 18:34	222071



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

STANDARD METHODS 2540 C (TOTAL) 1997, 2011

Batch R346521		SampType: MBLK		Units mg/L						
SampID: MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	04/29/2024
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	04/29/2024
Total Dissolved Solids		20		< 20	16.00	0	0	-100	100	04/29/2024

Batch R346521		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Dissolved Solids		20		976	1000	0	97.6	90	110	04/29/2024
Total Dissolved Solids		20		984	1000	0	98.4	90	110	04/29/2024
Total Dissolved Solids		20		952	1000	0	95.2	90	110	04/29/2024

Batch R346521		SampType: DUP		Units mg/L						
SampID: 24042193-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		20		364				344.0	5.65	04/29/2024

Batch R346521		SampType: DUP		Units mg/L						
SampID: 24042193-004ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Total Dissolved Solids		50		260				245.0	5.94	04/29/2024

SW-846 9036 (TOTAL)

Batch R346635		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		< 10	6.140	0	0	-100	100	05/01/2024

Batch R346635		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		18	20.00	0	90.2	90	110	05/01/2024

Batch R346635		SampType: MS		Units mg/L						
SampID: 24041541-031AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		20		66	40.00	31.81	86.2	85	115	05/02/2024



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9036 (TOTAL)

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			
SampID: 24041541-031AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		20		68	40.00	31.81	89.4	66.31	1.87	05/02/2024	

Batch R346635		SampType: MS		Units mg/L				RPD Limit 10			
SampID: 24041541-031BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		20		68	40.00	31.35	92.8	85	115	05/02/2024	

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			
SampID: 24041541-031BMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		20		69	40.00	31.35	95.3	68.46	1.48	05/02/2024	

Batch R346635		SampType: MS		Units mg/L				RPD Limit 10			
SampID: 24042088-010BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10	S	23	20.00	0	116.9	85	115	05/01/2024	

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			
SampID: 24042088-010BMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		10	S	23	20.00	0	116.6	23.38	0.21	05/01/2024	

Batch R346635		SampType: MS		Units mg/L				RPD Limit 10			
SampID: 24042088-010CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10		27	20.00	8.280	95.1	85	115	05/01/2024	

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			
SampID: 24042088-010CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		10		27	20.00	8.280	95.8	27.30	0.48	05/01/2024	

Batch R346635		SampType: MS		Units mg/L				RPD Limit 10			
SampID: 24042186-001CMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10	S	49	20.00	35.56	66.5	85	115	05/01/2024	



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9036 (TOTAL)

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			Date Analyzed
SampID: 24042186-001CMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		10	S	49	20.00	35.56	66.8	48.86	0.12	05/01/2024	

Batch R346635		SampType: MS		Units mg/L				Low Limit	High Limit	Date Analyzed
SampID: 24042193-004AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		41	20.00	23.14	89.1	85	115	05/01/2024

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			Date Analyzed
SampID: 24042193-004AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		10		41	20.00	23.14	91.4	40.96	1.12	05/01/2024	

Batch R346635		SampType: MS		Units mg/L				Low Limit	High Limit	Date Analyzed
SampID: 24042262-003FMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		20		74	40.00	34.96	98.4	85	115	05/01/2024

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			Date Analyzed
SampID: 24042262-003FMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		20		74	40.00	34.96	97.0	74.30	0.76	05/01/2024	

Batch R346635		SampType: MS		Units mg/L				Low Limit	High Limit	Date Analyzed
SampID: 24042262-006FMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		50		208	100.0	115.6	92.0	85	115	05/01/2024

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			Date Analyzed
SampID: 24042262-006FMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		50		206	100.0	115.6	90.8	207.6	0.57	05/01/2024	

Batch R346635		SampType: MS		Units mg/L				Low Limit	High Limit	Date Analyzed
SampID: 24042357-001AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10	S	50	20.00	37.08	62.4	85	115	05/02/2024



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9036 (TOTAL)

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			
SampID: 24042357-001AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		10	SE	50	20.00	37.08	66.8	49.57	1.74	05/02/2024	

Batch R346635		SampType: MS		Units mg/L				RPD Limit 10			
SampID: 24042384-001AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		10	S	24	20.00	6.850	86.4	90	110	05/01/2024	

Batch R346635		SampType: MSD		Units mg/L				RPD Limit 10			
SampID: 24042384-001AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate		10		25	20.00	6.850	91.8	24.13	4.34	05/01/2024	

SW-846 9040B, LABORATORY ANALYZED

Batch R346659		SampType: LCS		Units				RPD Limit 10			
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Lab pH		1.00		6.99	7.000	0	99.9	99.29	100.7	05/02/2024	

Batch R346659		SampType: DUP		Units				RPD Limit 10			
SampID: 24042193-007ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Lab pH		1.00	H	5.64				5.650	0.18	05/02/2024	

Batch R346659		SampType: DUP		Units				RPD Limit 10			
SampID: 24042193-008ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Lab pH		1.00	H	5.43				5.440	0.18	05/02/2024	

Batch R346659		SampType: DUP		Units				RPD Limit 10			
SampID: 24042404-001ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Lab pH		1.00	H	7.63				7.620	0.13	05/02/2024	



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9040B, LABORATORY ANALYZED

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24042404-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.62				7.650	0.39	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24042404-003ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.95				7.960	0.13	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050051-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	6.92				6.920	0.00	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050062-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.21				7.240	0.42	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050062-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.67				7.650	0.26	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050062-003ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.87				7.850	0.25	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050086-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	6.72				6.720	0.00	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050092-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.73				7.740	0.13	05/02/2024



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9040B, LABORATORY ANALYZED

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050093-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	11.7				11.69	0.09	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050094-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.82				7.850	0.38	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050099-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.93				7.910	0.25	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050100-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	5.09				5.040	0.99	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050102-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	8.06				8.070	0.12	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050102-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.42				7.410	0.13	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050103-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.80				7.790	0.13	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050107-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.95				7.930	0.25	05/02/2024



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9040B, LABORATORY ANALYZED

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050131-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.63				7.580	0.66	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050131-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.51				7.480	0.40	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050131-003ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.50				7.490	0.13	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050131-004ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.47				7.480	0.13	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050131-005ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.39				7.400	0.14	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050131-006ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.03				7.050	0.28	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050131-007ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	5.00				5.080	1.59	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050131-008ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	5.02				5.100	1.58	05/02/2024



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9040B, LABORATORY ANALYZED

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050131-009ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	5.13				5.170	0.78	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050134-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	6.76				6.820	0.88	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050135-001ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	8.10				8.100	0.00	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050135-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	6.90				6.950	0.72	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050172-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	9.09				9.080	0.11	05/02/2024

Batch R346659		SampType: DUP		Units		RPD Limit 10				Date Analyzed
SampID: 24050182-002ADUP										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00	H	7.87				7.870	0.00	05/02/2024

SW-846 9214 (TOTAL)

Batch R346729		SampType: MBLK		Units mg/L						Date Analyzed
SampID: MBLK										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Fluoride		0.10		< 0.10	0.0500	0	0	-100	100	05/03/2024



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9214 (TOTAL)

Batch R346729		SampType: LCS		Units mg/L							
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		0.95	1.000	0	95.4	90	110	05/03/2024	

Batch R346729		SampType: MS		Units mg/L							
SampID: 24042193-004AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		1.86	2.000	0	93.0	75	125	05/03/2024	

Batch R346729		SampType: MSD		Units mg/L							
SampID: 24042193-004AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		1.93	2.000	0	96.5	1.861	3.64	05/03/2024	

Batch R346729		SampType: MS		Units mg/L							
SampID: 24042194-005AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.03	2.000	0	101.3	75	125	05/03/2024	

Batch R346729		SampType: MSD		Units mg/L							
SampID: 24042194-005AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		1.90	2.000	0	94.8	2.026	6.68	05/03/2024	

Batch R346729		SampType: MS		Units mg/L							
SampID: 24042196-003AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		1.64	2.000	0	81.8	75	125	05/03/2024	

Batch R346729		SampType: MSD		Units mg/L							
SampID: 24042196-003AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		1.70	2.000	0	85.2	1.637	3.95	05/03/2024	

Batch R346729		SampType: MS		Units mg/L							
SampID: 24042264-001AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.15	2.000	0.3950	87.8	75	125	05/03/2024	



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9214 (TOTAL)

Batch R346729		SampType: MSD		Units mg/L				RPD Limit 15			Date Analyzed
SampID: 24042264-001AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		2.08	2.000	0.3950	84.4	2.150	3.21	05/03/2024	

Batch R347102		SampType: MBLK		Units mg/L				RPD Limit 15			Date Analyzed
SampID: MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		< 0.10	0.0500	0	0	-100	100	05/10/2024	

Batch R347102		SampType: LCS		Units mg/L				RPD Limit 15			Date Analyzed
SampID: LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		0.99	1.000	0	99.3	90	110	05/10/2024	

Batch R347102		SampType: MS		Units mg/L				RPD Limit 15			Date Analyzed
SampID: 24050273-003AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		1.90	2.000	0.2030	85.0	75	125	05/10/2024	

Batch R347102		SampType: MSD		Units mg/L				RPD Limit 15			Date Analyzed
SampID: 24050273-003AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		1.93	2.000	0.2030	86.3	1.903	1.36	05/10/2024	

Batch R347102		SampType: MS		Units mg/L				RPD Limit 15			Date Analyzed
SampID: 24050273-006AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		1.67	2.000	0	83.5	75	125	05/10/2024	

Batch R347102		SampType: MSD		Units mg/L				RPD Limit 15			Date Analyzed
SampID: 24050273-006AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		1.54	2.000	0	77.0	1.670	8.03	05/10/2024	

Batch R347102		SampType: MS		Units mg/L				RPD Limit 15			Date Analyzed
SampID: 24050362-002AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.11	2.000	0.2380	93.5	75	125	05/10/2024	



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9214 (TOTAL)

Batch R347102		SampType: MSD		Units mg/L				RPD Limit 15			
SampID: 24050362-002AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		2.15	2.000	0.2380	95.5	2.108	1.88	05/10/2024	

Batch R347102		SampType: MS		Units mg/L				RPD Limit 15			
SampID: 24050364-006FMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride		0.10		2.28	2.000	0.4910	89.3	75	125	05/10/2024	

Batch R347102		SampType: MSD		Units mg/L				RPD Limit 15			
SampID: 24050364-006FMSSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10		2.26	2.000	0.4910	88.7	2.277	0.57	05/10/2024	

Batch R347102		SampType: DUP		Units mg/L				RPD Limit 15			
SampID: 24042193-001ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10	R	0.16				0	200.00	05/10/2024	

Batch R347102		SampType: DUP		Units mg/L				RPD Limit 15			
SampID: 24042193-002ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10	J	0.06				0	0.00	05/10/2024	

Batch R347102		SampType: DUP		Units mg/L				RPD Limit 15			
SampID: 24042194-006ADUP											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride		0.10	R	0.23				0	200.00	05/10/2024	

SW-846 9251 (TOTAL)

Batch R346639		SampType: MBLK		Units mg/L				RPD Limit 15			
SampID: ICB/MBLK											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		< 4	0.5000	0	0	-100	100	05/01/2024	



Quality Control Results

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Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9251 (TOTAL)

Batch R346639		SampType: LCS		Units mg/L							
SampID: ICV/LCS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		18	20.00	0	91.0	90	110	05/01/2024	

Batch R346639		SampType: MS		Units mg/L							
SampID: 24041541-025AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		24	20.00	4.470	99.8	85	115	05/02/2024	

Batch R346639		SampType: MSD		Units mg/L							
SampID: 24041541-025AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		4		24	20.00	4.470	99.9	24.42	0.12	05/02/2024	

Batch R346639		SampType: MS		Units mg/L							
SampID: 24041541-025BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		24	20.00	3.840	99.9	85	115	05/02/2024	

Batch R346639		SampType: MSD		Units mg/L							
SampID: 24041541-025BMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		4		24	20.00	3.840	101.1	23.82	1.00	05/02/2024	

Batch R346639		SampType: MS		Units mg/L							
SampID: 24041541-031AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		8		75	40.00	37.23	95.6	85	115	05/02/2024	

Batch R346639		SampType: MSD		Units mg/L							
SampID: 24041541-031AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		8		75	40.00	37.23	95.5	75.47	0.04	05/02/2024	

Batch R346639		SampType: MS		Units mg/L							
SampID: 24041541-031BMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		8		75	40.00	35.91	97.6	85	115	05/02/2024	



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9251 (TOTAL)

Batch R346639		SampType: MSD		Units mg/L				RPD Limit 15			
SampID: 24041541-031BMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		8		76	40.00	35.91	101.0	74.96	1.81	05/02/2024	

Batch R346639		SampType: MS		Units mg/L							
SampID: 24042193-004AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4		24	20.00	4.460	95.4	85	115	05/01/2024	

Batch R346639		SampType: MSD		Units mg/L				RPD Limit 15			
SampID: 24042193-004AMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		4		24	20.00	4.460	96.8	23.54	1.22	05/01/2024	

Batch R346639		SampType: MS		Units mg/L							
SampID: 24042262-003FMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		8		78	40.00	40.01	95.0	85	115	05/01/2024	

Batch R346639		SampType: MSD		Units mg/L				RPD Limit 15			
SampID: 24042262-003FMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		8		75	40.00	40.01	88.2	78.03	3.56	05/01/2024	

Batch R346639		SampType: MS		Units mg/L							
SampID: 24042262-006FMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		20		154	100.0	62.72	91.6	85	115	05/01/2024	

Batch R346639		SampType: MSD		Units mg/L				RPD Limit 15			
SampID: 24042262-006FMSD											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride		20		150	100.0	62.72	87.4	154.3	2.80	05/01/2024	

Batch R346639		SampType: MS		Units mg/L							
SampID: 24042357-001AMS											
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride		4	SE	90	20.00	43.14	232.6	85	115	05/02/2024	



Quality Control Results

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

SW-846 9251 (TOTAL)

Batch R346639		SampType: MSD		Units mg/L			RPD Limit 15			
SampID: 24042357-001AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		4	SE	90	20.00	43.14	234.6	89.65	0.46	05/02/2024

Batch R346639		SampType: MS		Units mg/L						
SampID: 24042384-001AMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Chloride		4		24	20.00	4.650	96.7	85	115	05/01/2024

Batch R346639		SampType: MSD		Units mg/L			RPD Limit 15			
SampID: 24042384-001AMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Chloride		4		24	20.00	4.650	98.9	23.98	1.86	05/01/2024

SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 222071		SampType: MBLK		Units µg/L						
SampID: MBLK-222071										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		20.0		< 20.0	9.000	0	0	-100	100	04/30/2024
Calcium		0.100		< 0.100	0.0350	0	0	-100	100	04/29/2024

Batch 222071		SampType: LCS		Units µg/L						
SampID: LCS-222071										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		20.0		455	500.0	0	91.1	85	115	04/30/2024
Calcium		0.100		2.51	2.500	0	100.5	85	115	04/29/2024

Batch 222071		SampType: MS		Units µg/L						
SampID: 24042193-003CMS										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Boron		20.0		777	500.0	312.0	93.0	75	125	04/30/2024
Calcium		0.100		108	2.500	105.9	102.8	75	125	04/29/2024

Batch 222071		SampType: MSD		Units µg/L			RPD Limit 20			
SampID: 24042193-003CMSD										
Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Boron		20.0		786	500.0	312.0	94.7	776.8	1.13	04/30/2024
Calcium		0.100	S	107	2.500	105.9	30.8	108.4	1.67	04/29/2024



Receiving Check List

<http://www.teklabinc.com/>

Client: Sikeston Board of Municipal Utilities

Work Order: 24042193

Client Project: Bottom Ash Pond (BAP)

Report Date: 13-May-24

Carrier: UPS

Received By: ERH

Completed by:

Reviewed by:

On:

26-Apr-24

Paul Schultz

On:

26-Apr-24

Ellie Hopkins

Pages to follow: Chain of custody

Extra pages included

- Shipping container/cooler in good condition? Yes No Not Present Temp °C **4.3**
- Type of thermal preservation? None Ice Blue Ice Dry Ice
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Reported field parameters measured: Field Lab NA

Sample analyses to be measured in the field and/or within 15 minutes of collection were analyzed in the lab as soon as practicable. These analyses include Chlorine (demand, free and/or residual), Carbon Dioxide, Dissolved Oxygen, Ferrous Iron, pH, and Sulfite.

Container/Temp Blank temperature in compliance? Yes No

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

- Water – at least one vial per sample has zero headspace? Yes No No VOA vials
- Water - TOX containers have zero headspace? Yes No No TOX containers
- Water - pH acceptable upon receipt? Yes No NA
- NPDES/CWA TCN interferences checked/treated in the field? Yes No NA

Any No responses must be detailed below or on the COC.

pH strip #96651. WO - pschultz - 4/26/2024 2:18:26 PM

Trip Blank collection date and time will be reported as the received date and time (4/26/2024 10:18). - pschultz - 4/26/2024 2:19:37 PM

Appendix 3

Groundwater Quality Database

**Sikeston Board of Municipal Utilities
Sikeston Power Station
Bottom Ash Pond Scott County, Missouri
CCR Groundwater Data Base**

Well ID	Date	Monitoring Purpose	Field Parameters					Appendix III Monitoring Constituents (Detection)								Appendix IV Monitoring Constituents (Assessment)															
			Spec. Cond. μmhos/cm	Temp. °C	ORP mV	D.O. mg/L	Turbidity NTU	pH S.U.	Chloride mg/L	Fluoride mg/L	Sulfate mg/L	TDS mg/L	Boron ug/L	Calcium mg/L	Antimony ug/L	Arsenic ug/L	Barium ug/L	Beryllium ug/L	Cadmium ug/L	Chromium ug/L	Cobalt ug/L	Lead ug/L	Lithium ug/L	Mercury ug/L	Molybdenum ug/L	Selenium ug/L	Thallium ug/L	Radium 226 and 228 (Combined) pCi/L			
									None	4.0	None	None	None	None	None	6	10	2000	4	5	100	6	15	40	2	100	50	2	5		
MW-3 (UG)	11/30/2016	Background	254.0	15.75	-27.1	0.41	37.28	7.08	2.3	0.438	26	160	18	24	<3.0	1.5	96	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	<1.0	1.668		
	1/24/2017	Background	226.4	16.52	-8.4	0.39	4.46	6.88	2.0	0.261	30	130	12	21	<3.0	1.2	120	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	<1.0	0.677(ND)		
	2/22/2017	Background	226.6	16.47	9.7	0.36	3.56	6.93	1.9	0.290	26	120	33	22	<3.0	1.0	120	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	<1.0	0.460(ND)		
	3/20/2017	Background	212.1	17.07	33.7	0.43	6.61	6.68	1.8	0.286	21	170	22	19	<3.0	<1.0	110	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	<1.0	0.277(ND)		
	4/27/2017	Background	223.2	15.35	9.2	0.57	2.69	6.68	2.0	0.257	28	140	54	20	<3.0	<1.0	110	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	9.9	<1.0	<1.0	<1.0	-0.030(ND)		
	5/17/2017	Background	224.9	17.68	26.8	0.45	12.59	6.59	1.5	<0.250	21	130	19	17	<3.0	<1.0	120	<1.0	<1.0	<4.0	<2.0	<1.0	<10	0.40	<1.0	<1.0	<1.0	<1.0	0.844(ND)		
	6/8/2017	Background	217.9	16.73	18.2	0.49	2.61	6.66	1.7	0.276	22	160	20	19	<3.0	<1.0	110	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	<1.0	-0.469(ND)		
	7/13/2017	Background	243.8	19.02	5.5	0.39	4.79	6.71	2.2	0.256	19	160	18	20	<3.0	<1.0	100	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	<1.0	0.715(ND)		
	10/31/2017	Background / D1	246.2	16.74	12.4	0.65	7.47	6.64	2.0	0.331	20	140	27	19	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	6/13/2018	Background / D2	194.2	17.19	42.3	0.42	7.57	6.59	1.3	0.291	17	130	23	20	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	11/26/2018	Background / D3	194.9	15.05	49.8	0.47	2.23	6.50	1.5	0.301	18	100	23	17	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	
	2/5/2019	Background	205.0	14.49	46.9	0.49	1.92	6.46	1.5	0.342	20	160	22	17	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	5/28/2019	Background / D4	218.4	16.42	32.2	0.82	9.69	6.4	1.3	<0.250	20	(NA)	51	17	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	7/23/2019		203.0	16.58	71.0	0.88	4.96	(NA)	(NA)	(NA)	(NA)	140	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
8/28/2019	Background / D5	207.4	16.97	75.6	0.89	4.02	6.4	1.1	<0.250	18	140	35	15	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	
11/4/2019	Background	202.3	16.60	63.2	0.70	4.22	6.4	1.4	<0.250	18	130	37	15	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	
2/18/2020	Background / D6	207.6	14.17	58.6	1.22	6.34	6.4	1.3	<0.250	21	(NA)	27	16	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	
3/30/2020		199.3	14.87	61.2	1.20	6.01	(NA)	(NA)	(NA)	(NA)	180	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
7/21/2020	Background / D7	197.8	16.87	-40.4	8.42	3.43	6.5	1.0	<0.250	15	140	21	18	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	
10/20/2020	Background	206.2	16.22	-15.1	8.73	2.88	6.5	1.2	<0.250	15	130	21	17	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	
4/16/2021	Detection 8	189.2	14.10	41.3	12.69	4.03	6.5	1.2	<0.250	16	(NA)	25	17	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
4/17/2021		196.8	14.04	34.3	12.04	3.47	(NA)	(NA)	(NA)	(NA)	150	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
11/1/2021	Detection 9	199.7	11.89	70.3	10.10	1.46	6.57	1.0	<0.250	14	(NA)	25	14	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
12/27/2021		194.7	7.62	62.3	1.67	1.03	(NA)	(NA)	(NA)	(NA)	170	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
8/3/2022	Detection 10	158.1	17.06	42.0	0.36	8.28	6.65	< 1.0	<0.250	11	130	23	16	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
11/1/2022	Detection 11	(NA)	15.70	53.4	1.25	3.60	(NA)	< 1.0	<0.250	10	100 H	20	17	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
12/13/2022		166.9	15.67	35.1	0.50	3.43	6.65	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
4/18/2023	Detection 12	136.6	14.83	88.8	1.56	1.43	6.45	1.2	<0.250	12	120	23	15	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
10/11/2023	Detection 13	181.0	16.61	72.3	0.92	1.77	6.49	<4	<0.250	11	122	13.9	15.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
4/24/2024	Detection 14	178.6	15.40	495.9	1.45	1.06	6.65	1 "J"	<0.25	10	94	<10.0	14.8	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	

NOTES:

1. All data transcribed from analytical lab data sheets or field notes.
2. Less than (<) symbol denotes concentration not detected at or above reportable limits.
3. (ND) denotes Radium 226 and 228 (combined) concentration not detected above minimum detectable concentration.
4. (NA) denotes analysis not conducted, or not available at time of report.
5. Background monitoring per USEPA 40 CFR 257.93.
6. Detection monitoring per USEPA 40 CFR 257.94.
7. Assessment monitoring per USEPA 40 CFR 257.95.
8. Additional background sampling based on recommendations in Alternate Source Demonstration dated September 26, 2018 (see Gredell Engineering, 2019).
9. Background updated in 2023 to include additional data through December 2022 except as noted in note 10.
10. Data flagged for outlier removal or trend elimination indicated as shown below:

4.5

- Value identified by Sanitas for Groundwater as an outlier.

120

- Value restricted from data set to eliminate significant trend.
11. Data Qualifiers

H – Reanalyzed outside hold time
 J – Analyte detected below quantitation limits
 S – Spike Recovery outside recovery limits

**Sikeston Board of Municipal Utilities
Sikeston Power Station
Bottom Ash Pond Scott County, Missouri
CCR Groundwater Data Base**

Well ID	Date	Monitoring Purpose	Field Parameters					Appendix III Monitoring Constituents (Detection)								Appendix IV Monitoring Constituents (Assessment)													
			Spec. Cond. µmhos/cm	Temp. °C	ORP mV	D.O. mg/L	Turbidity NTU	pH S.U.	Chloride mg/L	Fluoride mg/L	Sulfate mg/L	TDS mg/L	Boron ug/L	Calcium mg/L	Antimony ug/L	Arsenic ug/L	Barium ug/L	Beryllium ug/L	Cadmium ug/L	Chromium ug/L	Cobalt ug/L	Lead ug/L	Lithium ug/L	Mercury ug/L	Molybdenum ug/L	Selenium ug/L	Thallium ug/L	Radium 226 and 228 (Combined) pCi/L	
									None	4.0	None	None	None	None	6	10	2000	4	5	100	6	15	40	2	100	50	2	5	
MW-4 (DG)	11/30/2016	Background	575.6	17.51	-108.3	0.48	0.61	7.46	18	0.259	140	390	1400	89	<3.0	<1.0	41	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.572(ND)	
	1/24/2017	Background	543.7	17.00	-105.2	0.50	0.48	7.45	15	<0.250	120	290	880	79	<3.0	<1.0	46	<2.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.7031(ND)	
	2/22/2017	Background	554.0	17.95	-115.3	0.51	1.19	7.49	13	<0.250	97	320	1500	78	<3.0	<1.0	51	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.550(ND)	
	3/20/2017	Background	562.8	18.58	-108.8	0.69	1.70	7.37	12	<0.250	94	350	1400	72	<3.0	<1.0	53	<1.0	<1.0	<4.0	<2.0	<1.0	<10	1.3	<1.0	<1.0	<1.0	1.036	
	4/27/2017	Background	536.9	17.25	-129.6	0.91	2.38	7.38	14	<0.250	99	300	1300	74	<3.0	<1.0	50	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.210(ND)	
	5/17/2017	Background	554.9	17.90	-115.5	0.63	3.02	7.38	14	<0.250	96	320	1200	71	<3.0	<1.0	66	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.774(ND)	
	6/8/2017	Background	509.7	18.24	-122.9	0.86	0.84	7.38	12	<0.250	86	340	1100	61	<3.0	<1.0	45	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.464(ND)	
	7/13/2017	Background	575.5	19.46	-115.2	0.52	1.43	7.37	13	<0.250	88	300	1200	79	<3.0	<1.0	52	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	1.086(ND)	
	10/31/2017	Background / D1	525.8	18.35	-118.1	0.63	1.07	7.31	17	<0.250	83	290	1400	67	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	6/13/2018	Background / D2	511.5	18.92	-120.7	0.44	18.50	7.32	14	<0.250	86	290	1200	80	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	11/26/2018	Background / D3	468.0	16.07	-101.8	0.53	1.01	7.36	8.8	<0.250	54	260	1100	64	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	2/5/2019	Background	761.0	15.62	-97.5	0.52	2.58	7.3	33	<0.250	140	420	1100	100	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	5/28/2019	Background / D4	581.7	18.65	-108.5	0.37	3.30	7.3	11	<0.250	75	(NA)	980	70	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	7/23/2019		615.2	18.88	-105.2	0.43	0.36	(NA)	(NA)	(NA)	(NA)	(NA)	340	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	8/28/2019	Background / D5	645.4	19.60	-101.7	0.40	2.31	(NA)	18	<0.250	110	300	1100	83	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	10/23/2019		620.0	18.90	-110.6	0.55	1.93	7.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	11/4/2019	Background	657.7	18.52	-104.2	0.50	0.96	7.2	2.1	<0.250	120	400	1200	89	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	2/18/2020	Background / D6	526.9	14.49	-87.6	0.63	1.60	7.4	11	<0.250	66	(NA)	930	67	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	3/30/2020		520.6	16.45	-91.1	0.35	19.51	(NA)	(NA)	(NA)	(NA)	(NA)	300	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	7/21/2020	Background / D7	550.7	19.75	-145.6	5.06	6.49	(NA)	14	<0.250	86	290	920	76	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	8/3/2020		567.8	18.81	-117.8	4.87	7.19	7.4	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	10/20/2020	Background	596.6	17.94	-92.1	6.36	1.80	7.4	17	<0.250	96	330	1000	80	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	4/16/2021	Detection 8	591.2	15.99	-58.4	4.85	12.85	7.4	19	<0.250	100	340	920	85	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	11/1/2021	Detection 9	609.8	14.87	-59.8	0.54	2.97	7.34	16	<0.250	95	360	870	76	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	8/3/2022	Detection 10	552.4	19.67	-130.9	0.32	6.40	7.32	14	<0.250	93	390	880	76	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	11/1/2022	Detection 11	539.5	18.90	-127.6	0.90	3.19	(NA)	12	<0.250	79	340	940	81	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
	12/13/2022		519.3	17.05	-120.4	0.41	2.35	7.27	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	4/18/2023	Detection 12	405.2	17.75	-96.3	0.30	10.86	7.49	10	<0.250	76	330	680	72	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	10/11/2023	Detection 13	596.5	18.52	-108.6	0.60	0.49	7.25	14	<0.250	88	335	940	81.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	4/24/2024	Detection 14	582.2	17.41	701.0	0.45	10.03	7.27	14	<0.25	107	344	581	83.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	

NOTES:

- All data transcribed from analytical lab data sheets or field notes.
- Less than (<) symbol denotes concentration not detected at or above reportable limits.
- (ND) denotes Radium 226 and 228 (combined) concentration not detected above minimum detectable concentration.
- (NA) denotes analysis not conducted, or not available at time of report.
- Background monitoring per USEPA 40 CFR 257.93.
- Detection monitoring per USEPA 40 CFR 257.94.
- Assessment monitoring per USEPA 40 CFR 257.95.
- Additional background sampling based on recommendations in Alternate Source Demonstration dated September 26, 2018 (see Gredell Engineering, 2019).
- Background updated in 2023 to include additional data through December 2022 except as noted in note 10.

10. Data flagged for outlier removal or trend elimination indicated as shown below:

4.5 - Value identified by Sanitas for Groundwater as an outlier.
120 - Value restricted from data set to eliminate significant trend.

11. Data Qualifiers

- H – Reanalyzed outside hold time
- J – Analyte detected below quantitation limits
- S – Spike Recovery outside recovery limits

**Sikeston Board of Municipal Utilities
Sikeston Power Station
Bottom Ash Pond Scott County, Missouri
CCR Groundwater Data Base**

Well ID	Date	Monitoring Purpose	Field Parameters					Appendix III Monitoring Constituents (Detection)								Appendix IV Monitoring Constituents (Assessment)												
			Spec. Cond. µmhos/cm	Temp. °C	ORP mV	D.O. mg/L	Turbidity NTU	pH S.U.	Chloride mg/L	Fluoride mg/L	Sulfate mg/L	TDS mg/L	Boron ug/L	Calcium mg/L	Antimony ug/L	Arsenic ug/L	Barium ug/L	Beryllium ug/L	Cadmium ug/L	Chromium ug/L	Cobalt ug/L	Lead ug/L	Lithium ug/L	Mercury ug/L	Molybdenum ug/L	Selenium ug/L	Thallium ug/L	Radium 226 and 228 (Combined) pCi/L
									None	4.0	None	None	None	None	6	10	2000	4	5	100	6	15	40	2	100	50	2	5
MW-5 (DG)	11/30/2016	Background	808.3	16.20	-48.7	0.50	1.24	6.97	16	0.255	230	560	470	96	<3.0	<1.0	84	<1.0	<1.0	<4.0	4.3	<1.0	<10	<0.20	<1.0	<1.0	<1.0	1.844
	1/24/2017	Background	745.3	16.24	-37.6	0.58	0.72	6.90	15	<0.250	270	470	480	120	<3.0	<1.0	91	<1.0	<1.0	<4.0	5.2	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.827(ND)
	2/22/2017	Background	717.8	17.75	-50.5	0.36	3.43	6.97	11	<0.250	170	420	470	100	<3.0	<1.0	83	<1.0	<1.0	<4.0	3.6	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.130(ND)
	3/20/2017	Background	737.9	17.78	-36.5	0.72	2.16	6.85	11	<0.250	170	480	320	99	<3.0	<1.0	76	<1.0	<1.0	<4.0	4.4	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.538(ND)
	4/27/2017	Background	777.3	16.07	-58.8	0.69	5.20	6.80	12	<0.250	460	480	490	120	<3.0	<1.0	87	<1.0	<1.0	<4.0	4.8	<1.0	<10	<0.20	3.0	<1.0	<1.0	1.676
	5/17/2017	Background	760.1	17.81	-56.0	0.46	5.35	6.81	11	<0.250	200	440	5700	240	<3.0	1.8	180	<1.0	<1.0	16	5.3	6.3	<10	0.24	<1.0	<1.0	<1.0	1.739
	6/8/2017	Background	678.3	17.72	-58.6	0.69	1.89	6.82	11	<0.250	180	480	360	97	<3.0	<1.0	77	<1.0	<1.0	<4.0	3.9	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.869(ND)
	7/13/2017	Background	799.0	19.19	-82.0	1.08	17.49	6.98	10	<0.250	190	430	320	110	<3.0	<1.0	81	<1.0	<1.0	<4.0	3.8	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.767(ND)
	10/31/2017	Background / D1	591.8	17.45	-77.6	0.85	3.17	6.89	13	<0.250	88	310	280	72	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	6/13/2018	Background / D2	756.4	18.28	-55.6	0.84	1.91	6.77	11	<0.250	240	480	370	130	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	11/26/2018	Background / D3	836.4	14.90	-27.0	0.51	0.38	6.74	17	<0.250	230	520	420	120	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	2/5/2019	Background	845.6	15.22	-23.7	0.41	0.71	6.72	15	0.272	200	480	450	120	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	5/28/2019	Background / D4	861.1	18.31	-59.1	0.60	3.71	6.9	10	<0.250	190	(NA)	280	110	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	7/23/2019		806.9	18.66	-44.9	0.81	1.34	(NA)	(NA)	(NA)	(NA)	480	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	8/28/2019	Background / D5	848.4	18.49	-42.2	0.64	0.82	6.8	16	<0.250	190	480	410	110	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	11/4/2019	Background	729.9	18.03	-55.8	0.77	2.65	6.8	3.2	<0.250	15	440	420	99	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	2/18/2020	Background / D6	871.7	14.05	-45.2	0.81	0.88	6.8	15	<0.250	210	(NA)	400	110	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	3/30/2020		750.4	15.84	-49.7	0.62	2.90	(NA)	(NA)	(NA)	(NA)	450	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	7/21/2020	Background / D7	816.5	18.35	-102.9	4.37	5.36	6.8	14	<0.250	210	470	330	110	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	10/20/2020	Background	886.3	16.27	-70.2	8.15	3.72	6.9	15	<0.250	220	590	360	120	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8
	4/16/2021	Detection 8	837.4	15.79	-11.1	7.27	2.84	6.9	10	<0.250	240	510	370	120	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	11/1/2021	Detection 9	790.8	12.79	-25.5	7.62	0.50	6.90	13	<0.250	170	490	330	94	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	8/3/2022	Detection 10	758.3	17.88	-83.7	0.59	11.66	6.82	12	<0.250	210	(NA)	390	110	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	9/12/2022		882.5	17.00	-85.4	0.41	3.12	(NA)	(NA)	(NA)	(NA)	510	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	11/1/2022	Detection 11	802.2	16.74	-73.0	0.54	4.59	(NA)	13	<0.250	250	(NA)	420	130	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	12/13/2022		801.3	16.47	-77.4	0.51	1.27	6.81	(NA)	(NA)	(NA)	490	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	4/18/2023	Detection 12	619.6	16.65	-31.1	0.52	4.55	6.85	13	<0.250	210	500	340	120	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	10/11/2023	Detection 13	810.8	17.30	-58.8	0.64	0.3	6.83	15	<0.250	172	435	405	106	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	4/24/2024	Detection 14	778.5	17.46	845.7	0.56	34.70	6.79	14	0.27	171	475	312	106 "S"	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	

NOTES:

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- Less than (<) symbol denotes concentration not detected at or above reportable limits.
- (ND) denotes Radium 226 and 228 (combined) concentration not detected above minimum detectable concentration.
- (NA) denotes analysis not conducted, or not available at time of report.
- Background monitoring per USEPA 40 CFR 257.93.
- Detection monitoring per USEPA 40 CFR 257.94.
- Assessment monitoring per USEPA 40 CFR 257.95.
- Additional background sampling based on recommendations in Alternate Source Demonstration dated September 26, 2018 (see Gredell Engineering, 2019).
- Background updated in 2023 to include additional data through December 2022 except as noted in note 10.

10. Data flagged for outlier removal or trend elimination indicated as shown below:

4.5 - Value identified by Sanitas for Groundwater as an outlier.

~~120~~ - Value restricted from data set to eliminate significant trend.

11. Data Qualifiers

H – Reanalyzed outside hold time

J – Analyte detected below quantitation limits

S – Spike Recovery outside recovery limits

5-15-2024 rev 11:00

Appendix 3

Prepared by: KAE

Checked by: MCC

**Sikeston Board of Municipal Utilities
Sikeston Power Station
Bottom Ash Pond Scott County, Missouri
CCR Groundwater Data Base**

Well ID	Date	Monitoring Purpose	Field Parameters					Appendix III Monitoring Constituents (Detection)								Appendix IV Monitoring Constituents (Assessment)													
			Spec. Cond. μmhos/cm	Temp. °C	ORP mV	D.O. mg/L	Turbidity NTU	pH S.U.	Chloride mg/L	Fluoride mg/L	Sulfate mg/L	TDS mg/L	Boron ug/L	Calcium mg/L	Antimony ug/L	Arsenic ug/L	Barium ug/L	Beryllium ug/L	Cadmium ug/L	Chromium ug/L	Cobalt ug/L	Lead ug/L	Lithium ug/L	Mercury ug/L	Molybdenum ug/L	Selenium ug/L	Thallium ug/L	Radium 226 and 228 (Combined) pCi/L	
								None	4.0	None	None	None	None	6	10	2000	4	5	100	6	15	40	2	100	50	2	5		
MW-8 (DG)	5/18/2017	Background	662.5	17.58	-89.4	0.29	2.39	7.16	46	<0.250	100	340	400	<3.0	<1.0	86	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	1.067		
	6/9/2017	Background	678.2	17.90	-108.5	0.31	0.47	7.16	43	<0.250	110	380	520	<3.0	<1.0	86	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.839(ND)		
	7/13/2017	Background	661.5	18.57	-107.1	0.23	1.20	7.25	36	<0.250	89	320	430	<3.0	<1.0	74	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	1.034(ND)		
	8/3/2017	Background	665.7	19.06	-108.4	0.24	0.98	7.15	37	<0.250	89	330	490	<3.0	<1.0	74	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.681(ND)		
	8/15/2017	Background	594.9	18.56	-88.7	0.38	0.99	7.16	36	<0.250	83	320	530	<3.0	<1.0	68	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.906(ND)		
	8/30/2017	Background	644.2	18.62	-91.3	0.29	1.18	7.15	41	<0.250	96	290	510	<3.0	<1.0	75	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.805(ND)		
	9/14/2017	Background	707.9	18.52	-90.1	0.48	0.67	7.13	53	<0.250 H	110	370	510	<3.0	<1.0	77	<1.0	<1.0	<4.0	<2.0	<1.0	12	<0.20	<1.0	<1.0	<1.0	0.314(ND)		
	9/27/2017	Background	764.0	19.11	-89.6	0.30	0.58	7.05	50	<0.250	120	420	480	<3.0	<1.0	80	<1.0	<1.0	<4.0	<2.0	<1.0	<10	<0.20	<1.0	<1.0	<1.0	0.594(ND)		
	10/31/2017	Background / D1	698.1	17.99	-96.3	0.38	0.94	7.09	45	<0.250	110	380	540	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	6/13/2018	Background / D2	788.8	18.34	-99.1	0.23	4.80	7.11	65	<0.250	(NA)	430	520	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	7/10/2018		899.4	18.52	-94.2	0.35	2.69	(NA)	(NA)	(NA)	150	(NA)	(NA)	120	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	11/26/2018	Background / D3	662.1	15.08	-77.6	0.35	2.88	7.17	45	<0.250	100	320	500	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8		
	2/5/2019	Background	839.7	14.72	-76.0	0.30	2.66	7.14	71	0.26	140	390	550	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8		
	5/28/2019	Background / D4	836.6	18.25	-90.6	0.29	4.89	7.1	53	<0.250	130	(NA)	540	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8		
	7/23/2019		819.5	19.34	-90.7	0.30	1.39	(NA)	(NA)	(NA)	(NA)	420	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	8/28/2019	Background / D5	769.1	19.38	-90.0	0.25	1.25	7.1	55	<0.250	110	360	460	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8		
	11/4/2019	Background	729.8	18.39	-80.0	0.29	0.86	7.1	2.0	<0.250	4.5	400	480	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8		
	2/18/2020	Background / D6	747.9	13.49	-75.7	0.29	0.69	7.2	53	<0.250	110	(NA)	480	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8		
	3/30/2020		840.0	15.71	-82.4	0.20	7.48	(NA)	(NA)	(NA)	(NA)	480	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	7/21/2020	Background / D7	673.7	19.33	-130.8	2.91	3.56	7.1	50	<0.250	100	420	470	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8		
	10/20/2020	Background	794.1	17.14	-83.8	3.59	0.88	7.2	56	<0.250	130	460	510	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8	Note 8		
	4/16/2021	Detection 8	758.6	15.85	-44.7	3.47	5.16	7.2	51	<0.250	130	400	460	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	11/1/2021	Detection 9	676.9	14.15	-45.1	0.42	0.71	7.16	45	0.258	94	360	430	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	8/3/2022	Detection 10	752.0	19.27	-110.8	0.18	11.32	7.08	56	<0.250	140	490	420	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	11/1/2022	Detection 11	776.1	18.65	-107.5	0.19	3.20	(NA)	51	<0.250	130	500	440	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	12/13/2022		791.3	16.36	-102.9	0.21	3.01	7.05	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	4/18/2023	Detection 12	535.2	16.81	-78.9	0.17	5.80	(NA)	44	<0.250	110	440	420	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	5/23/2023		650.7	17.53	-56.2	0.19	1.73	7.14	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	10/11/2023	Detection 13	750.3	18.07	-94.9	0.41	0.72	7.07	44	<0.250	102	455	423	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	4/24/2024	Detection 14	648.7	17.10	869.5	0.36	3.30	7.13	34	<0.25	91	365	355	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)			

NOTES:

- All data transcribed from analytical lab data sheets or field notes.
- Less than (<) symbol denotes concentration not detected at or above reportable limits.
- (ND) denotes Radium 226 and 228 (combined) concentration not detected above minimum detectable concentration.
- (NA) denotes analysis not conducted, or not available at time of report.
- Background monitoring per USEPA 40 CFR 257.93.
- Detection monitoring per USEPA 40 CFR 257.94.
- Assessment monitoring per USEPA 40 CFR 257.95.
- Additional background sampling based on recommendations in Alternate Source Demonstration dated September 26, 2018 (see Gredell Engineering, 2019).
- Background updated in 2023 to include additional data through December 2022 except as noted in note 10.

10. Data flagged for outlier removal or trend elimination indicated as shown below:

4.5 - Value identified by Sanitas for Groundwater as an outlier.
~~120~~ - Value restricted from data set to eliminate significant trend.

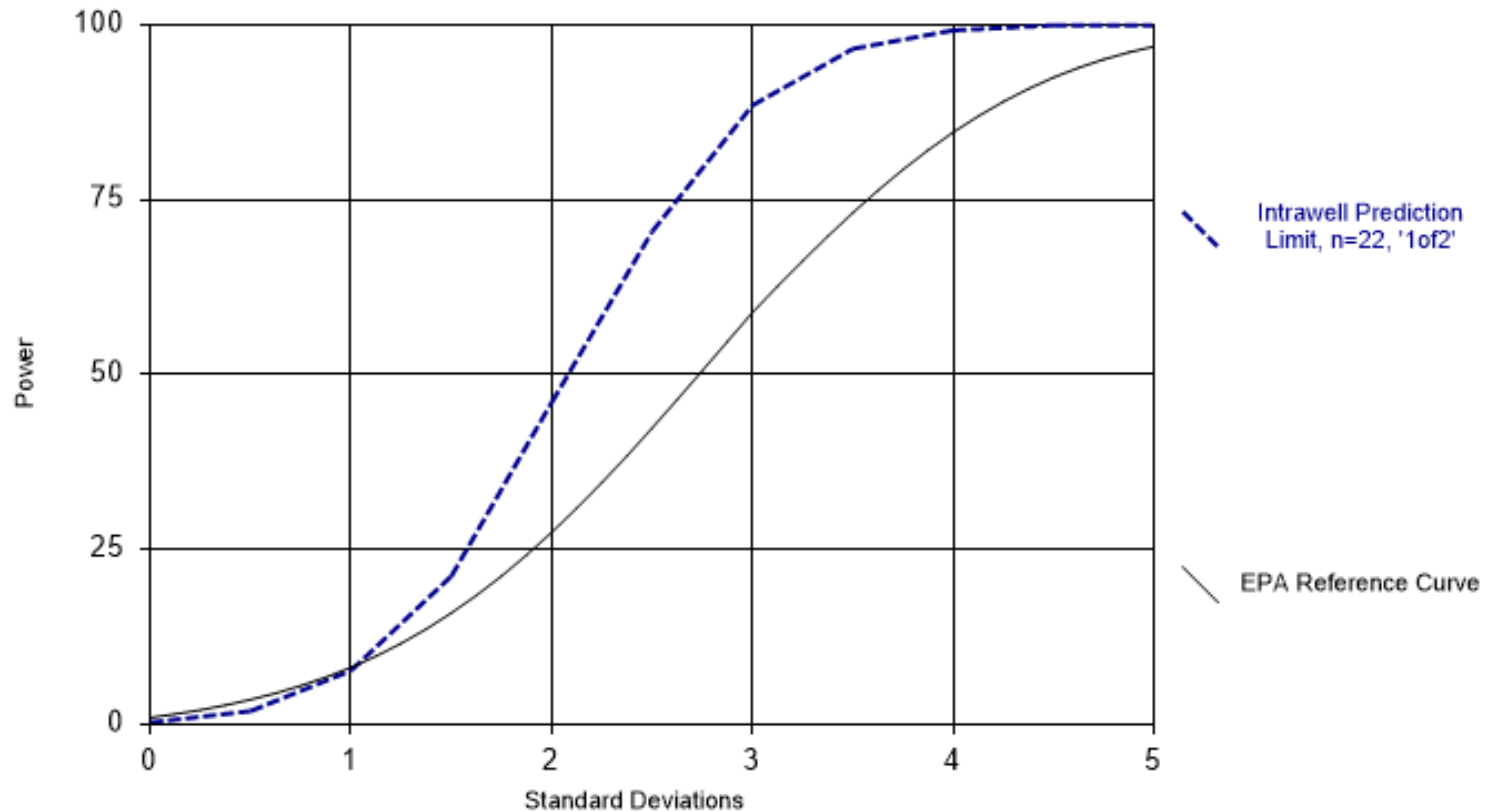
11. Data Qualifiers

- H – Reanalyzed outside hold time
- J – Analyte detected below quantitation limits
- S – Spike Recovery outside recovery limits

Appendix 4

Statistical Power Curve

Power Curve



Kappa = 2.031, based on 5 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

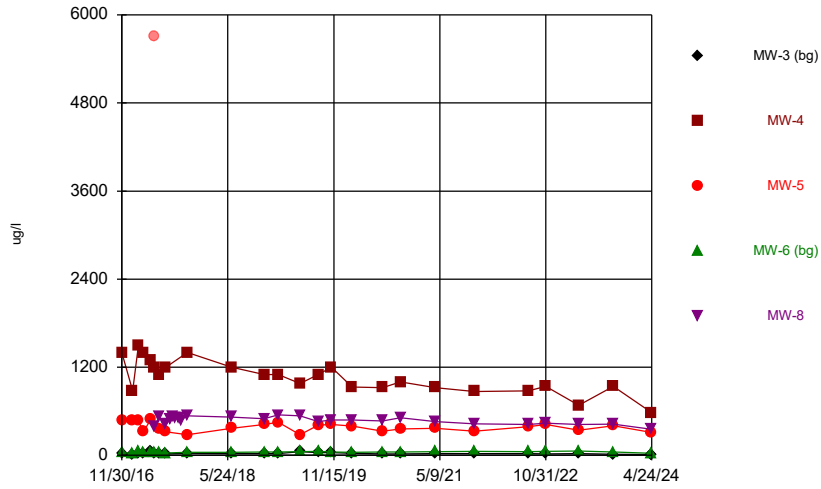
Analysis Run 1/13/2025 7:49 AM View: MW-8 Ca, TDS

SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Appendix 5

Time Series Plots

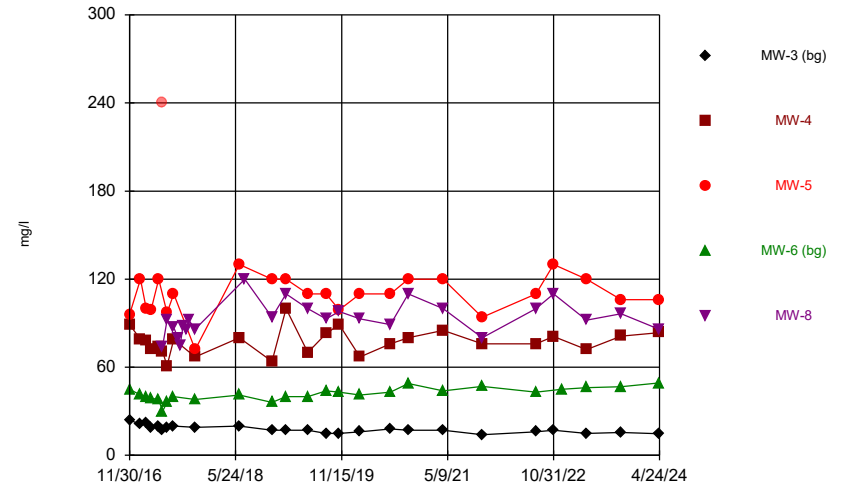
Boron



Time Series Analysis Run 1/13/2025 8:08 AM

SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

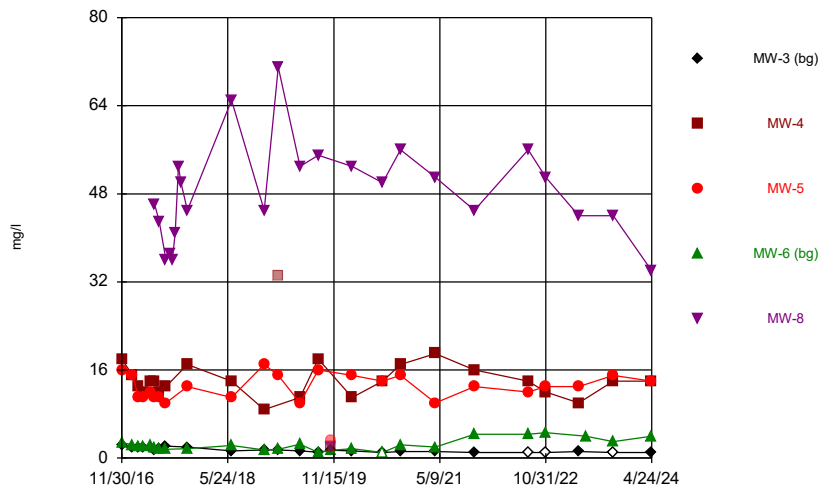
Calcium



Time Series Analysis Run 1/13/2025 8:08 AM

SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

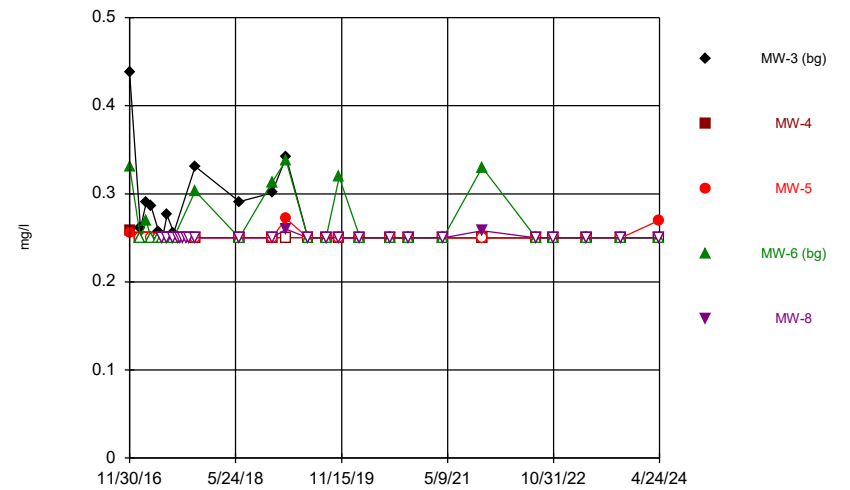
Chloride



Time Series Analysis Run 1/13/2025 8:08 AM

SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

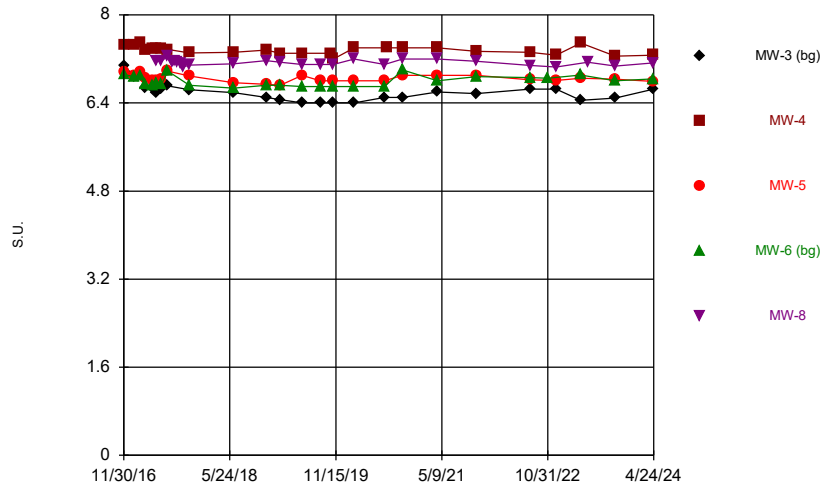
Fluoride



Time Series Analysis Run 1/13/2025 8:08 AM

SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

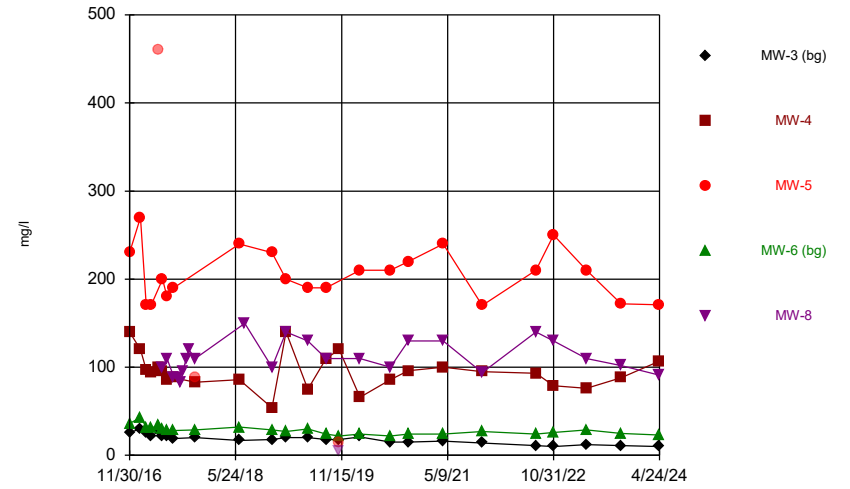
pH



Time Series Analysis Run 1/13/2025 8:08 AM

SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

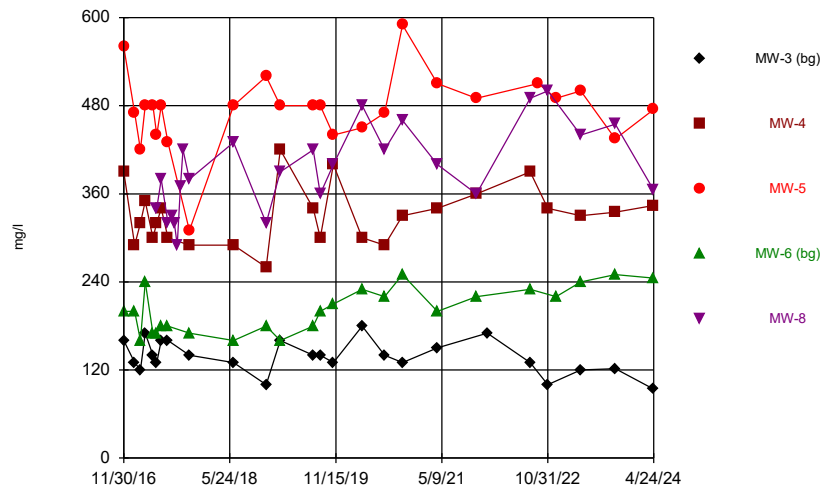
Sulfate



Time Series Analysis Run 1/13/2025 8:08 AM

SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Total Dissolved Solids



Time Series Analysis Run 1/13/2025 8:08 AM

SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Appendix 6

Box and Whiskers Plots

Box & Whiskers Plot

SBMU-Sikeston Power Station

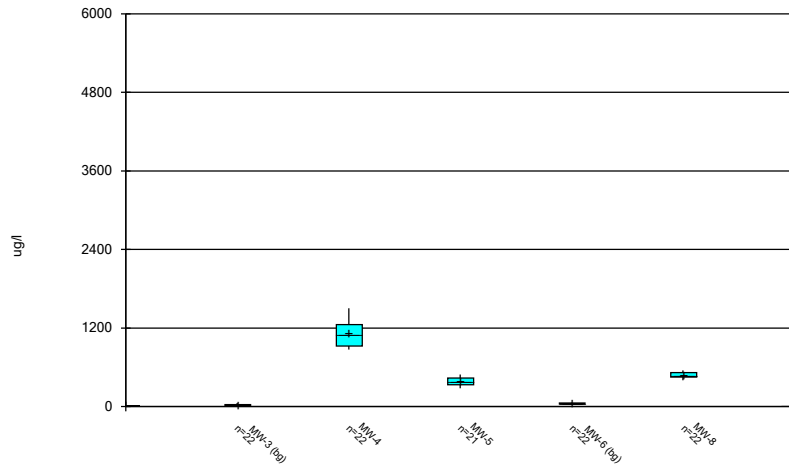
Client: GREDELL Engineering

Data: SBMU-SPS EDD File 09-28-17

Printed 1/13/2025, 8:07 AM

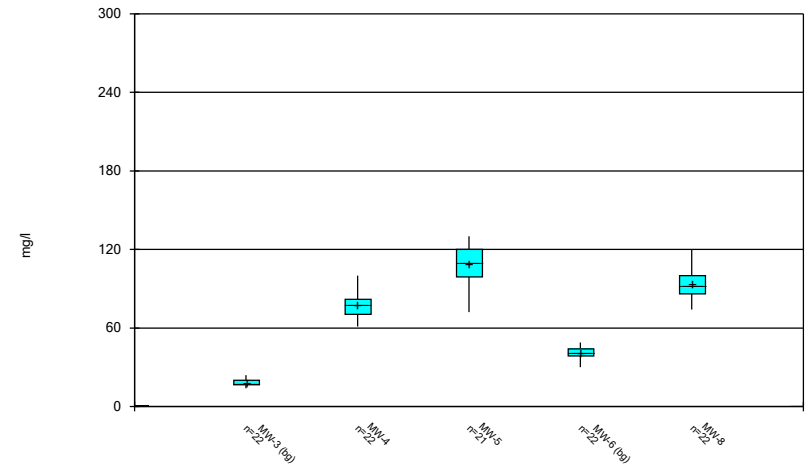
<u>Constituent</u>	<u>Well</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Std. Err.</u>	<u>Median</u>	<u>Min.</u>	<u>Max.</u>	<u>%NDs</u>
Boron (ug/l)	MW-3 (bg)	22	26.18	10.28	2.191	23	12	54	0
Boron (ug/l)	MW-4	22	1115	195	41.58	1100	870	1500	0
Boron (ug/l)	MW-5	21	387.6	63.79	13.92	390	280	490	0
Boron (ug/l)	MW-6 (bg)	22	44.23	8.646	1.843	45	27	59	0
Boron (ug/l)	MW-8	22	485	42.51	9.063	485	400	550	0
Calcium (mg/l)	MW-3 (bg)	22	18.05	2.439	0.5201	17	14	24	0
Calcium (mg/l)	MW-4	22	77.14	9.015	1.922	77	61	100	0
Calcium (mg/l)	MW-5	21	109.4	13.78	3.008	110	72	130	0
Calcium (mg/l)	MW-6 (bg)	22	41.05	4.134	0.8815	41	30	49	0
Calcium (mg/l)	MW-8	22	93.5	11.88	2.533	92.5	74	120	0
Chloride (mg/l)	MW-3 (bg)	22	1.509	0.4162	0.08874	1.45	1	2.3	9.091
Chloride (mg/l)	MW-4	20	14.14	2.701	0.604	14	8.8	19	0
Chloride (mg/l)	MW-5	21	12.9	2.234	0.4875	13	10	17	0
Chloride (mg/l)	MW-6 (bg)	22	2.232	0.9954	0.2122	2.05	1	4.6	4.545
Chloride (mg/l)	MW-8	21	49.43	8.852	1.932	50	36	71	0
Fluoride (mg/l)	MW-3 (bg)	22	0.2763	0.04535	0.009669	0.253	0.25	0.438	50
Fluoride (mg/l)	MW-4	22	0.2504	0.001919	0.0004091	0.25	0.25	0.259	95.45
Fluoride (mg/l)	MW-5	22	0.2512	0.00476	0.001015	0.25	0.25	0.272	90.91
Fluoride (mg/l)	MW-6 (bg)	22	0.2706	0.03329	0.007098	0.25	0.25	0.338	68.18
Fluoride (mg/l)	MW-8	22	0.2508	0.002666	0.0005684	0.25	0.25	0.26	90.91
pH (S.U.)	MW-3 (bg)	22	6.612	0.1773	0.0378	6.595	6.4	7.08	0
pH (S.U.)	MW-4	22	7.359	0.06668	0.01422	7.37	7.2	7.49	0
pH (S.U.)	MW-5	22	6.848	0.07322	0.01561	6.82	6.72	6.98	0
pH (S.U.)	MW-6 (bg)	22	6.787	0.1006	0.02145	6.73	6.67	7	0
pH (S.U.)	MW-8	22	7.137	0.05121	0.01092	7.145	7.05	7.25	0
Sulfate (mg/l)	MW-3 (bg)	22	19.36	5.067	1.08	19.5	10	30	0
Sulfate (mg/l)	MW-4	22	95.59	20.91	4.458	94.5	54	140	0
Sulfate (mg/l)	MW-5	19	208.9	28.85	6.618	210	170	270	0
Sulfate (mg/l)	MW-6 (bg)	22	28.5	5.021	1.071	28.5	22	43	0
Sulfate (mg/l)	MW-8	21	112.9	19.09	4.165	110	83	150	0
Total Dissolved Solids (mg/l)	MW-3 (bg)	22	141.4	21	4.477	140	100	180	0
Total Dissolved Solids (mg/l)	MW-4	22	330	41.98	8.949	325	260	420	0
Total Dissolved Solids (mg/l)	MW-5	22	475.5	53.87	11.49	480	310	590	0
Total Dissolved Solids (mg/l)	MW-6 (bg)	22	196.8	27.67	5.899	200	160	250	0
Total Dissolved Solids (mg/l)	MW-8	22	390	58.88	12.55	385	290	500	0

Boron



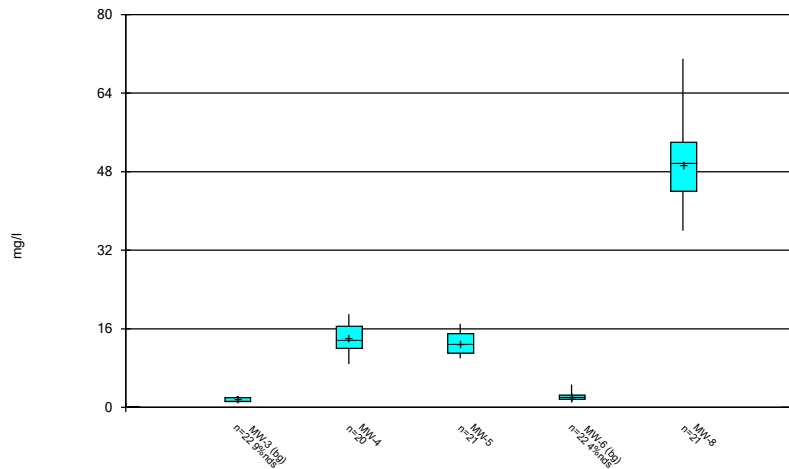
Box & Whiskers Plot Analysis Run 1/13/2025 8:06 AM
 SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Calcium



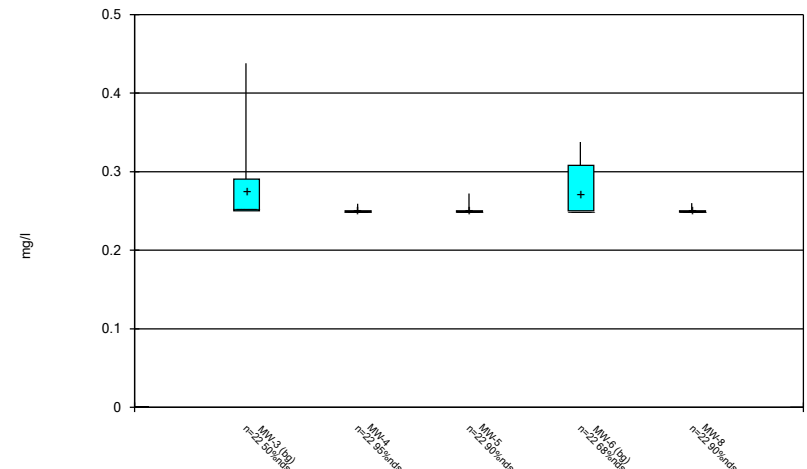
Box & Whiskers Plot Analysis Run 1/13/2025 8:06 AM
 SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Chloride



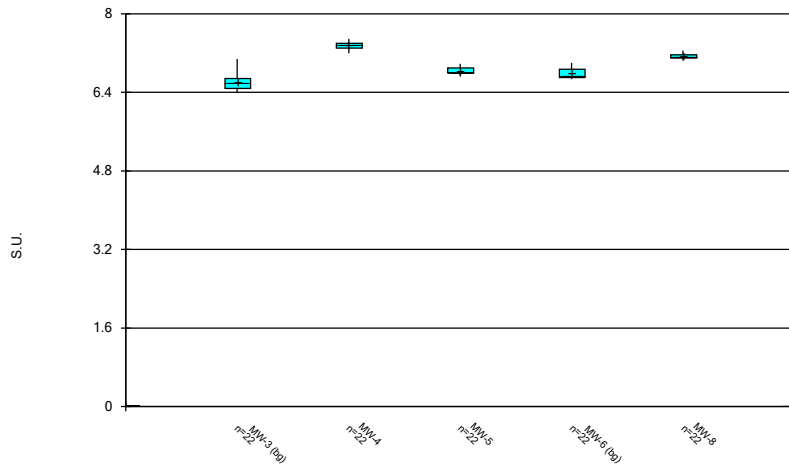
Box & Whiskers Plot Analysis Run 1/13/2025 8:06 AM
 SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Fluoride



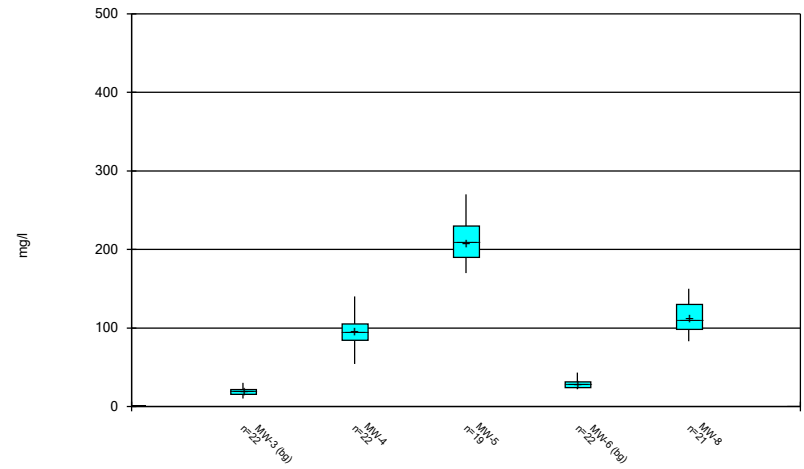
Box & Whiskers Plot Analysis Run 1/13/2025 8:06 AM
 SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

pH



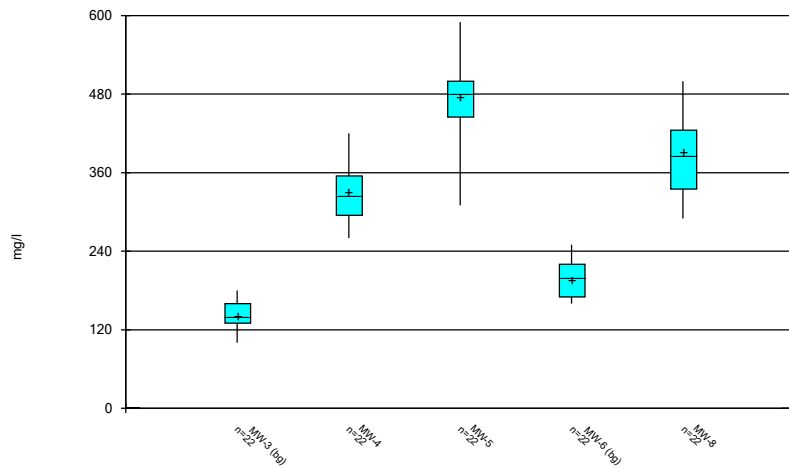
Box & Whiskers Plot Analysis Run 1/13/2025 8:06 AM
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Sulfate



Box & Whiskers Plot Analysis Run 1/13/2025 8:06 AM
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Total Dissolved Solids



Box & Whiskers Plot Analysis Run 1/13/2025 8:06 AM
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Appendix 7

Prediction Limit Charts

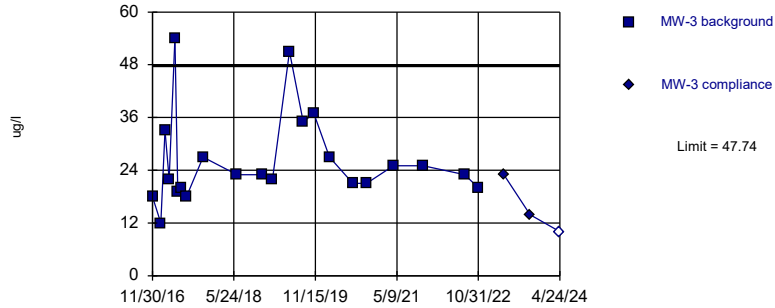
Prediction Limit

SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17 Printed 5/14/2024, 2:33 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Boron (ug/l)	MW-3	47.74	n/a	4/24/2024	10ND	No	22	0	sqrt(x)	0.001504	Param Intra 1 of 2
Boron (ug/l)	MW-4	1511	n/a	4/24/2024	581	No	22	0	No	0.001504	Param Intra 1 of 2
Boron (ug/l)	MW-5	518	n/a	4/24/2024	312	No	21	0	No	0.001504	Param Intra 1 of 2
Boron (ug/l)	MW-8	571.3	n/a	4/24/2024	355	No	22	0	No	0.001504	Param Intra 1 of 2
Calcium (mg/l)	MW-3	23	n/a	4/24/2024	14.8	No	22	0	No	0.001504	Param Intra 1 of 2
Calcium (mg/l)	MW-4	95.44	n/a	4/24/2024	83.6	No	22	0	No	0.001504	Param Intra 1 of 2
Calcium (mg/l)	MW-5	137.6	n/a	4/24/2024	106	No	21	0	No	0.001504	Param Intra 1 of 2
Chloride (mg/l)	MW-3	2.354	n/a	4/24/2024	1J	No	22	9.091	No	0.001504	Param Intra 1 of 2
Chloride (mg/l)	MW-4	19.7	n/a	4/24/2024	14	No	20	0	No	0.001504	Param Intra 1 of 2
Chloride (mg/l)	MW-5	17.47	n/a	4/24/2024	14	No	21	0	No	0.001504	Param Intra 1 of 2
Chloride (mg/l)	MW-6	4.382	n/a	4/24/2024	4	No	22	4.545	sqrt(x)	0.001504	Param Intra 1 of 2
Chloride (mg/l)	MW-8	67.53	n/a	4/24/2024	34	No	21	0	No	0.001504	Param Intra 1 of 2
Fluoride (mg/l)	MW-3	0.438	n/a	4/24/2024	0.25ND	No	22	50	n/a	0.003707	NP Intra (normality) ...
Fluoride (mg/l)	MW-4	0.259	n/a	4/24/2024	0.25ND	No	22	95.45	n/a	0.003707	NP Intra (NDs) 1 of 2
Fluoride (mg/l)	MW-5	0.272	n/a	4/24/2024	0.27	No	22	90.91	n/a	0.003707	NP Intra (NDs) 1 of 2
Fluoride (mg/l)	MW-6	0.338	n/a	4/24/2024	0.25ND	No	22	68.18	n/a	0.003707	NP Intra (NDs) 1 of 2
Fluoride (mg/l)	MW-8	0.26	n/a	4/24/2024	0.25ND	No	22	90.91	n/a	0.003707	NP Intra (NDs) 1 of 2
pH (S.U.)	MW-4	7.495	7.224	4/24/2024	7.27	No	22	0	No	0.000752	Param Intra 1 of 2
pH (S.U.)	MW-5	6.996	6.699	4/24/2024	6.79	No	22	0	No	0.000752	Param Intra 1 of 2
pH (S.U.)	MW-6	7	6.67	4/24/2024	6.84	No	22	0	n/a	0.007415	NP Intra (normality) ...
pH (S.U.)	MW-8	7.241	7.033	4/24/2024	7.13	No	22	0	No	0.000752	Param Intra 1 of 2
Sulfate (mg/l)	MW-3	29.65	n/a	4/24/2024	10	No	22	0	No	0.001504	Param Intra 1 of 2
Sulfate (mg/l)	MW-4	138.1	n/a	4/24/2024	107	No	22	0	No	0.001504	Param Intra 1 of 2
Sulfate (mg/l)	MW-5	269	n/a	4/24/2024	171	No	19	0	No	0.001504	Param Intra 1 of 2
Sulfate (mg/l)	MW-6	38.7	n/a	4/24/2024	23	No	22	0	No	0.001504	Param Intra 1 of 2
Sulfate (mg/l)	MW-8	151.9	n/a	4/24/2024	91	No	21	0	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/l)	MW-3	184	n/a	4/24/2024	94	No	22	0	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/l)	MW-4	415.2	n/a	4/24/2024	344	No	22	0	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/l)	MW-5	584.9	n/a	4/24/2024	475	No	22	0	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/l)	MW-6	253	n/a	4/24/2024	245	No	22	0	No	0.001504	Param Intra 1 of 2

Within Limit

Boron
Intrawell Parametric

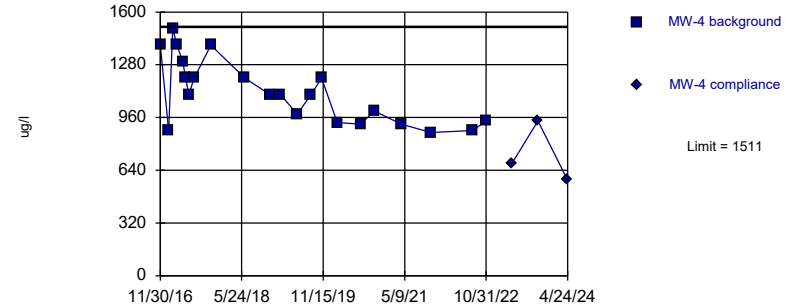


Background Data Summary (based on square root transformation): Mean=5.037, Std. Dev.=0.922, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8792, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:31 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

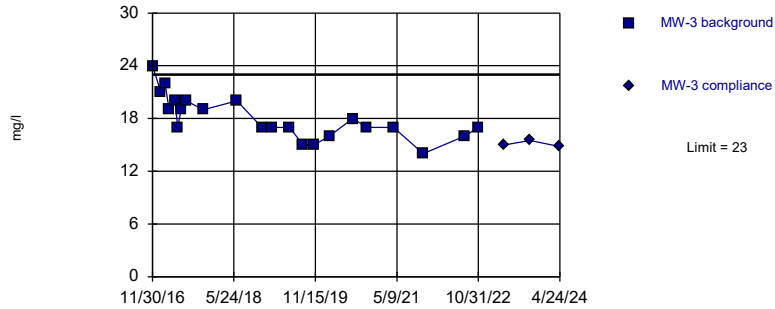
Within Limit

Boron
Intrawell Parametric



Within Limit

Calcium Intrawell Parametric



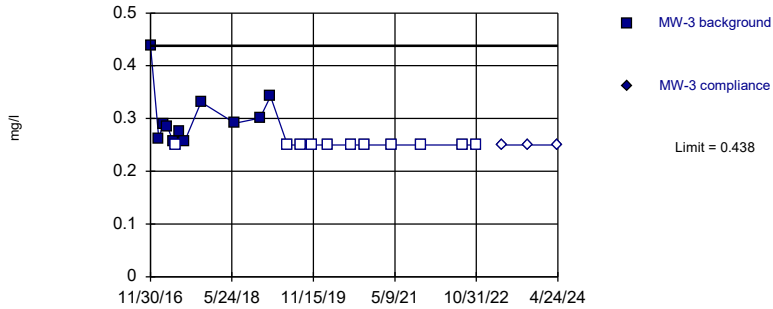
Background Data Summary: Mean=18.05, Std. Dev.=2.439, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9506, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:31 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limit

Fluoride

Intrawell Non-parametric



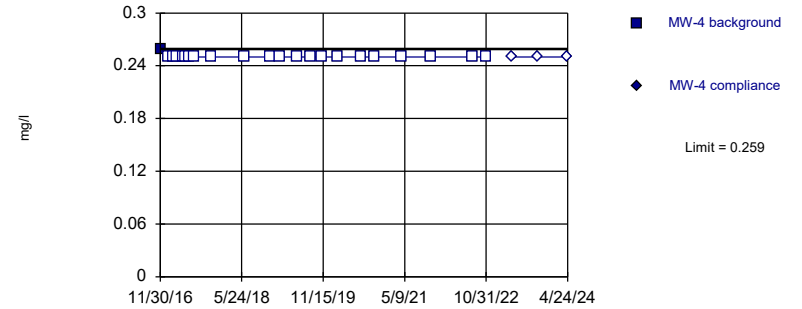
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 22 background values. 50% NDs. Well-constituent pair annual alpha = 0.007401. Individual comparison alpha = 0.003707 (1 of 2).

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limit

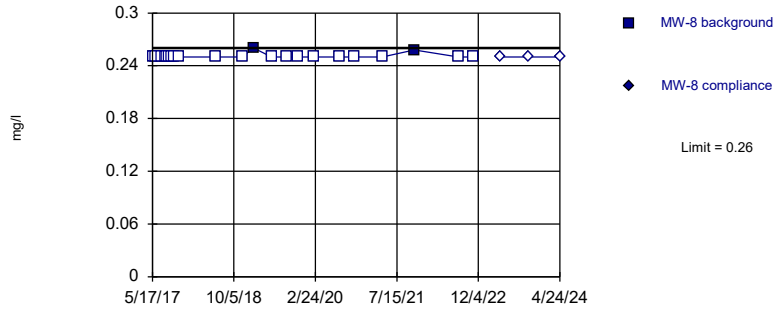
Fluoride

Intrawell Non-parametric



Within Limit

Fluoride Intrawell Non-parametric

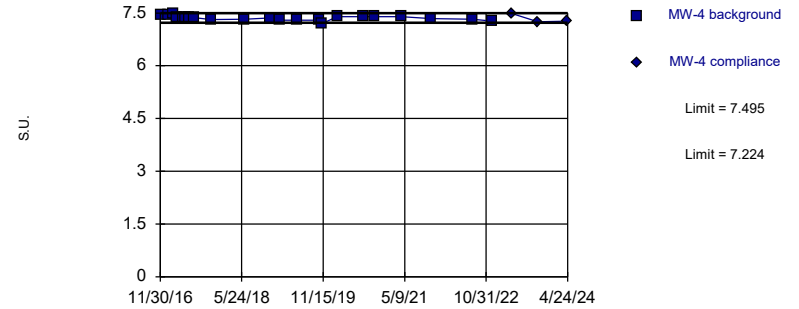


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 22 background values. 90.91% NDs. Well-constituent pair annual alpha = 0.007401. Individual comparison alpha = 0.003707 (1 of 2).

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limits

pH Intrawell Parametric

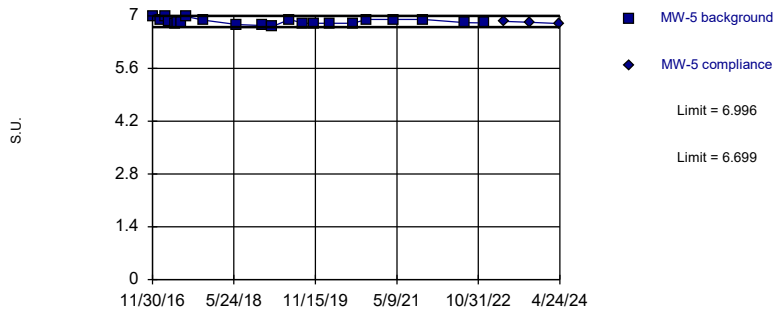


Background Data Summary: Mean=7.359, Std. Dev.=0.06668, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9718, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limits

pH Intrawell Parametric

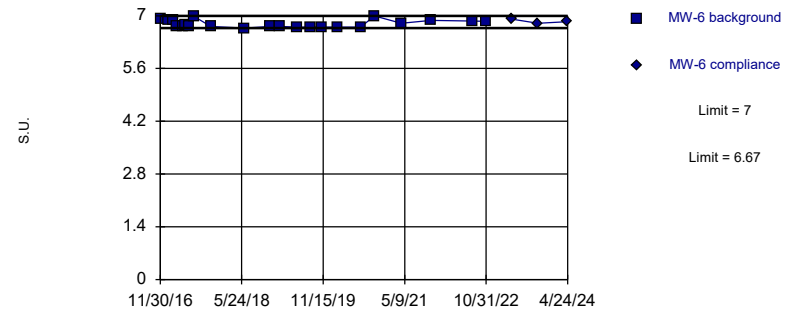


Background Data Summary: Mean=6.848, Std. Dev.=0.07322, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9291, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limits

pH Intrawell Non-parametric

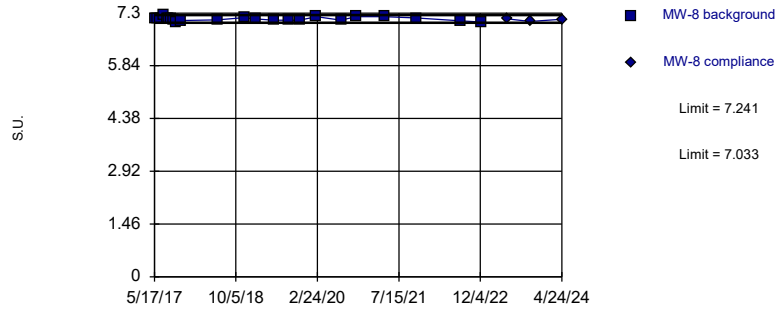


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 22 background values. Well-constituent pair annual alpha = 0.0148. Individual comparison alpha = 0.007415 (1 of 2).

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limits

pH
Intrawell Parametric

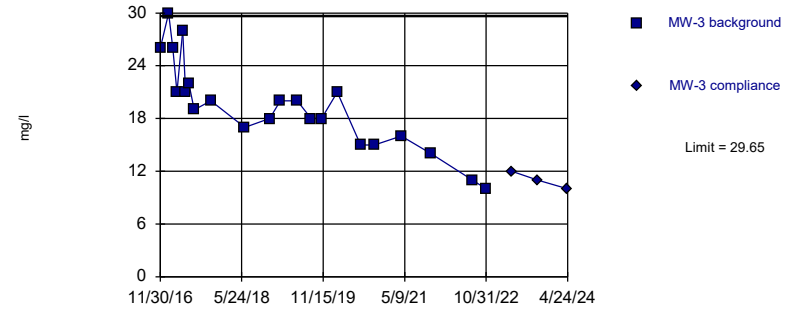


Background Data Summary: Mean=7.137, Std. Dev.=0.05121, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9651, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limit

Sulfate
Intrawell Parametric

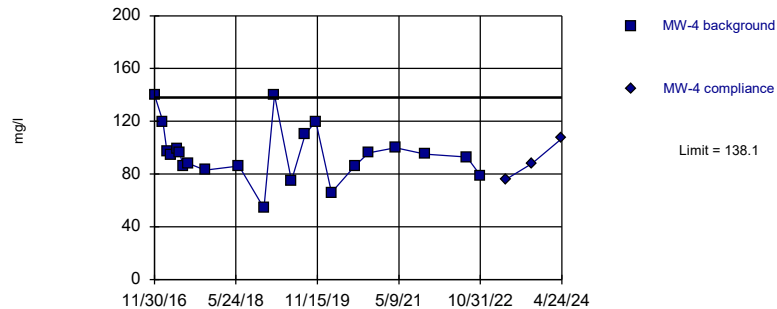


Background Data Summary: Mean=19.36, Std. Dev.=5.067, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9697, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limit

Sulfate
Intrawell Parametric

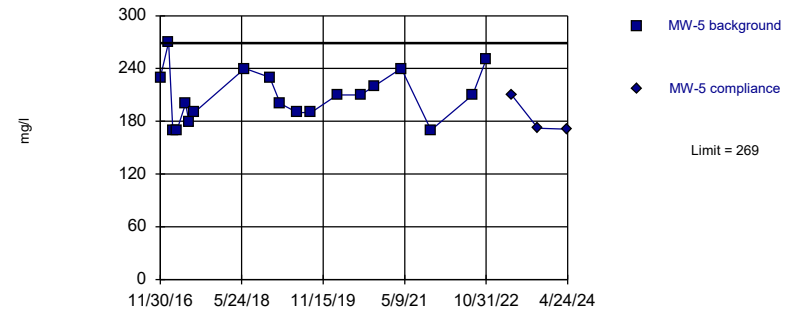


Background Data Summary: Mean=95.59, Std. Dev.=20.91, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9417, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limit

Sulfate
Intrawell Parametric

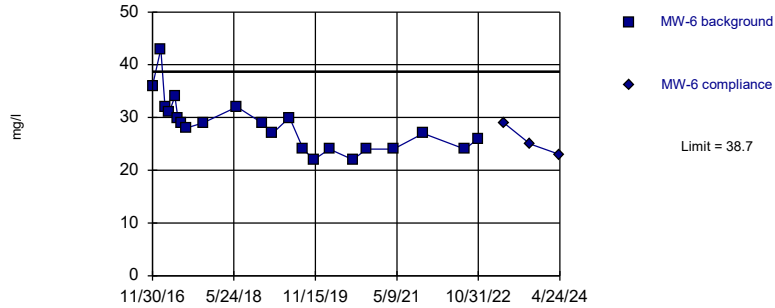


Background Data Summary: Mean=208.9, Std. Dev.=28.85, n=19. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9546, critical = 0.863. Kappa = 2.081 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limit

Sulfate
Intrawell Parametric

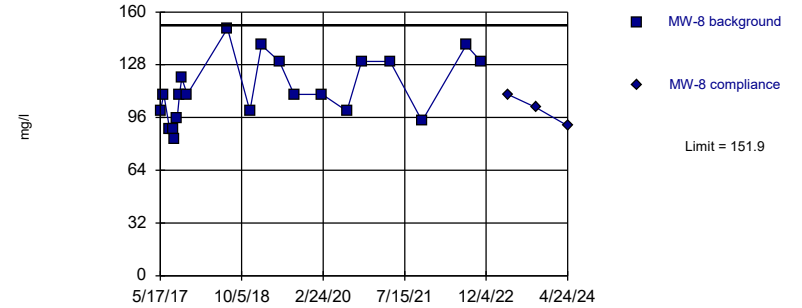


Background Data Summary: Mean=28.5, Std. Dev.=5.021, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9145, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

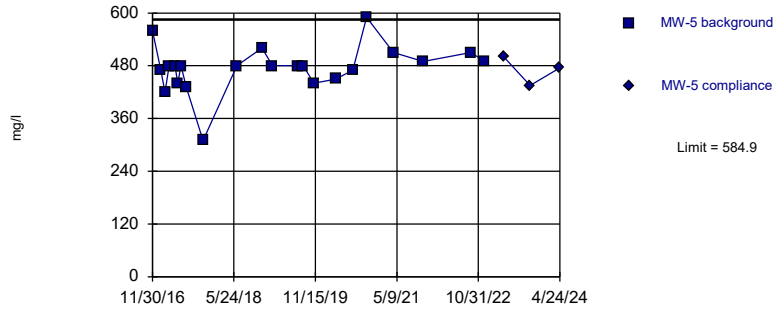
Within Limit

Sulfate
Intrawell Parametric



Within Limit

Total Dissolved Solids
Intrawell Parametric

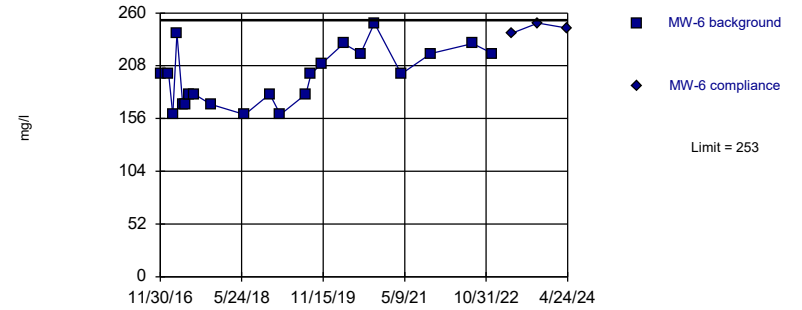


Background Data Summary: Mean=475.5, Std. Dev.=53.87, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8836, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Within Limit

Total Dissolved Solids
Intrawell Parametric



Background Data Summary: Mean=196.8, Std. Dev.=27.67, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9346, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/14/2024 2:32 PM View: Everything Minus Detrended Data
SBMU-Sikeston Power Station Client: GREDELL Engineering Data: SBMU-SPS EDD File 09-28-17

Prediction Limit

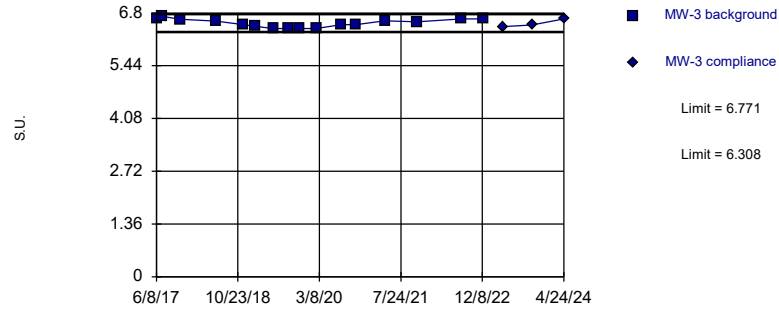
SBMU-Sikeston Power Station Data: SBMU-SPS EDD File 09-28-17 Printed 5/15/2024, 11:07 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Calcium (mg/l)	MW-8	120.6	n/a	4/24/2024	85.8	No	16	0	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/l)	MW-8	521.7	n/a	4/24/2024	365	No	16	0	No	0.001504	Param Intra 1 of 2
pH (S.U.)	MW-3	6.771	6.308	4/24/2024	6.65	No	16	0	No	0.000752	Param Intra 1 of 2
Boron (ug/l)	MW-6	60.06	n/a	4/24/2024	29.4	No	13	0	No	0.001504	Param Intra 1 of 2
Calcium (mg/l)	MW-6	50.19	n/a	4/24/2024	49.3	No	11	0	No	0.001504	Param Intra 1 of 2

Within Limits

pH

Intrawell Parametric



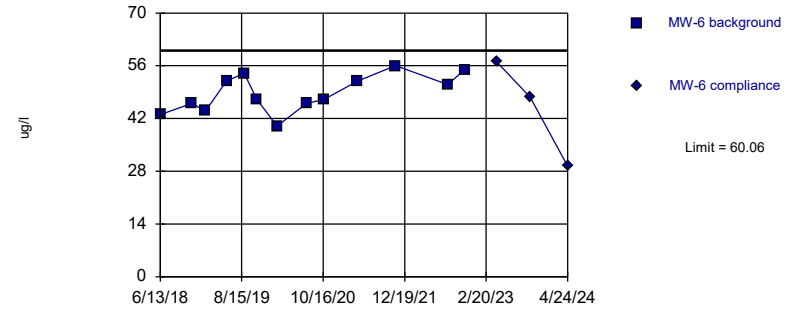
Background Data Summary: Mean=6.539, Std. Dev.=0.1077, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9034, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/15/2024 11:03 AM View: MW3 pH
SBMU-Sikeston Power Station Data: SBMU-SPS EDD File 09-28-17

Within Limit

Boron

Intrawell Parametric



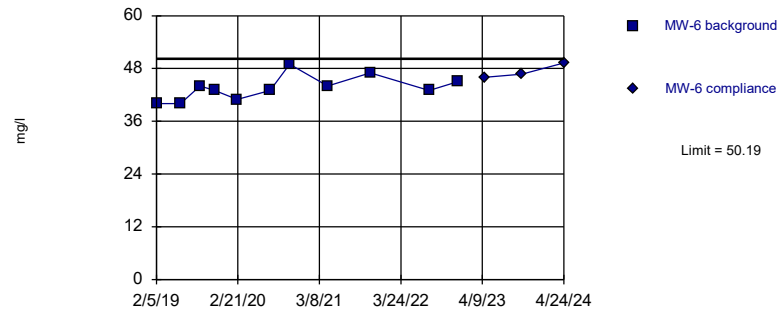
Background Data Summary: Mean=48.69, Std. Dev.=4.99, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9532, critical = 0.814. Kappa = 2.279 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/15/2024 11:04 AM View: MW-6 B
SBMU-Sikeston Power Station Data: SBMU-SPS EDD File 09-28-17

Within Limit

Calcium

Intrawell Parametric



Background Data Summary: Mean=43.55, Std. Dev.=2.77, n=11. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9367, critical = 0.792. Kappa = 2.4 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Prediction Limit Analysis Run 5/15/2024 11:06 AM View: MW-6 Ca
SBMU-Sikeston Power Station Data: SBMU-SPS EDD File 09-28-17

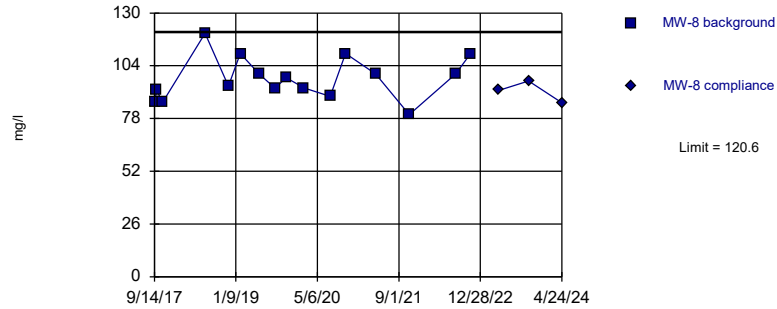
Prediction Limit

SBMU-Sikeston Power Station Data: SBMU-SPS EDD File 09-28-17 Printed 5/15/2024, 11:02 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Calcium (mg/l)	MW-8	120.6	n/a	4/24/2024	85.8	No	16	0	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/l)	MW-8	521.7	n/a	4/24/2024	365	No	16	0	No	0.001504	Param Intra 1 of 2

Within Limit

Calcium Intrawell Parametric



Prediction Limit

SBMU-Sikeston Power Station Data: SBMU-SPS EDD File 09-28-17 Printed 5/15/2024, 11:02 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Calcium (mg/l)	MW-8	120.6	n/a	4/24/2024	85.8	No	16	0	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/l)	MW-8	521.7	n/a	4/24/2024	365	No	16	0	No	0.001504	Param Intra 1 of 2