



REPORT

2017 ANNUAL GROUNDWATER MONITORING REPORT

Meramec Energy Center

St. Louis County, Missouri, USA



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Table of Contents

| | | |
|-----|---|---|
| 1.0 | INTRODUCTION..... | 2 |
| 2.0 | INSTALLATION OR DECOMMISSIONING OF MONITORING WELLS..... | 3 |
| 2.1 | Background Monitoring Well Locations..... | 3 |
| 2.2 | Downgradient Monitoring Well Locations..... | 3 |
| 3.0 | GROUNDWATER SAMPLING RESULTS AND DISCUSSION..... | 4 |
| 3.1 | Baseline Sampling Events (Background Events)..... | 4 |
| 3.2 | Detection Monitoring | 4 |
| 3.3 | Groundwater Elevation, Flow Rate and Direction | 4 |
| 4.0 | STATUS OF THE GROUNDWATER MONITORING PROGRAM | 5 |
| 4.1 | Sampling Issues and Monitoring Well Decommissioning | 5 |
| 5.0 | ACTIVITIES PLANNED FOR 2018..... | 7 |
| 6.0 | CLOSING | 8 |

List of Tables

| | |
|----------|--|
| Table 1 | Monitoring Well Construction Details |
| Table 2 | Baseline Sampling Event 1 Results |
| Table 3 | Baseline Sampling Event 2 Results |
| Table 4 | Baseline Sampling Event 3 Results |
| Table 5 | Baseline Sampling Event 4 Results |
| Table 6 | Baseline Sampling Event 5 Results |
| Table 7 | Baseline Sampling Event 6 Results |
| Table 8 | Baseline Sampling Event 7 Results |
| Table 9 | Baseline Sampling Event 8 Results |
| Table 10 | November 2017 Detection Monitoring Results |
| Table 11 | Summary of Groundwater Sampling Dates |

List of Figures

| | |
|----------|--|
| Figure 1 | Site Location Aerial Map and Monitoring Well Locations |
|----------|--|

List of Appendices

| | |
|------------|---|
| Appendix A | CCR Monitoring Well Construction Diagrams |
| Appendix B | Laboratory Analytical Data |
| Appendix C | Potentiometric Surface Maps |



1.0 INTRODUCTION

This annual report was developed to meet the requirements of United States Environmental Protection Agency (USEPA) 40 CFR Part 257 “Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule” (the CCR Rule). The CCR Rule requires owners or operators of existing CCR units to produce an Annual Groundwater Monitoring and Corrective Action Report (Annual Report) each year (§§ 257.90(e)). Ameren Missouri (Ameren) has determined that the CCR Surface Impoundments at the Meramec Energy Center (MEC) are subject to the requirements of the CCR Rule. This is the first Annual Report for the Meramec Surface Impoundments and describes CCR Rule groundwater monitoring activities through December 31, 2017.

A groundwater monitoring well network was designed and installed for the Meramec Surface Impoundments to meet the requirements of the CCR Rule. The well network consists of two background monitoring wells and eight downgradient monitoring wells that were installed in January and April 2016. Eight independent baseline sampling events were completed using this well network to sample and test for all Appendix III and Appendix IV parameters, as required by the CCR Rule. The first Detection Monitoring sampling event was completed November 6, 2017. Statistical analysis of the Detection Monitoring data will be performed in 2018. The Meramec Surface Impoundments will continue Detection Monitoring on a semi-annual basis and, in accordance with the CCR Rule, statistical analysis of sample results will determine the need for Assessment Monitoring or any efforts related to Assessment of Corrective Measures or potential Corrective Action in the future. As of December 31, 2017, the Meramec Surface Impoundments groundwater monitoring program status remains in Detection Monitoring.



2.0 INSTALLATION OR DECOMMISSIONING OF MONITORING WELLS

In accordance with the CCR Rule, a groundwater monitoring system has been installed to monitor the Meramec Surface Impoundments. The groundwater monitoring system consists of ten monitoring wells screened in the uppermost aquifer (alluvial aquifer). Monitoring wells were installed by Cascade Drilling LP using roto-sonic drilling techniques under the direct supervision of a Golder Geologist or Engineer and were installed in accordance with Missouri Department of Natural Resources (MDNR) well construction rules (10 CSR 23-4.060 Construction Standards for Monitoring Wells). A summary of groundwater monitoring well construction details is provided in **Table 1** and **Appendix A**.

2.1 Background Monitoring Well Locations

Background monitoring wells for the Meramec Surface Impoundments consist of BMW-1 and BMW-2. The Rule (§257.91(a)(1)) requires that background groundwater monitoring wells “*Accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit.*” The groundwater flow direction observed in the alluvial aquifer is generally from the bluff area located northeast of the site toward the Mississippi and Meramec Rivers to the south and west, however, alluvial aquifer flow is locally influenced by water levels in the active surface impoundments without lining systems and the Mississippi and Meramec River levels.

As shown in **Figure 1**, the background monitoring wells BMW-1 and BMW-2 are located close to the bluff on the eastern side of the Facility. BMW-1 is located to the southeast of the Meramec Surface Impoundments and BMW-2 is located to the northeast of the Meramec Surface Impoundments. These wells provide background groundwater quality representative of upgradient groundwater that will pass through the Meramec Surface Impoundments.

2.2 Downgradient Monitoring Well Locations

Downgradient monitoring wells are located ringing the Meramec Surface Impoundments to monitor downgradient water quality. **Figure 1** shows that the downgradient well network consists of eight groundwater monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, and MW-8) around the Meramec Surface Impoundments at locations that are located as close to the waste boundary as practical.



3.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

3.1 Baseline Sampling Events (Background Events)

As required by the CCR Rule, eight baseline sampling events were completed prior to October 17, 2017. Groundwater sampling was completed by Golder in accordance with the MEC Groundwater Monitoring Plan (GMP). As required by the CCR Rule, baseline sampling was completed for all Appendix III and Appendix IV parameters. Groundwater sampling and field parameter results from the initial baseline sampling are provided in **Appendix B and Tables 2-9**.

3.2 Detection Monitoring

Detection Monitoring samples were collected from the groundwater monitoring wells on November 6, 2017. As required by the CCR Rule, testing was completed for all Appendix III analytes. Groundwater sampling and field parameter results from the November 2017 Detection Monitoring event are provided in **Appendix B and Table 10**. Statistical analyses to evaluate potential Statistically Significant Increases (SSI) over background in the November 2017 Detection Monitoring data were not completed in 2017. Results of the statistical evaluation will be included in the 2018 Annual Report.

3.3 Groundwater Elevation, Flow Rate and Direction

To meet the requirements of §257.93(c), water level measurements were taken at all monitoring wells prior to the start of groundwater purging and sampling. Static water levels were measured within a 24-hour period in each monitoring well using an electronic water level indicator.

Groundwater elevations were used to generate potentiometric surface maps included in **Appendix C**. As shown on the potentiometric surface maps, groundwater flow within the uppermost aquifer is dynamic and influenced by seasonal changes in the water level in the adjacent Mississippi and Meramec Rivers. Water flows into and out of the alluvial aquifer as a result of fluctuating river water levels that produce “bank recharge” and “bank discharge” conditions. Overall, based on potentiometric surface maps, a general flow direction from the northeast (bluffs) to the southwest (Mississippi and Meramec Rivers) under normal river conditions is expected. However, during periods of high river levels, groundwater flow can temporarily reverse in localized areas. During these times of high river stage and temporary flow direction changes, horizontal groundwater gradients generally decrease and little net movement of groundwater occurs.

Groundwater flow direction and gradient were estimated for the downgradient CCR monitoring wells using the USEPA’s On-line Tool for Site Assessment Calculation for Hydraulic Gradient (Magnitude and Direction) (USEPA, 2016). Results from this assessment indicate that while groundwater flow direction is variable, the overall net groundwater flow at the Meramec Surface Impoundments is from the bluffs towards the rivers. Horizontal gradients calculated by the program range from 0.001 to 0.003 feet/foot with an estimated net annual groundwater velocity of approximately 87 feet per year.



4.0 STATUS OF THE GROUNDWATER MONITORING PROGRAM

As required by the CCR Rule prior to the October 17, 2017 deadline, the following was completed; (1) a Groundwater Monitoring Well System was installed and certified by a Professional Engineer, (2) a Statistical Method Certification was prepared and certified by a Professional Engineer, and (3) a GMP was prepared recording the design, installation, development, sampling procedures, as well as statistical methods and placed in the owner's operating record. The first Detection Monitoring sampling event was completed on November 6, 2017. As required by the CCR Rule, **Table 11** provides a summary including the number of groundwater samples that were collected, the date of sample collection, and whether the sample was collected as required by the baseline, detection, or assessment monitoring program. According to the CCR Rule, statistical evaluation for these samples must be completed within 90 days of completing sampling and analysis. Verification sampling, if needed, and statistical analysis will be completed by January 15, 2018 and included in future reports and notifications as required by the CCR Rule. Semi-annual Detection Monitoring will continue as required by the CCR Rule. Section 5.0 provides discussion of activities planned for 2018.

Table 11 – Summary of Groundwater Sampling Dates

| Sampling Event | Groundwater Monitoring Wells | | | | | | | | | | Baseline, Detection or Assessment Monitoring |
|--|------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 | |
| | Date of Sample Collection | | | | | | | | | | |
| Baseline Event 1 | 5/13/2016 | 3/29/2016 | 3/29/2016 | 3/29/2016 | 3/29/2016 | 3/29/2016 | 3/30/2016 | 3/29/2016 | 3/29/2016 | 3/30/2016 | Baseline |
| Baseline Event 2 | 6/16/2016 | 5/13/2016 | 5/17/2016 | 5/16/2016 | 5/17/2016 | 5/16/2016 | 5/13/2016 | 5/13/2016 | 5/13/2016 | 5/16/2016 | Baseline |
| Baseline Event 3 | 7/19/2016 | 7/18/2016 | 7/18/2016 | 7/18/2016 | 7/18/2016 | 7/19/2016 | 7/19/2016 | 7/19/2016 | 7/19/2016 | 7/19/2016 | Baseline |
| Baseline Event 4 | 9/7/2016 | 9/7/2016 | 9/8/2016 | 9/8/2016 | 9/8/2016 | 9/8/2016 | 9/8/2016 | 9/8/2016 | 9/7/2016 | 9/8/2016 | Baseline |
| Baseline Event 5 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | Baseline |
| Baseline Event 6 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | Baseline |
| Baseline Event 7 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | Baseline |
| Baseline Event 8 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/15/2017 | 6/14/2017 | Baseline |
| November 2017 Detection Monitoring Event | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | Detection |
| Total Number of Samples Collected | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | NA |

Notes:

- 1) Baseline Events sampled for all Appendix III and Appendix IV parameters.
- 2) The November 2017 Detection Monitoring Event sampled for Appendix III parameters.
- 3) NA – Not Applicable.

4.1 Sampling Issues and Monitoring Well Decommissioning

Some sampling issues were encountered during the baseline sampling events. BMW-1 was originally installed on January 24, 2016, however, during development this monitoring well was determined to be unusable for this monitoring program because it did not recharge at a sufficient rate for sampling. BMW-1 was successfully re-installed with a replacement well on April 7, 2016. Additionally, because BMW-1 was not installed until after the first baseline sampling event, a make-up event was completed on June 16, 2016 in order to be able to collect 8 independent samples prior to the October 17, 2017 deadline.



From approximately April 30, 2017 to May 31, 2017, some of the monitoring wells at the MEC were under water due to the flooding of the Mississippi and Meramec Rivers. At the MEC Surface Impoundments, the following wells were submerged by flood water: MW-1, MW-2, MW-3, MW-4, MW-5, and BMW-2. On June 5, 2017 Golder performed a post-flood monitoring well inspection at the MEC and found that none of the MEC Surface Impoundments' monitoring wells sustained flood damage. Due to access problems resulting from the flood, the wells were not sampled until June 14, 2017. No other notable sampling issues were encountered.



5.0 ACTIVITIES PLANNED FOR 2018

Detection Monitoring sampling is scheduled to be completed semi-annually in the second and fourth quarters of 2018 but may be changed due to site conditions (e.g., flooding, access, etc.). Statistical analysis of the November 2017 Detection Monitoring data will be completed by January 15, 2018. If it is determined that there is an SSI over background, Ameren will collect verification samples for all SSIs. Additionally, within 90 days of determining an SSI, Ameren would either establish an Assessment Monitoring program or demonstrate that the SSI was the result of error, or caused by an alternate source.



6.0 CLOSING

GOLDER ASSOCIATES INC.

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JSI/RJF/MNH

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Project Geologist

TABLES

Table 1
Monitoring Well Construction Details
Meramec Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| Well ID | Date Installed | Location ⁴ | | Top of Casing Elevation | Ground Surface Elevation | Top of Screen | Bottom of Screen | Base of Well | Total Depth |
|---------|----------------|-----------------------|----------|-------------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | Northing | Easting | (FT MSL) ⁵ | (FT MSL) ⁵ | (FT MSL) ⁵ | (FT MSL) ⁵ | (FT MSL) ⁵ | (FT BGS) ⁵ |
| MW-1 | 1/23/2016 | 937676.9 | 865954.1 | 406.43 | 404.1 | 370.2 | 365.4 | 365.0 | 39.1 |
| MW-2 | 1/23/2016 | 937325.1 | 864864.5 | 398.62 | 396.1 | 367.0 | 362.2 | 361.8 | 34.3 |
| MW-3 | 1/22/2016 | 936750.8 | 864447.2 | 397.12 | 394.6 | 369.2 | 364.4 | 364.0 | 30.6 |
| MW-4 | 1/22/2016 | 935618.0 | 864629.8 | 404.10 | 402.0 | 364.1 | 359.3 | 358.9 | 43.1 |
| MW-5 | 1/22/2016 | 934874.4 | 864781.0 | 402.93 | 400.8 | 350.4 | 340.6 | 340.2 | 60.6 |
| MW-6 | 1/21/2016 | 933905.2 | 865153.5 | 418.12 | 415.8 | 373.4 | 363.6 | 363.2 | 52.7 |
| MW-7 | 1/24/2016 | 934334.4 | 866242.5 | 417.94 | 415.7 | 373.2 | 363.4 | 363.0 | 52.7 |
| MW-8 | 1/24/2016 | 935303.6 | 866797.8 | 423.37 | 421.0 | 355.8 | 346.0 | 345.6 | 75.4 |
| BMW-1 | 4/7/2016 | 935220.4 | 867989.4 | 419.08 | 416.8 | 366.4 | 356.6 | 356.2 | 60.6 |
| BMW-2 | 1/25/2016 | 937927.1 | 866342.2 | 409.02 | 406.8 | 369.3 | 364.5 | 364.1 | 42.7 |

Notes:

- 1.) All elevations and coordinates were surveyed on January 14, and April 28th, 2016 by Zahner and Associates, Inc.
- 2.) FT MSL = Feet Above Mean Sea Level.
- 3.) FT BGS = Feet Below Ground Surface.
- 4.) Horizontal Datum: State Plane Coordinates NAD83 (2000) Missouri East Zone Feet.
- 5.) Vertical Datum: NAVD88 Feet.

Table 2
Baseline Sampling Event 1 Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| ANALYTE | UNITS | BACKGROUND | | GROUNDWATER MONITORING WELLS | | | | | | | |
|-------------------------|-------|------------|-----------|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 |
| FIELD PARAMETERS | | | | | | | | | | | |
| DATE | NA | 5/13/2016 | 3/29/2016 | 3/29/2016 | 3/29/2016 | 3/29/2016 | 3/29/2016 | 3/30/2016 | 3/29/2016 | 3/29/2016 | 3/30/2016 |
| DISSOLVED OXYGEN | mg/L | 1.57 | 1.53 | 1.94 | 1.30 | 1.20 | 0.92 | 1.42 | 1.29 | 1.29 | 0.27 |
| pH | SU | 7.25 | 7.19 | 7.03 | 6.62 | 6.75 | 6.98 | 7.07 | 7.03 | 7.26 | 7.10 |
| REDOX POTENTIAL | mV | 25.8 | -110.4 | -100.5 | -71.5 | -103.4 | -121.2 | -99.1 | -18.5 | 42.0 | -100.4 |
| SPECIFIC CONDUCTIVITY | mS/cm | 1.768 | 0.914 | 1.143 | 1.152 | 1.170 | 1.352 | 1.447 | 1.694 | 1.966 | 1.261 |
| TURBIDITY | NTU | 1.48 | 9.46 | 8.86 | 4.57 | 9.08 | 9.80 | 4.51 | 2.05 | 7.96 | 16.24 |
| APPENDIX III | | | | | | | | | | | |
| BORON, TOTAL | µg/L | 138 | 94.2 J | ND | 4,530 | 5,610 | 8,980 | 7,300 | 18,800 | 21,500 | 9,940 |
| CALCIUM, TOTAL | µg/L | 114,000 | 89,000 | 121,000 | 113,000 | 122,000 | 160,000 | 156,000 | 301,000 | 293,000 | 155,000 |
| CHLORIDE, TOTAL | mg/L | 219 | 11.8 | 92.7 | 26.5 | 48.9 | 35.8 | 40.2 | 23.4 | 58.3 | 24.5 |
| FLUORIDE, TOTAL | mg/L | 0.42 | 0.38 | 0.30 | 0.17 J | 0.14 J | 0.21 | 0.25 | 0.17 J | 0.31 | 0.29 |
| SULFATE, TOTAL | mg/L | 64.0 | 14.8 | 55.2 | 313 | 231 | 370 | 374 | 580 | 911 | 469 |
| TOTAL DISSOLVED SOLIDS | mg/L | 832 | 434 | 611 | 716 | 682 | 918 | 918 | 1,280 | 1,590 | 875 |
| APPENDIX IV | | | | | | | | | | | |
| ANTIMONY, TOTAL | µg/L | 0.71 J | ND | 0.063 J | ND | ND | ND | ND | 0.062 J | 0.41 J | 0.060 J |
| ARSENIC, TOTAL | µg/L | 1.2 | 0.80 J | 0.83 J | 2.0 | 4.6 | 10.5 | 8.0 | 5.0 | 2.6 | 6.6 |
| BARIUM, TOTAL | µg/L | 254 | 485 | 352 | 471 | 238 | 222 | 289 | 75.4 | 57.4 | 179 |
| BERYLLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| CADMIUM, TOTAL | µg/L | ND | ND | 0.042 J | ND | ND | ND | ND | ND | 0.081 J | ND |
| CHROMIUM, TOTAL | µg/L | ND | 0.62 J | 0.97 J | 0.74 J | 0.93 J | 0.68 J | 0.42 J | 0.37 J | 0.91 J | 0.88 J |
| COBALT, TOTAL | µg/L | ND | ND | 1.5 J | ND | 1.0 J | ND | ND | 0.86 J | ND | ND |
| LEAD, TOTAL | µg/L | ND | ND | ND | 2.6 J | ND | ND | ND | ND | ND | ND |
| LITHIUM, TOTAL | µg/L | 16.0 | 5.7 J | ND | ND | ND | 22.4 | 19.6 | 129 | 37.8 | 27.6 |
| MERCURY, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MOLYBDENUM, TOTAL | µg/L | 5.6 J | ND | ND | 1.2 J | 2.5 J | 51.7 | 82.2 | 137 | 451 | 229 |
| RADIUM [226 + 228] | pCi/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| SELENIUM, TOTAL | µg/L | 0.39 J | ND | ND | ND | ND | ND | ND | ND | 1.5 | ND |
| THALLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

NOTES

- Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, and pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters, and NTU - nephelometric turbidity unit.
- J - Result is an estimated value.
- ND - Constituent was analyzed for, but was not detected above the Method Detection Limit (MDL) and is considered a non-detect.
- Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Table 3
Baseline Sampling Event 2 Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| ANALYTE | UNITS | BACKGROUND | | GROUNDWATER MONITORING WELLS | | | | | | | |
|-------------------------|-------|------------|-----------|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 |
| FIELD PARAMETERS | | | | | | | | | | | |
| DATE | NA | 6/16/2016 | 5/13/2016 | 5/17/2016 | 5/16/2016 | 5/17/2016 | 5/16/2016 | 5/13/2016 | 5/13/2016 | 5/13/2016 | 5/16/2016 |
| DISSOLVED OXYGEN | mg/L | 2.17 | 1.47 | 0.50 | 0.25 | 1.61 | 0.45 | 1.09 | 2.22 | 1.64 | 1.00 |
| pH | SU | 7.15 | 6.80 | 7.14 | 6.73 | 6.76 | 6.93 | 7.43 | 6.82 | 7.24 | 7.06 |
| REDOX POTENTIAL | mV | -45.2 | -112.1 | -111.3 | -95.3 | -85.8 | -111.1 | -132.4 | -54.4 | 21.3 | -81.8 |
| SPECIFIC CONDUCTIVITY | mS/cm | 1.138 | 0.954 | 1.401 | 1.469 | 1.575 | 1.701 | 1.749 | 1.927 | 2.386 | 1.344 |
| TURBIDITY | NTU | 1.95 | 5.73 | 9.82 | 8.67 | 9.82 | 9.97 | 4.49 | 2.16 | 0.55 | 9.97 |
| APPENDIX III | | | | | | | | | | | |
| BORON, TOTAL | µg/L | 153 | ND | 59.1 J | 5,400 | 5,960 | 8,360 | 6,900 | 25,900 | 18,700 | 9,560 |
| CALCIUM, TOTAL | µg/L | 106,000 | 103,000 | 133,000 | 124,000 | 138,000 | 166,000 | 167,000 | 352,000 | 336,000 | 177,000 |
| CHLORIDE, TOTAL | mg/L | 202 | 12.4 | 42.0 | 28.5 | 45.4 | 37.3 | 41.5 | 28.4 | 74.3 | 24.8 |
| FLUORIDE, TOTAL | mg/L | 0.42 | 0.34 | 0.30 | 0.16 J | 0.14 J | 0.21 | 0.25 | 0.15 J | 0.36 | 0.28 |
| SULFATE, TOTAL | mg/L | 60.3 | 11.0 | 98.0 | 329 | 264 | 380 | 355 | 631 | 941 | 449 |
| TOTAL DISSOLVED SOLIDS | mg/L | 755 | 430 | 663 | 847 | 755 | 1,030 J | 940 | 1,310 | 1,660 | 959 |
| APPENDIX IV | | | | | | | | | | | |
| ANTIMONY, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | 0.37 J | ND |
| ARSENIC, TOTAL | µg/L | 1.3 | 1.3 | 0.63 J | 2.5 | 6.1 | 13.0 | 13.4 | 8.3 | 3.8 | 6.2 |
| BARIUM, TOTAL | µg/L | 239 | 538 | 375 | 500 | 255 | 222 | 292 | 94.4 | 59.6 | 218 |
| BERYLLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | 0.47 J | ND | ND | ND | ND |
| CADMIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | 0.11 J | ND |
| CHROMIUM, TOTAL | µg/L | 0.50 J | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| COBALT, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | 0.74 J | 1.2 J | ND |
| LEAD, TOTAL | µg/L | ND | 3.1 J | 4.3 J | 2.8 J | ND | 3.6 J | 4.2 J | ND | ND | 4.8 J |
| LITHIUM, TOTAL | µg/L | 12.0 | 8.3 J | ND | 6.0 J | 8.0 J | 22.7 | 21.2 | 164 | 40.3 | 30.4 |
| MERCURY, TOTAL | µg/L | ND | ND | 0.041 J | 0.040 J | 0.041 J | ND | ND | ND | ND | 0.047 J |
| MOLYBDENUM, TOTAL | µg/L | 6.6 J | ND | 0.84 J | ND | 1.9 J | 49.7 | 74.4 | 124 | 338 | 204 |
| RADIUM [226 + 228] | pCi/L | ND | ND | ND | ND | 0.972 | ND | ND | ND | ND | ND |
| SELENIUM, TOTAL | µg/L | 0.32 J | ND | ND | ND | ND | ND | ND | ND | 0.55 J | ND |
| THALLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

NOTES

- Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, and pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters, and NTU - nephelometric turbidity unit.
- J - Result is an estimated value.
- ND - Constituent was analyzed for, but was not detected above the Method Detection Limit (MDL) and is considered a non-detect.
- Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Table 4
Baseline Sampling Event 3 Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| ANALYTE | UNITS | BACKGROUND | | GROUNDWATER MONITORING WELLS | | | | | | | |
|-------------------------|-------|------------|-----------|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 |
| FIELD PARAMETERS | | | | | | | | | | | |
| DATE | NA | 7/19/2016 | 7/18/2016 | 7/18/2016 | 7/18/2016 | 7/18/2016 | 7/19/2016 | 7/19/2016 | 7/19/2016 | 7/19/2016 | 7/19/2016 |
| DISSOLVED OXYGEN | mg/L | 1.90 | 1.89 | 1.95 | 1.79 | 1.02 | 0.39 | 1.77 | 1.32 | 1.78 | 1.10 |
| pH | SU | 7.11 | 6.91 | 6.89 | 6.59 | 6.60 | 6.80 | 7.11 | 6.75 | 7.17 | 6.91 |
| REDOX POTENTIAL | mV | -58.6 | -130.1 | -121.8 | -101.2 | -93.7 | -128.1 | -141.8 | -17.6 | 3.5 | -101.5 |
| SPECIFIC CONDUCTIVITY | mS/cm | 1.287 | 0.796 | 1.029 | 1.105 | 1.833 | 1.311 | 1.335 | 1.571 | 2.065 | 1.197 |
| TURBIDITY | NTU | 0.41 | 4.89 | 4.97 | 2.48 | 4.41 | 3.62 | 4.01 | 4.81 | 1.52 | 8.81 |
| APPENDIX III | | | | | | | | | | | |
| BORON, TOTAL | µg/L | 170 | 77.1 J | ND | 4,060 | 8,280 | 8,710 | 7,070 | 14,700 | 21,100 | 9,050 |
| CALCIUM, TOTAL | µg/L | 109,000 | 101,000 | 129,000 | 132,000 | 152,000 | 179,000 | 181,000 | 340,000 | 373,000 | 183,000 |
| CHLORIDE, TOTAL | mg/L | 214 | 12.0 | 43.6 | 24.3 | 34.6 | 37.1 | 40.3 | 20.9 | 68.9 | 25.2 |
| FLUORIDE, TOTAL | mg/L | 0.37 | 0.25 | 0.25 | 0.11 J | 0.082 J | 0.15 J | 0.21 | 0.13 J | 0.25 | 0.23 |
| SULFATE, TOTAL | mg/L | 54.9 | 16.6 | 99.8 | 299 | 309 | 366 | 341 | 555 | 881 | 437 |
| TOTAL DISSOLVED SOLIDS | mg/L | 772 | 435 | 675 | 811 | 872 | 993 | 1,030 | 1,370 | 1,780 | 985 |
| APPENDIX IV | | | | | | | | | | | |
| ANTIMONY, TOTAL | µg/L | 0.081 J | 0.63 J | ND | ND | ND | ND | ND | ND | 0.065 J | 0.38 J |
| ARSENIC, TOTAL | µg/L | 5.5 | 1.2 | 0.49 J | 1.4 | ND | 13.3 J | 17.1 | ND | 3.7 | 2.1 |
| BARIUM, TOTAL | µg/L | 232 | 503 | 374 | 490 | 253 | 216 | 293 | 72.5 | 49.1 | 236 |
| BERYLLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| CADMIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.11 J |
| CHROMIUM, TOTAL | µg/L | 0.47 J | 0.36 J | 0.79 J | 0.43 J | 0.50 J | 1.0 | ND | ND | 0.74 J | ND |
| COBALT, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | 5.7 | ND | ND |
| LEAD, TOTAL | µg/L | ND | ND | 4.9 J | ND | ND | ND | 3.3 J | ND | ND | ND |
| LITHIUM, TOTAL | µg/L | 15.2 | 6.8 J | ND | 6.1 J | 7.1 J | 23.2 | 20.9 | 130 | 50.9 | 32.0 |
| MERCURY, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MOLYBDENUM, TOTAL | µg/L | 6.8 J | 0.53 J | ND | 2.1 J | 3.4 J | 54.0 | 84.0 | 129 | 359 | 215 |
| RADIUM [226 + 228] | pCi/L | ND | 1.799 | 1.430 | 2.275 | 1.617 | ND | 2.432 | ND | 1.917 | ND |
| SELENIUM, TOTAL | µg/L | ND | 0.28 J | ND | ND | ND | ND | ND | ND | ND | 9.0 |
| THALLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

NOTES

1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, and pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters, and NTU - nephelometric turbidity unit.
2. J - Result is an estimated value.
3. ND - Constituent was analyzed for, but was not detected above the Method Detection Limit (MDL) and is considered a non-detect.
4. Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Table 5
Baseline Sampling Event 4 Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| ANALYTE | UNITS | BACKGROUND | | GROUNDWATER MONITORING WELLS | | | | | | | |
|-------------------------|-------|------------|----------|------------------------------|----------|----------|----------|----------|----------|----------|----------|
| | | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 |
| FIELD PARAMETERS | | | | | | | | | | | |
| DATE | NA | 9/7/2016 | 9/7/2016 | 9/8/2016 | 9/8/2016 | 9/8/2016 | 9/8/2016 | 9/8/2016 | 9/8/2016 | 9/7/2016 | 9/8/2016 |
| DISSOLVED OXYGEN | mg/L | 0.33 | 0.47 | 0.93 | 0.59 | 0.49 | 0.47 | 1.15 | 0.92 | 0.71 | 0.45 |
| pH | SU | 7.10 | 6.58 | 6.83 | 6.43 | 6.84 | 7.02 | 7.12 | 6.69 | 7.14 | 6.83 |
| REDOX POTENTIAL | mV | -18.3 | -81.9 | -89.2 | -2.6 | 6.5 | 13.1 | -120.1 | -21.1 | 40.1 | -72.8 |
| SPECIFIC CONDUCTIVITY | mS/cm | 1.377 | 0.982 | 1.064 | 0.942 | 1.081 | 1.124 | 1.417 | 1.665 | 2.494 | 1.225 |
| TURBIDITY | NTU | 1.98 | 4.69 | 7.69 | 4.45 | 4.44 | 4.90 | 2.47 | 1.41 | 0.45 | 3.90 |
| APPENDIX III | | | | | | | | | | | |
| BORON, TOTAL | µg/L | 161 | 74.4 J | 57.0 J | 4,740 | 9,390 | 8,540 | 7,130 | 14,800 | 20,300 | 8,640 |
| CALCIUM, TOTAL | µg/L | 113,000 | 103,000 | 139,000 | 134,000 | 169,000 | 173,000 | 172,000 | 319,000 | 363,000 | 170,000 |
| CHLORIDE, TOTAL | mg/L | 248 | 12.2 | 43.7 | 25.3 | 29.2 | 36.0 | 40.5 | 21.9 | 62.6 | 25.5 |
| FLUORIDE, TOTAL | mg/L | 0.38 | 0.34 | 0.22 | 0.088 J | 0.076 J | 0.13 J | 0.16 J | 0.097 J | 0.52 | 0.20 J |
| SULFATE, TOTAL | mg/L | 63.7 | 19.5 | 98.8 | 312 | 344 | 378 | 391 | 547 | 1,000 | 455 |
| TOTAL DISSOLVED SOLIDS | mg/L | 817 | 446 | 623 | 802 | 957 | 995 | 1,050 | 364 | 1,740 | 381 |
| APPENDIX IV | | | | | | | | | | | |
| ANTIMONY, TOTAL | µg/L | 0.62 J | ND | ND | ND | ND | ND | ND | ND | 0.40 J | ND |
| ARSENIC, TOTAL | µg/L | 0.99 J | 1.2 | 0.62 J | 1.6 | 7.7 | 13.7 | 18.7 | 4.8 | 2.4 | 5.6 |
| BARIUM, TOTAL | µg/L | 237 | 534 | 378 | 515 | 270 | 229 | 301 | 69.3 | 44.8 | 234 |
| BERYLLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| CADMIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| CHROMIUM, TOTAL | µg/L | ND | 0.65 J | 0.88 J | 1.3 | ND | 0.61 J | 0.42 J | ND | ND | ND |
| COBALT, TOTAL | µg/L | ND | ND | ND | ND | 1.0 J | ND | ND | 3.8 J | ND | ND |
| LEAD, TOTAL | µg/L | ND | 3.5 J | ND | 2.7 J | ND | ND | 3.2 J | ND | ND | ND |
| LITHIUM, TOTAL | µg/L | 13.4 | ND | ND | ND | ND | 20.3 | 18.3 | 123 | 43.6 | 26.1 |
| MERCURY, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MOLYBDENUM, TOTAL | µg/L | 7.2 J | ND | ND | ND | ND | 52.5 | 83.8 | 120 | 351 | 211 |
| RADIUM [226 + 228] | pCi/L | ND | ND | ND | ND | 1.420 | ND | 1.975 | ND | ND | ND |
| SELENIUM, TOTAL | µg/L | 0.36 J | ND | ND | ND | ND | ND | ND | ND | 10.3 | ND |
| THALLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

NOTES

- Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, and pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters, and NTU - nephelometric turbidity unit.
- J - Result is an estimated value.
- ND - Constituent was analyzed for, but was not detected above the Method Detection Limit (MDL) and is considered a non-detect.
- Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Table 6
Baseline Sampling Event 5 Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| ANALYTE | UNITS | BACKGROUND | | GROUNDWATER MONITORING WELLS | | | | | | | | |
|-------------------------|-------|------------|------------|------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 | |
| FIELD PARAMETERS | | | | | | | | | | | | |
| DATE | NA | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 | 11/10/2016 |
| DISSOLVED OXYGEN | mg/L | 0.95 | 0.94 | 0.56 | 1.11 | 0.52 | 0.52 | 0.15 | 0.24 | 1.64 | 0.41 | |
| pH | SU | 7.11 | 6.85 | 6.80 | 6.45 | 6.67 | 6.89 | 7.04 | 6.60 | 7.00 | 6.92 | |
| REDOX POTENTIAL | mV | -58.3 | -132.6 | -138.5 | -112.7 | -138.5 | -140.1 | -154.2 | -39.1 | -1.2 | -114.5 | |
| SPECIFIC CONDUCTIVITY | mS/cm | 1.313 | 0.791 | 1.006 | 1.079 | 1.189 | 1.295 | 1.391 | 1.544 | 2.020 | 1.153 | |
| TURBIDITY | NTU | 2.14 | 4.32 | 4.86 | 3.26 | 3.08 | 4.22 | 2.13 | 1.26 | 1.31 | 4.28 | |
| APPENDIX III | | | | | | | | | | | | |
| BORON, TOTAL | µg/L | 172 | 89.1 J | ND | 3,800 | 8,410 | 8,580 | 7,970 | 13,800 | 21,400 | 8,890 | |
| CALCIUM, TOTAL | µg/L | 109,000 | 101,000 | 131,000 | 130,000 | 161,000 | 174,000 | 184,000 | 331,000 | 383,000 | 171,000 | |
| CHLORIDE, TOTAL | mg/L | 205 | 12.3 | 42.2 | 23.5 | 23.9 | 36.3 | 38.7 | 18.1 | 81.6 | 24.0 | |
| FLUORIDE, TOTAL | mg/L | 0.44 | 0.28 | 0.24 | 0.11 J | 0.091 J | 0.16 J | 0.25 J | 0.38 | 0.60 | 0.21 | |
| SULFATE, TOTAL | mg/L | 58.0 | 18.7 | 99.1 | 290 | 348 | 402 | 438 | 610 | 756 | 478 | |
| TOTAL DISSOLVED SOLIDS | mg/L | 751 | 439 | 609 | 756 | 854 | 908 | 1,010 | 1,290 | 1,690 | 881 | |
| APPENDIX IV | | | | | | | | | | | | |
| ANTIMONY, TOTAL | µg/L | 0.64 J | ND | ND | ND | ND | ND | ND | 0.066 J | 0.39 J | ND | |
| ARSENIC, TOTAL | µg/L | 1.1 | 1.6 | 0.46 J | 1.3 | 7.8 | 14.5 | 19.9 | 3.0 | 2.4 | 5.9 | |
| BARIUM, TOTAL | µg/L | 230 | 528 | 364 | 491 | 244 | 213 | 305 | 66.8 | 43.3 | 211 | |
| BERYLLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | |
| CADMIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | 0.22 J | ND | |
| CHROMIUM, TOTAL | µg/L | 0.46 J | 0.66 J | 0.77 J | 0.70 J | 0.52 J | 0.56 J | 0.37 J | 0.54 J | 0.57 J | ND | |
| COBALT, TOTAL | µg/L | ND | ND | ND | ND | 1.5 J | ND | ND | 6.1 | ND | ND | |
| LEAD, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | |
| LITHIUM, TOTAL | µg/L | 14.2 | 6.9 J | ND | 6.0 J | 5.6 J | 26.3 | 25.3 | 130 | 58.3 | 30.8 | |
| MERCURY, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | |
| MOLYBDENUM, TOTAL | µg/L | ND | ND | ND | ND | ND | 54.4 | 90.4 | 135 | 331 | 212 | |
| RADIUM [226 + 228] | pCi/L | 1.419 | ND | ND | 1.686 | ND | ND | ND | ND | ND | 1.483 | |
| SELENIUM, TOTAL | µg/L | 0.29 J | ND | ND | ND | ND | ND | ND | ND | 12.9 | ND | |
| THALLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | |

NOTES

- Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, and pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters, and NTU - nephelometric turbidity unit.
- J - Result is an estimated value.
- ND - Constituent was analyzed for, but was not detected above the Method Detection Limit (MDL) and is considered a non-detect.
- Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Table 7
Baseline Sampling Event 6 Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| ANALYTE | UNITS | BACKGROUND | | GROUNDWATER MONITORING WELLS | | | | | | | | |
|-------------------------|-------|------------|----------|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 | |
| FIELD PARAMETERS | | | | | | | | | | | | |
| DATE | NA | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 | 1/6/2017 |
| DISSOLVED OXYGEN | mg/L | 0.32 | 1.00 | 1.27 | 0.31 | 0.55 | 0.45 | 0.32 | 0.30 | 0.81 | 0.23 | |
| pH | SU | 7.66 | 7.33 | 7.41 | 6.61 | 7.13 | 7.42 | 7.17 | 6.83 | 7.55 | 6.98 | |
| REDOX POTENTIAL | mV | -56.1 | -33.2 | -99.6 | -66.5 | -82.2 | -92.3 | -124.8 | -50.9 | -62.5 | -94.6 | |
| SPECIFIC CONDUCTIVITY | mS/cm | 1.328 | 0.543 | 1.075 | 1.245 | 1.187 | 1.426 | 1.544 | 2.025 | 2.390 | 1.274 | |
| TURBIDITY | NTU | 1.17 | 4.95 | 4.98 | 3.07 | 4.64 | 3.56 | 4.88 | 3.02 | 2.88 | 4.92 | |
| APPENDIX III | | | | | | | | | | | | |
| BORON, TOTAL | µg/L | 189 | 82.1 J | ND | 5,880 | 6,750 | 8,660 | 8,970 | 9,800 | 30,300 | 8,910 | |
| CALCIUM, TOTAL | µg/L | 107,000 | 101,000 | 122,000 | 118,000 | 136,000 | 165,000 | 185,000 | 381,000 | 424,000 | 168,000 | |
| CHLORIDE, TOTAL | mg/L | 167 | 12.5 | 43.9 | 26.8 | 28.2 | 39.9 | 39.8 | 10.6 | 89.5 | 25.2 | |
| FLUORIDE, TOTAL | mg/L | 0.44 | 0.26 | 0.25 | 0.093 J | 0.079 J | 0.12 J | 0.17 J | 0.10 J | 0.64 | 0.34 | |
| SULFATE, TOTAL | mg/L | 112 | 17.5 | 104 | 352 | 110 | 403 | 446 | 672 | 999 | 448 | |
| TOTAL DISSOLVED SOLIDS | mg/L | 752 | 427 | 608 | 750 | 729 | 925 | 1,000 | 1,500 | 2,060 | 886 | |
| APPENDIX IV | | | | | | | | | | | | |
| ANTIMONY, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| ARSENIC, TOTAL | µg/L | 0.89 J | 1.8 | 0.38 J | 1.5 | 6.6 | 13.3 | 20.6 | 2.5 | 2.4 | 5.2 | |
| BARIUM, TOTAL | µg/L | 241 | 553 | 357 | 456 | 201 | 214 | 304 | 66.5 | 51.5 | 226 | |
| BERYLLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| CADMIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | 0.052 J | 0.050 J | 0.33 J | 0.052 J | |
| CHROMIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| COBALT, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | 6.5 | ND | ND | ND |
| LEAD, TOTAL | µg/L | ND | ND | ND | ND | ND | 2.7 J | ND | ND | 2.7 J | ND | ND |
| LITHIUM, TOTAL | µg/L | 14.6 | 7.5 J | ND | ND | 5.1 J | 22.4 | 22.9 | 138 | 71.1 | 32.2 | |
| MERCURY, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MOLYBDENUM, TOTAL | µg/L | 5.4 J | ND | ND | ND | 3.1 J | 50.4 | 96.5 | 163 | 297 | 207 | |
| RADIUM [226 + 228] | pCi/L | ND | 1.888 | ND | ND | 1.433 | ND | 2.494 | ND | ND | ND | ND |
| SELENIUM, TOTAL | µg/L | 0.19 J | ND | ND | ND | ND | ND | ND | ND | 16.6 | ND | ND |
| THALLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

NOTES

- Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, and pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters, and NTU - nephelometric turbidity unit.
- J - Result is an estimated value.
- ND - Constituent was analyzed for, but was not detected above the Method Detection Limit (MDL) and is considered a non-detect.
- Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Table 8
Baseline Sampling Event 7 Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| ANALYTE | UNITS | BACKGROUND | | GROUNDWATER MONITORING WELLS | | | | | | | | |
|-------------------------|-------|------------|----------|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 | |
| FIELD PARAMETERS | | | | | | | | | | | | |
| DATE | NA | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 | 3/7/2017 |
| DISSOLVED OXYGEN | mg/L | 0.68 | 0.76 | 0.71 | 1.47 | 0.92 | 0.83 | 0.31 | 1.32 | 1.32 | 1.32 | 0.58 |
| pH | SU | 7.18 | 7.41 | 7.06 | 6.40 | 6.59 | 6.79 | 7.03 | 6.67 | 7.05 | 6.80 | |
| REDOX POTENTIAL | mV | -74.3 | -82.9 | -99.5 | -37.6 | -83.5 | -80.5 | -126.1 | -2.6 | 13.4 | -74.3 | |
| SPECIFIC CONDUCTIVITY | mS/cm | 1.154 | 0.796 | 1.013 | 1.204 | 1.208 | 1.383 | 1.490 | 1.868 | 2.449 | 1.169 | |
| TURBIDITY | NTU | 1.70 | 4.87 | 4.79 | 4.98 | 4.98 | 3.10 | 1.64 | 2.53 | 0.95 | 4.41 | |
| APPENDIX III | | | | | | | | | | | | |
| BORON, TOTAL | µg/L | 304 | 79.5 J | ND | 6,600 | 6,800 | 8,890 | 9,240 | 11,100 | 25,500 | 9,390 | |
| CALCIUM, TOTAL | µg/L | 96,900 | 102,000 | 129,000 | 124,000 | 145,000 | 175,000 | 186,000 | 378,000 | 458,000 | 176,000 | |
| CHLORIDE, TOTAL | mg/L | 124 | 11.8 | 39.6 | 25.2 | 30.1 | 37.6 | 37.6 | 12.1 | 76.4 | 23.0 | |
| FLUORIDE, TOTAL | mg/L | 0.39 | 0.28 | 0.25 | 0.11 J | 0.13 J | 0.18 J | 0.21 | 0.16 J | 0.30 | 0.22 | |
| SULFATE, TOTAL | mg/L | 127 | 16.1 | 104 | 399 | 315 | 404 | 425 | 656 | 1,250 | 456 | |
| TOTAL DISSOLVED SOLIDS | mg/L | 728 | 454 | 632 | 850 | 832 | 976 | 1,060 | 1,510 | 2,220 | 908 | |
| APPENDIX IV | | | | | | | | | | | | |
| ANTIMONY, TOTAL | µg/L | 0.60 J | ND | ND | ND | ND | ND | ND | 0.030 J | 0.44 J | 0.37 J | |
| ARSENIC, TOTAL | µg/L | 2.1 | 1.5 | 0.67 J | 1.8 | 7.9 | 14.6 | 21.9 | 4.0 | 2.5 | 6.1 | |
| BARIUM, TOTAL | µg/L | 221 | 566 | 372 | 466 | 217 | 228 | 312 | 66.3 | 56.0 | 240 | |
| BERYLLIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | |
| CADMIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | 0.20 J | ND | |
| CHROMIUM, TOTAL | µg/L | 1.8 | 1.2 | ND | 1.7 | ND | ND | ND | ND | ND | 1.2 | |
| COBALT, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | 5.7 | ND | ND | |
| LEAD, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | 2.7 J | 2.8 J | 5.2 | |
| LITHIUM, TOTAL | µg/L | 14.9 | 7.4 J | ND | 5.2 J | 8.1 J | 23.5 | 23.1 | 140 | 74.2 | 33.0 | |
| MERCURY, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | |
| MOLYBDENUM, TOTAL | µg/L | 6.7 J | ND | ND | ND | 5.0 J | 53.8 | 93.7 | 157 | 314 | 213 | |
| RADIUM [226 + 228] | pCi/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | |
| SELENIUM, TOTAL | µg/L | 0.18 J | ND | ND | ND | ND | ND | ND | ND | 7.7 | ND | |
| THALLIUM, TOTAL | µg/L | ND | ND | 0.064 J | ND | 0.053 J | ND | ND | 0.038 J | 0.11 J | ND | |

NOTES

- Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, and pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters, and NTU - nephelometric turbidity unit.
- J - Result is an estimated value.
- ND - Constituent was analyzed for, but was not detected above the Method Detection Limit (MDL) and is considered a non-detect.
- Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Table 9
Baseline Sampling Event 8 Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| ANALYTE | UNITS | BACKGROUND | | GROUNDWATER MONITORING WELLS | | | | | | | | |
|-------------------------|-------|------------|-----------|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 | |
| FIELD PARAMETERS | | | | | | | | | | | | |
| DATE | NA | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/14/2017 | 6/15/2017 | 6/15/2017 | 6/14/2017 |
| DISSOLVED OXYGEN | mg/L | 1.37 | 1.20 | 0.54 | 8.30 | 10.00 | 4.10 | 1.70 | 0.73 | 0.77 | 0.29 | |
| pH | SU | 6.80 | 6.47 | 6.84 | 6.37 | 6.49 | 6.83 | 7.17 | 6.01 | 7.02 | 6.64 | |
| REDOX POTENTIAL | mV | -15.3 | -27.2 | -87.5 | -63.0 | -66.9 | -69.0 | -123.4 | 140.3 | 100.1 | -53.9 | |
| SPECIFIC CONDUCTIVITY | mS/cm | 1.146 | 0.763 | 0.973 | 1.066 | 1.063 | 1.283 | 1.331 | 1.675 | 1.431 | 1.181 | |
| TURBIDITY | NTU | 0.33 | 3.76 | 16.04 | 11.20 | 9.47 | 2.44 | 2.41 | 1.66 | 0.71 | 6.90 | |
| APPENDIX III | | | | | | | | | | | | |
| BORON, TOTAL | µg/L | 475 | 87.6 J | 48.8 J | 6,040 | 6,630 | 9,000 | 9,040 | 10,900 | 19,300 | 8,390 | |
| CALCIUM, TOTAL | µg/L | 103,000 | 103,000 | 132,000 | 129,000 | 146,000 | 182,000 | 192,000 | 350,000 | 289,000 | 182,000 | |
| CHLORIDE, TOTAL | mg/L | 168 | 12.8 | 42.8 | 27.3 | 32.2 | 40.0 | 40.2 | 14.5 | 69.1 | 27.4 | |
| FLUORIDE, TOTAL | mg/L | 0.38 | 0.27 | 0.23 | ND | ND | 0.12 J | 0.16 J | 0.12 J | 0.46 | 0.20 | |
| SULFATE, TOTAL | mg/L | 88.9 | 13.8 | 96.1 | 317 | 278 | 378 | 410 | 504 | 896 | 407 | |
| TOTAL DISSOLVED SOLIDS | mg/L | 723 | 445 | 643 | 809 | 816 | 964 | 1,090 | 1,320 | 1,630 | 957 | |
| APPENDIX IV | | | | | | | | | | | | |
| ANTIMONY, TOTAL | µg/L | 0.60 J | ND | 0.032 J | ND | 0.031 J | ND | ND | 0.073 J | 0.39 J | ND | |
| ARSENIC, TOTAL | µg/L | 1.7 | 1.8 | ND | 1.6 | 7.1 | 14.8 | 21.0 | 2.3 | 2.1 | 5.8 | |
| BARIUM, TOTAL | µg/L | 224 | 547 | 374 | 393 | 206 | 219 | 308 | 59.6 | 36.3 | 227 | |
| BERYLLIUM, TOTAL | µg/L | ND | ND | 0.23 J | ND | ND | 0.23 J | ND | ND | ND | ND | |
| CADMIUM, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | 0.027 J | 0.14 J | ND | |
| CHROMIUM, TOTAL | µg/L | ND | ND | 1.6 | ND | ND | ND | ND | ND | 1.5 | ND | |
| COBALT, TOTAL | µg/L | ND | ND | ND | ND | 1.7 J | ND | ND | 7.8 | ND | ND | |
| LEAD, TOTAL | µg/L | ND | 2.5 J | ND | 2.4 J | 2.5 J | ND | ND | ND | ND | ND | |
| LITHIUM, TOTAL | µg/L | 12.8 | 5.6 J | ND | 3.2 J | 3.7 J | 20.9 | 20.2 | 129 | 38.1 | 31.4 | |
| MERCURY, TOTAL | µg/L | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | |
| MOLYBDENUM, TOTAL | µg/L | 6.4 J | ND | ND | 2.5 J | 5.2 J | 56.0 | 97.3 | 147 | 717 | 190 | |
| RADIUM [226 + 228] | pCi/L | ND | 1.307 | ND | ND | ND | 0.991 | 1.777 | ND | ND | 1.387 | |
| SELENIUM, TOTAL | µg/L | 0.11 J | ND | ND | ND | ND | ND | ND | ND | 0.61 J | ND | |
| THALLIUM, TOTAL | µg/L | ND | ND | 0.076 J | ND | 0.061 J | ND | ND | ND | 0.13 J | ND | |

NOTES

- Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, and pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters, and NTU - nephelometric turbidity unit.
- J - Result is an estimated value.
- ND - Constituent was analyzed for, but was not detected above the Method Detection Limit (MDL) and is considered a non-detect.
- Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Table 10
November 2017 Detection Monitoring Results
Meramec Surface Impoundments
Meramec Energy Center, St. Louis County, MO

| ANALYTE | UNITS | BACKGROUND | | GROUNDWATER MONITORING WELLS | | | | | | | |
|-------------------------|-------|------------|-----------|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | BMW-1 | BMW-2 | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | MW-7 | MW-8 |
| FIELD PARAMETERS | | | | | | | | | | | |
| DATE | NA | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 | 11/6/2017 |
| DISSOLVED OXYGEN | mg/L | 1.27 | 1.49 | 0.55 | 0.31 | 0.56 | 0.24 | 0.27 | 0.45 | 1.06 | 1.25 |
| pH | SU | 7.18 | 6.71 | 6.82 | 6.58 | 6.69 | 6.92 | 7.16 | 6.73 | 7.16 | 6.90 |
| REDOX POTENTIAL | mV | -61.1 | -42.6 | -104.1 | -91.4 | -85.0 | -83.7 | -139.9 | -34.0 | -1.7 | -42.6 |
| SPECIFIC CONDUCTIVITY | mS/cm | 1.223 | 0.828 | 1.042 | 1.135 | 1.194 | 1.340 | 1.421 | 1.891 | 2.501 | 1.216 |
| TURBIDITY | NTU | 4.94 | 3.18 | 9.39 | 3.44 | 4.56 | 1.27 | 1.24 | 1.51 | 0.46 | 3.18 |
| APPENDIX III | | | | | | | | | | | |
| BORON, TOTAL | µg/L | 375 | ND | ND | 5,080 | 6,660 | 8,540 | 8,720 | 8,600 | 25,600 | 7,600 |
| CALCIUM, TOTAL | µg/L | 101,000 | 93,100 | 126,000 | 130,000 | 151,000 | 172,000 | 172,000 | 387,000 | 429,000 | 154,000 |
| CHLORIDE, TOTAL | mg/L | 126 | 12.8 | 42.4 | 23.6 | 31.7 | 42.6 | 40.1 | 12.2 | 89.0 | 24.7 |
| FLUORIDE, TOTAL | mg/L | 0.48 | 0.28 | 0.26 | 0.11 J | ND | 0.14 J | 0.18 J | 0.30 | 0.61 | 0.23 |
| SULFATE, TOTAL | mg/L | 164 | 20.8 | 102 | 330 | 318 | 404 | 426 | 696 | 1,220 | 435 |
| TOTAL DISSOLVED SOLIDS | mg/L | 764 | 400 | 612 | 172 J | 809 | 928 | 1,030 | 1,590 | 2,320 | 917 |

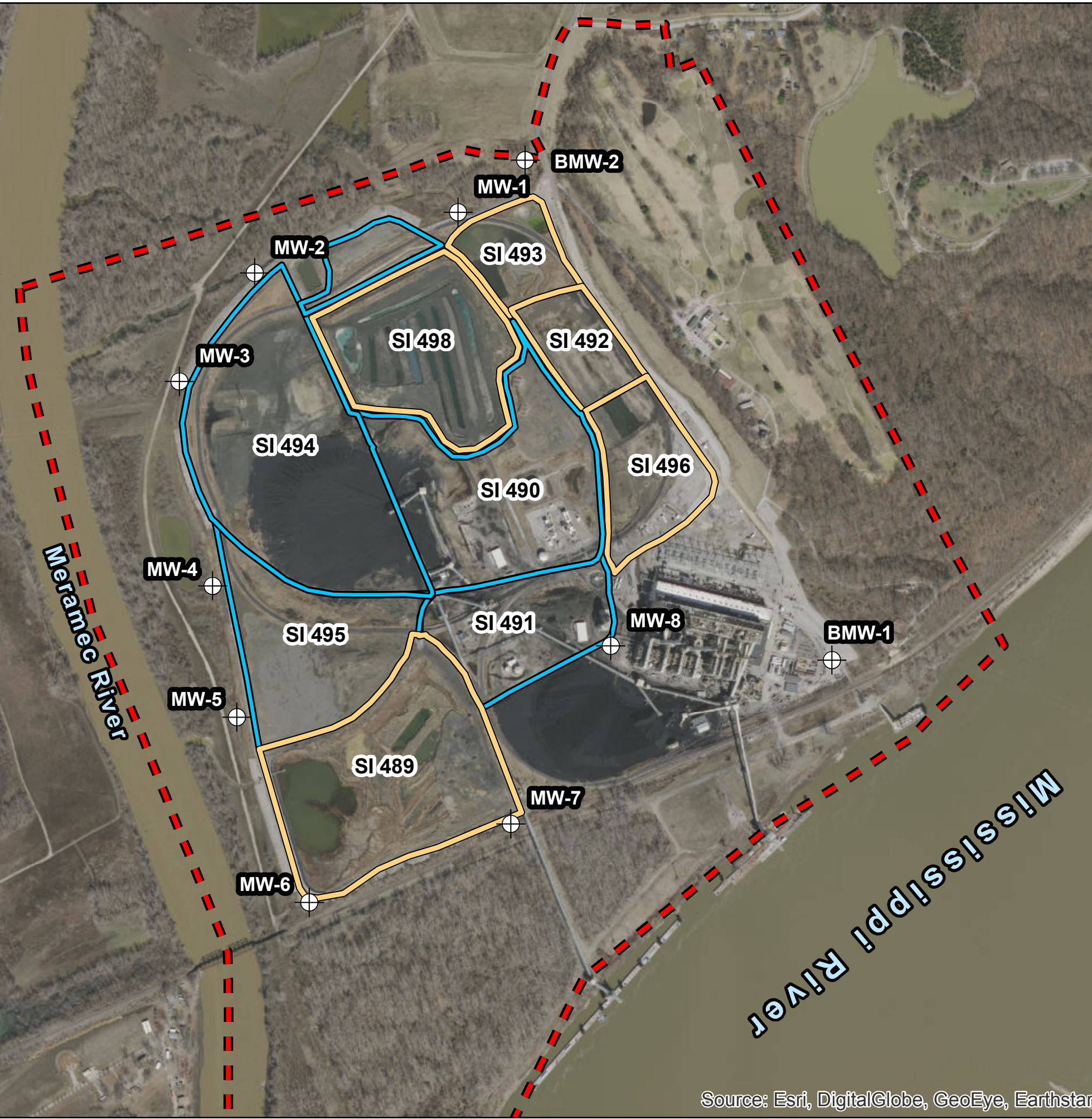
NOTES

1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, mV - millivolts, mS/cm - millisiemens per centimeters, and NTU - nephelometric turbidity unit.
2. J - Result is an estimated value.
3. ND - Constituent was analyzed for, but was not detected above the Method Detection Limit (MDL) and is considered a non-detect. Values displayed as ND.
4. NA - Not applicable.

FIGURES

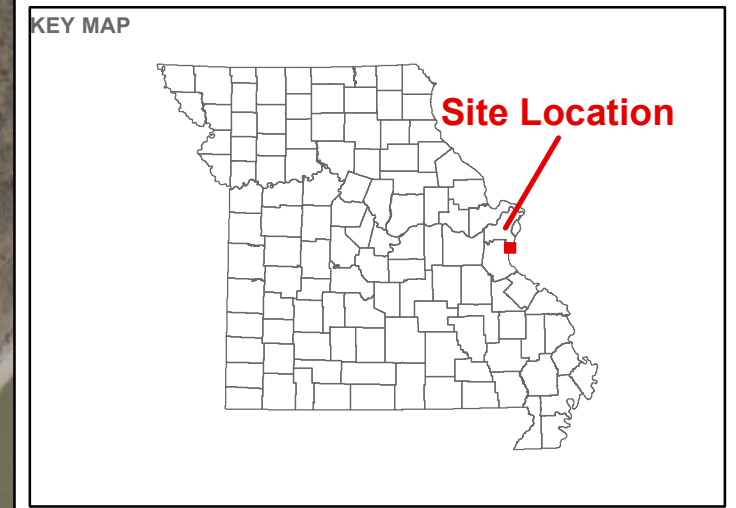


Path: G:\Projects\150 Projects\151-1406 - Ameren GW Monitoring Program - MOCPhase 0004 - Meramec Energy Center - Figures\Drawings\PRODUCT\CONCEPT\Figure 2 - Site Location Aerial Map and Monitoring Well Locations.mxd



LEGEND

- Meramec Energy Center Property Boundary
- Active Surface Impoundment
- Exempt Surface Impoundment
- Monitoring Well Location



- NOTES**
1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
 2. SI - SURFACE IMPOUNDMENT.
 3. EXEMPT SURFACE IMPOUNDMENTS ARE EXCLUDED FROM COAL COMBUSTION RESIDUALS MONITORING.
 4. GROUNDWATER MONITORING WELLS SURVEYED BY ZAHNER AND ASSOCIATES, INC. ON FEBRUARY 4 AND APRIL 28, 2016.

REFERENCES

- 1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.

0 250 500 1,000 1,500
 Feet

CLIENT
 AMEREN MISSOURI
 MERAMEC ENERGY CENTER

PROJECT
 GROUNDWATER MONITORING PROGRAM

TITLE
SITE LOCATION AERIAL MAP AND MONITORING WELL LOCATIONS

| | | |
|------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2016-03-18 |
| | PREPARED | JSI |
| | DESIGN | JSI |
| | REVIEW | JS |
| | APPROVED | MNH |

PROJECT No. 153-1406 PHASE 0004A Rev. 0.0 FIGURE 1

Source: Esri, DigitalGlobe, GeoEye, Earthstar

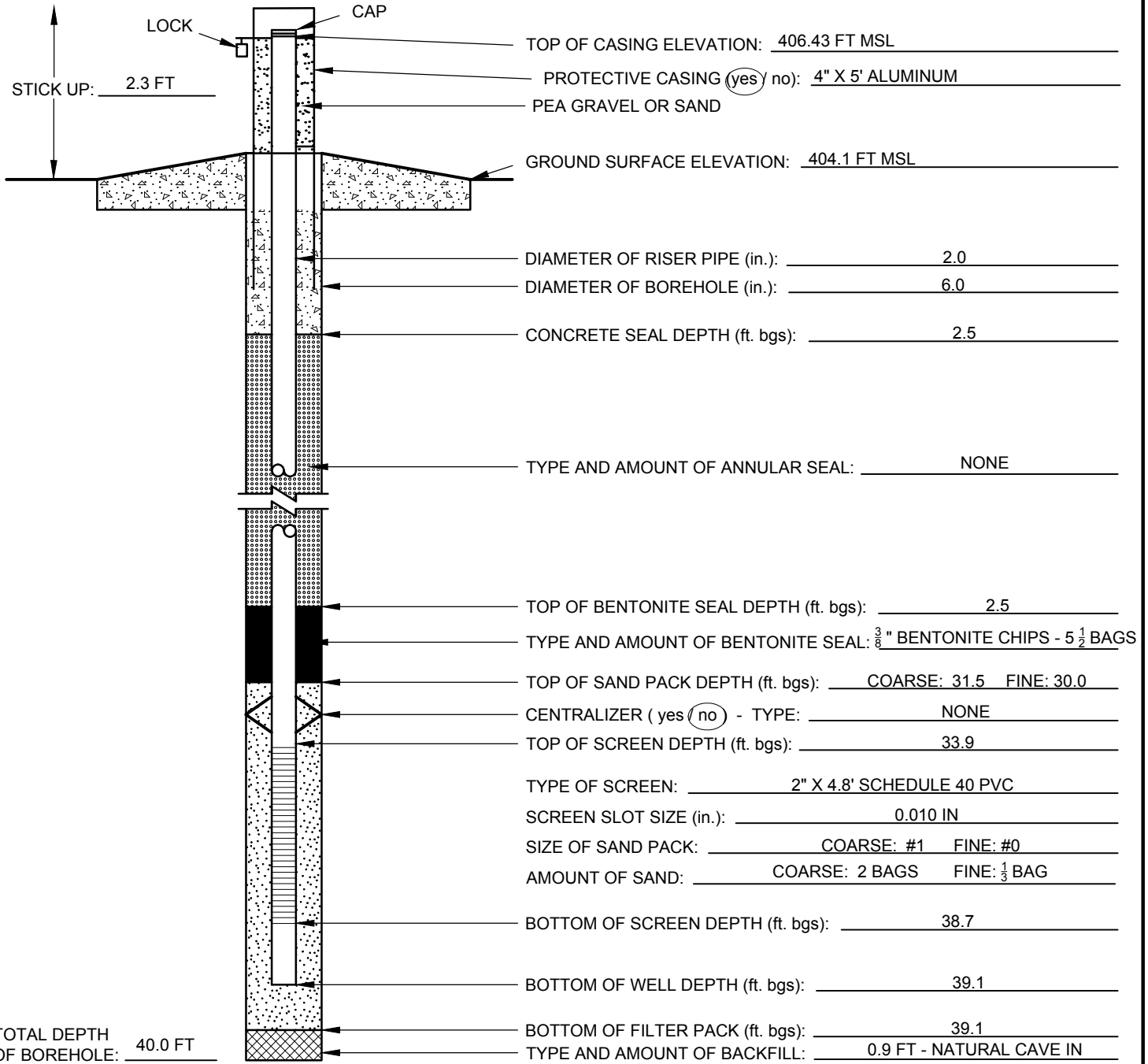
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 11in

APPENDIX A – CCR MONITORING WELL CONSTRUCTION DIAGRAMS



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG MW-1

| | | | |
|--|----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: MW-1 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 404.1 FT MSL | |
| GEOLOGIST: J. SUOZZI | NORTHING: 937676.9 | EASTING: 865954.1 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 4.56 FT BTOC | COMPLETION DATE: 1/23/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
 125 GALLONS OF H2O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON FEBRUARY 4, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

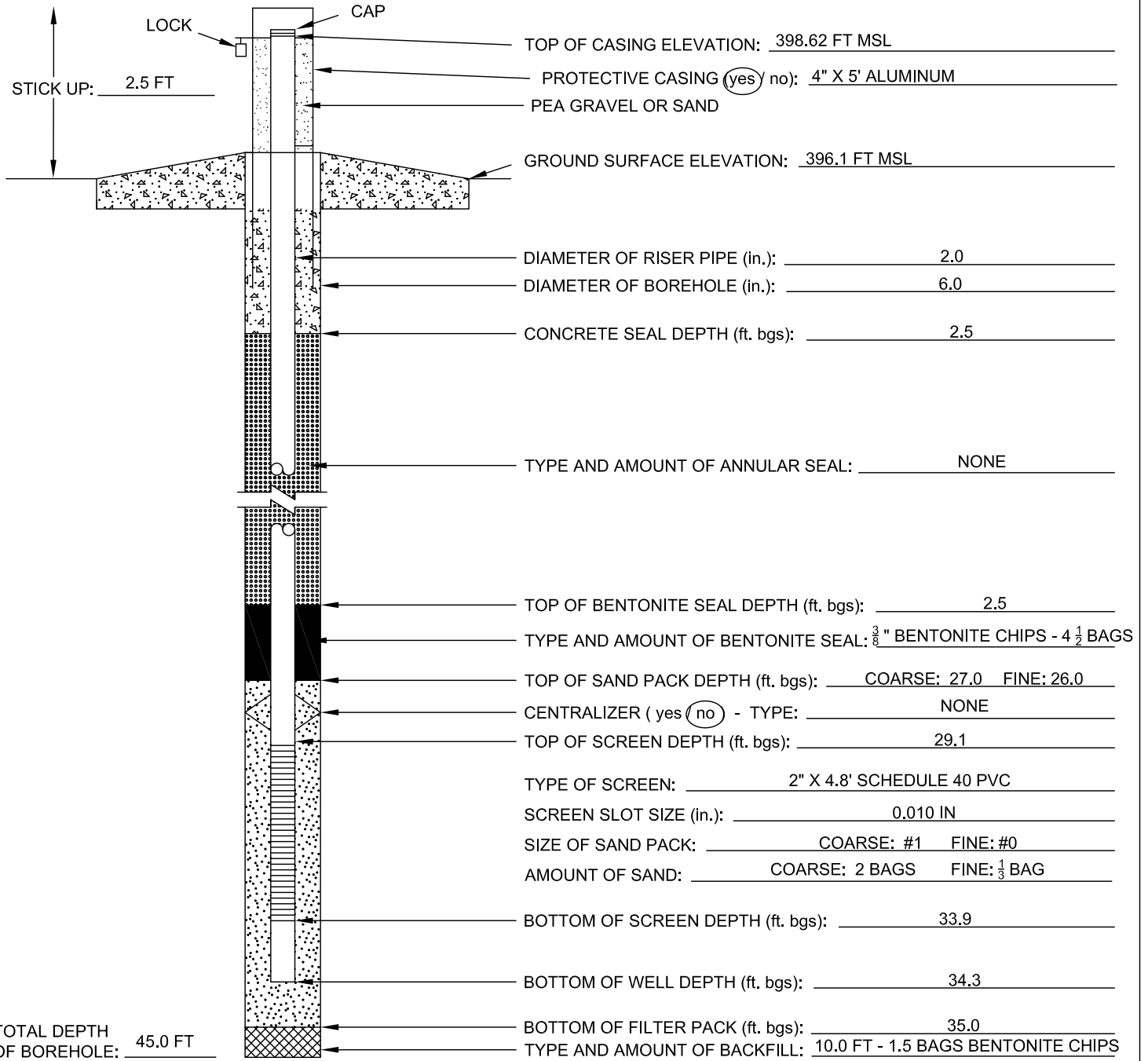
CHECKED BY: J. INGRAM
 DATE CHECKED: 4/25/2016

PREPARED BY: J. SUOZZI



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG MW-2

| | | | |
|--|-----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: MW-2 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 396.1 FT MSL | |
| GEOLOGIST: J. SUOZZI | NORTHING: 937325.1 | EASTING: 864864.5 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 15.06 FT BTOC | COMPLETION DATE: 1/23/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
 150 GALLONS OF H₂O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON FEBRUARY 4, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

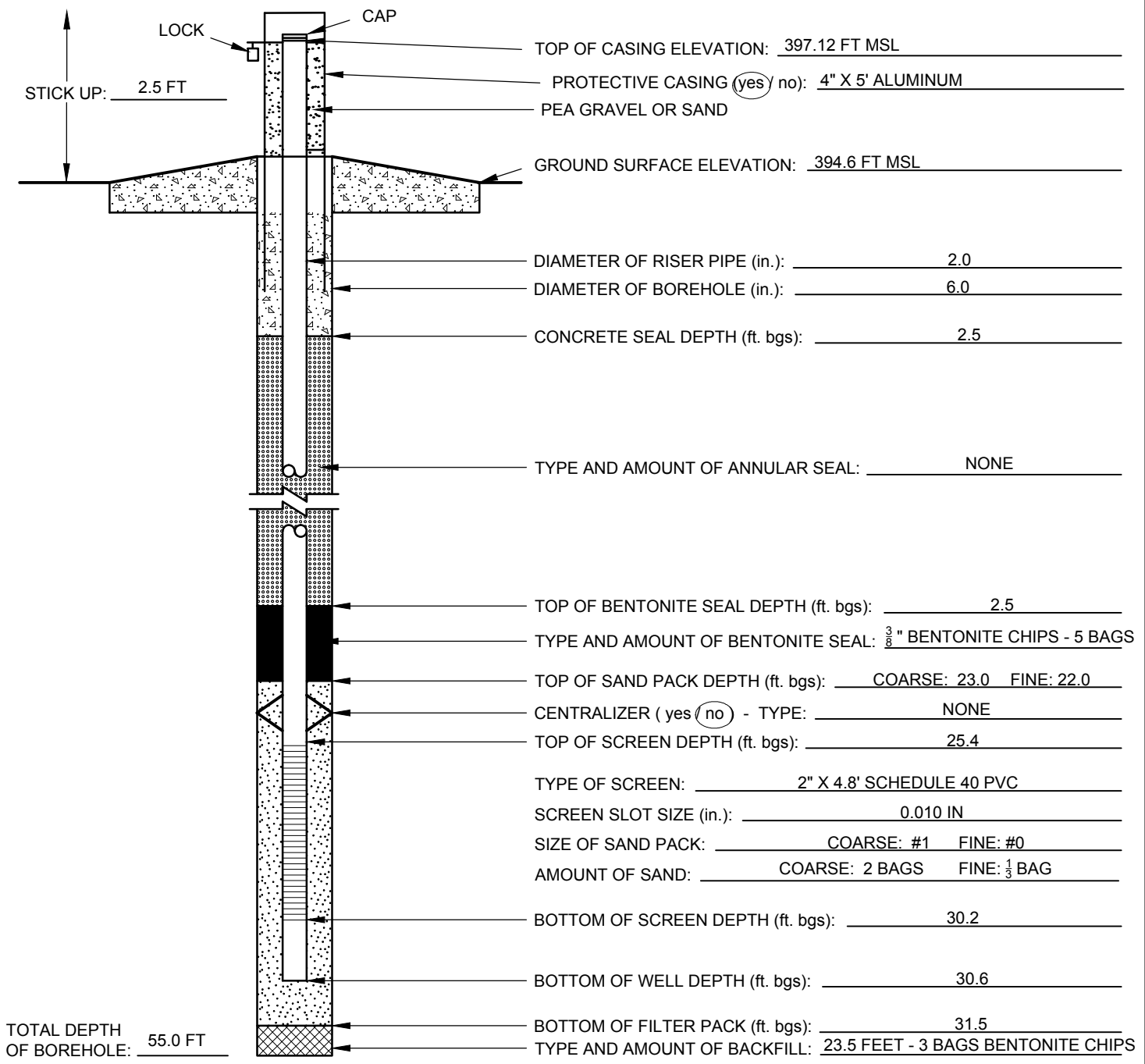
CHECKED BY: J. INGRAM
 DATE CHECKED: 4/25/2016

PREPARED BY: J. SUOZZI



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG MW-3

| | | | |
|--|-----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: MW-3 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 394.6 FT MSL | |
| GEOLOGIST: J. SUOZZI | NORTHING: 936750.8 | EASTING: 864447.2 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 13.56 FT BTOC | COMPLETION DATE: 1/22/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



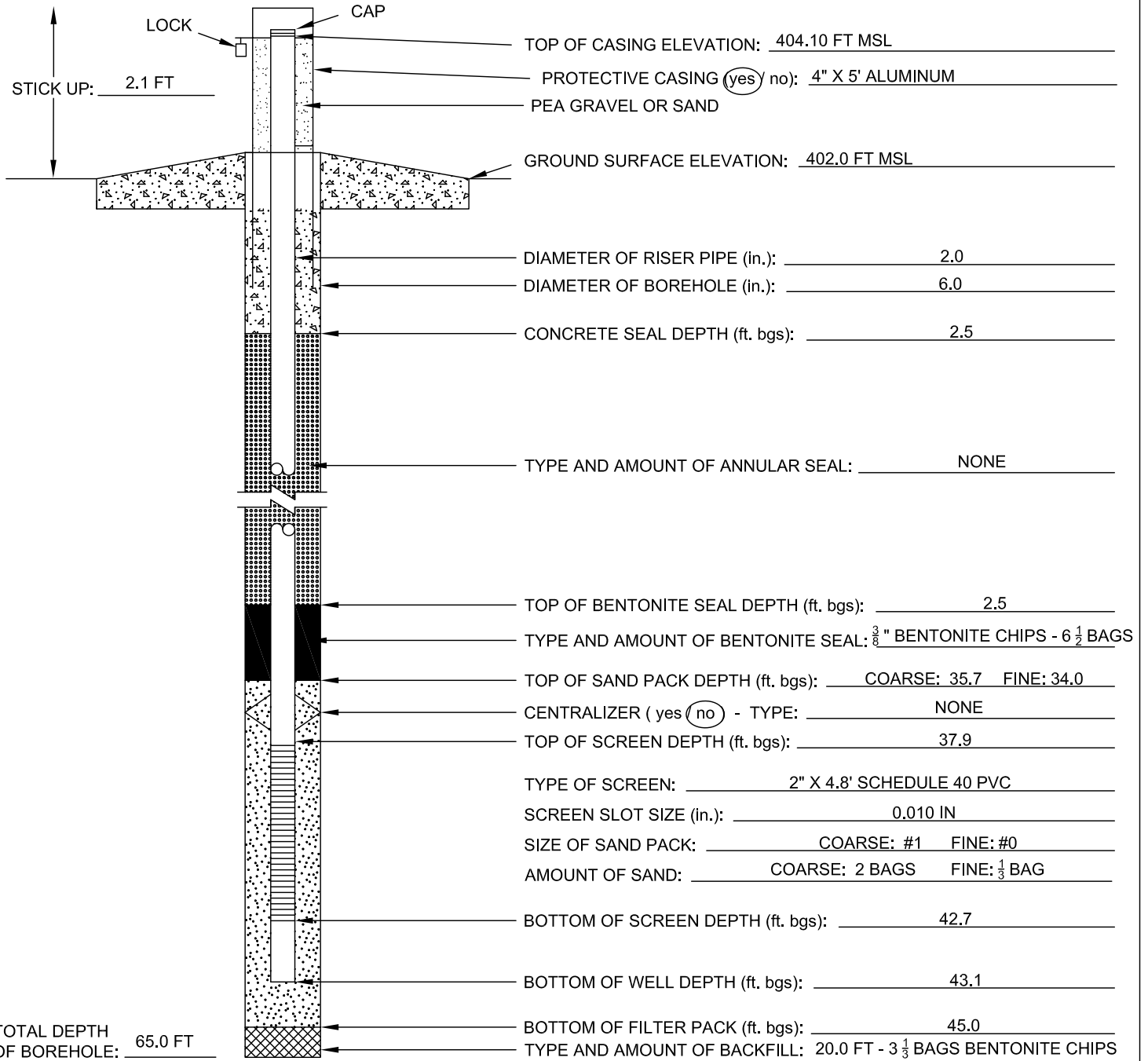
ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
 150 GALLONS OF H2O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON FEBRUARY 4, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

CHECKED BY: J. INGRAM
 DATE CHECKED: 4/25/2016
 PREPARED BY: J. SUOZZI



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG MW-4

| | | | |
|--|-----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: MW-4 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 402.0 FT MSL | |
| GEOLOGIST: J. SUOZZI | NORTHING: 935618.0 | EASTING: 864629.8 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 20.25 FT BTOC | COMPLETION DATE: 1/22/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
200 GALLONS OF H2O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON FEBRUARY 4, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

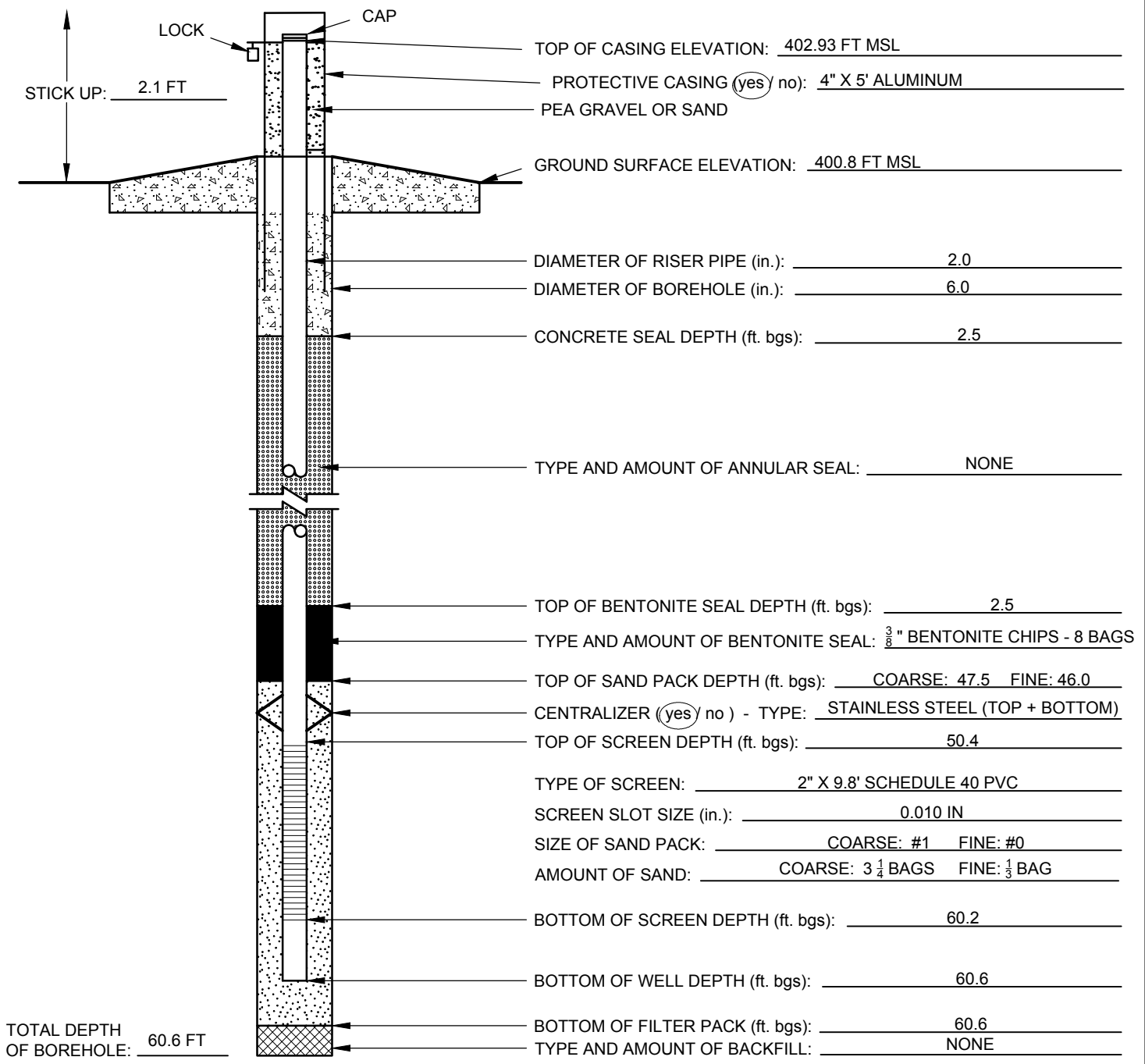
CHECKED BY: J. INGRAM
 DATE CHECKED: 4/25/2016

PREPARED BY: J. SUOZZI



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG MW-5

| | | | |
|--|-----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: MW-5 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 400.8 FT MSL | |
| GEOLOGIST: J. SUOZZI | NORTHING: 934874.4 | EASTING: 864781.0 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 18.89 FT BTOC | COMPLETION DATE: 1/22/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



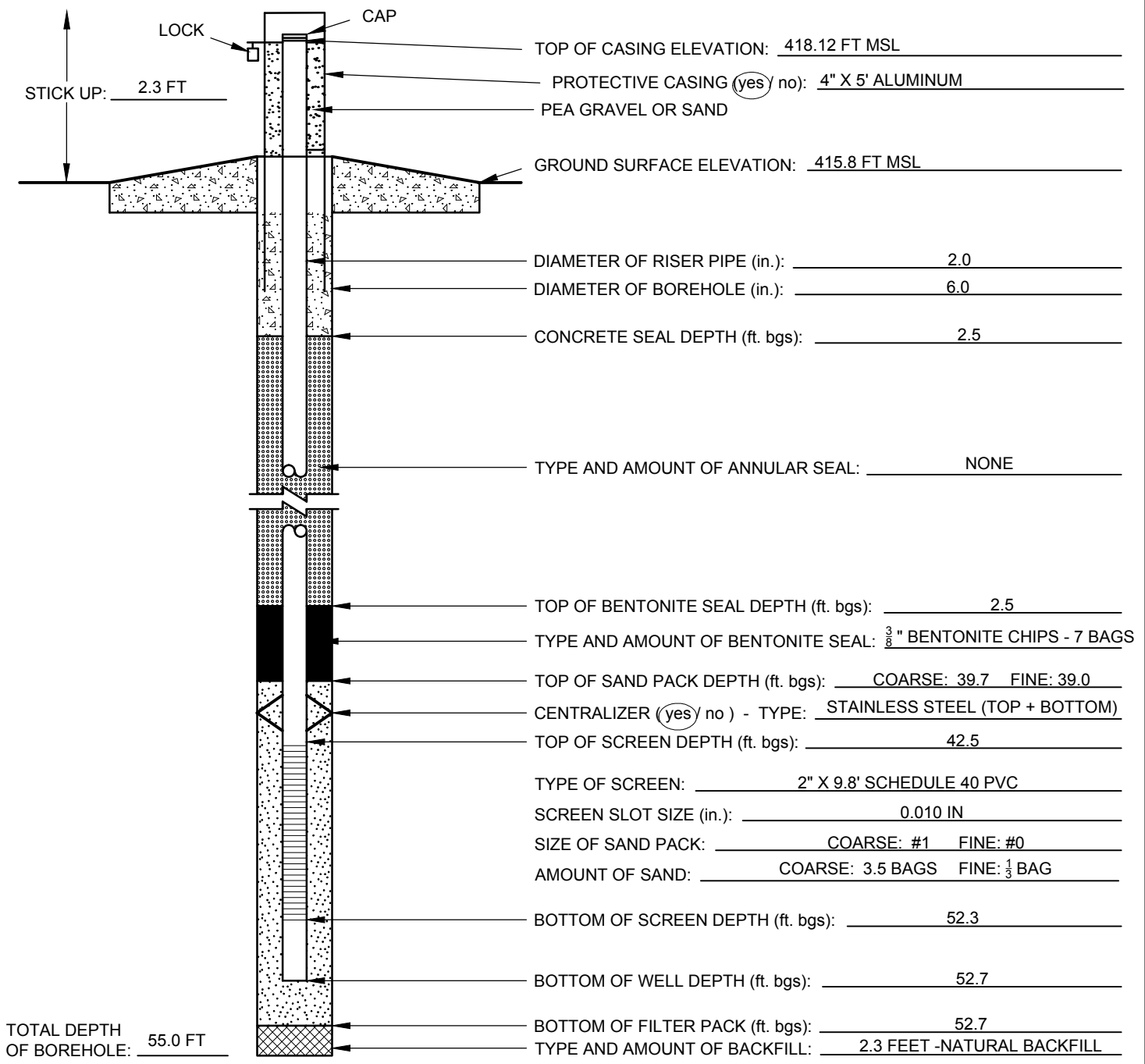
ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
 250 GALLONS OF H2O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON FEBRUARY 4, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

CHECKED BY: J. INGRAM
 DATE CHECKED: 4/25/2016
 PREPARED BY: J. SUOZZI



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG MW-6

| | | | |
|--|-----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: MW-6 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 415.8 FT MSL | |
| GEOLOGIST: J. SUOZZI | NORTHING: 933905.2 | EASTING: 865153.5 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 33.60 FT BTOC | COMPLETION DATE: 1/21/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



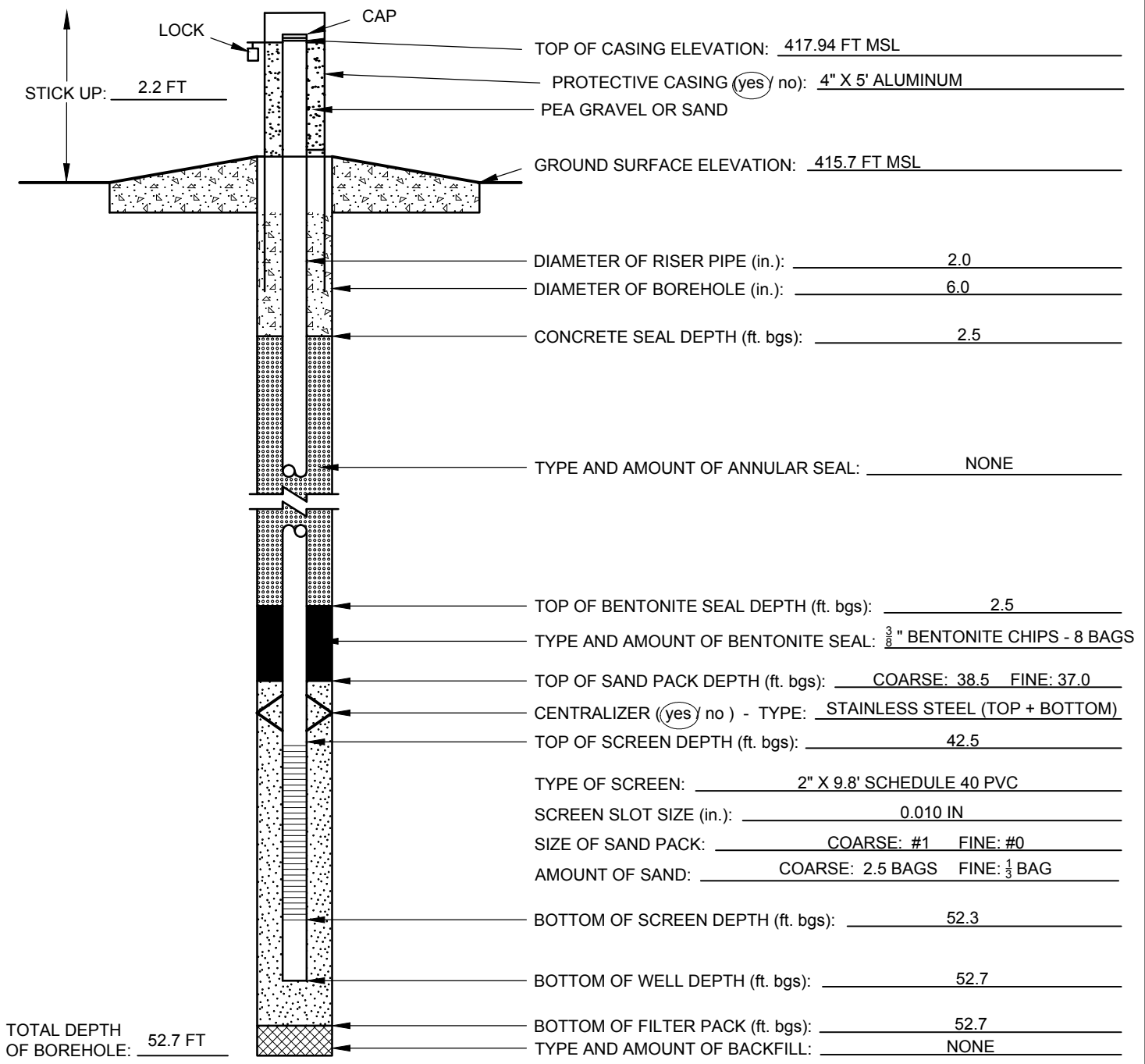
ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
300 GALLONS OF H2O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000)
MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON FEBRUARY 4, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

CHECKED BY: J. INGRAM
 DATE CHECKED: 4/25/2016
 PREPARED BY: J. SUOZZI



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG MW-7

| | | | |
|--|-----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: MW-7 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 415.7 FT MSL | |
| GEOLOGIST: J. SUOZZI | NORTHING: 934334.4 | EASTING: 866242.5 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 33.26 FT BTOC | COMPLETION DATE: 1/24/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



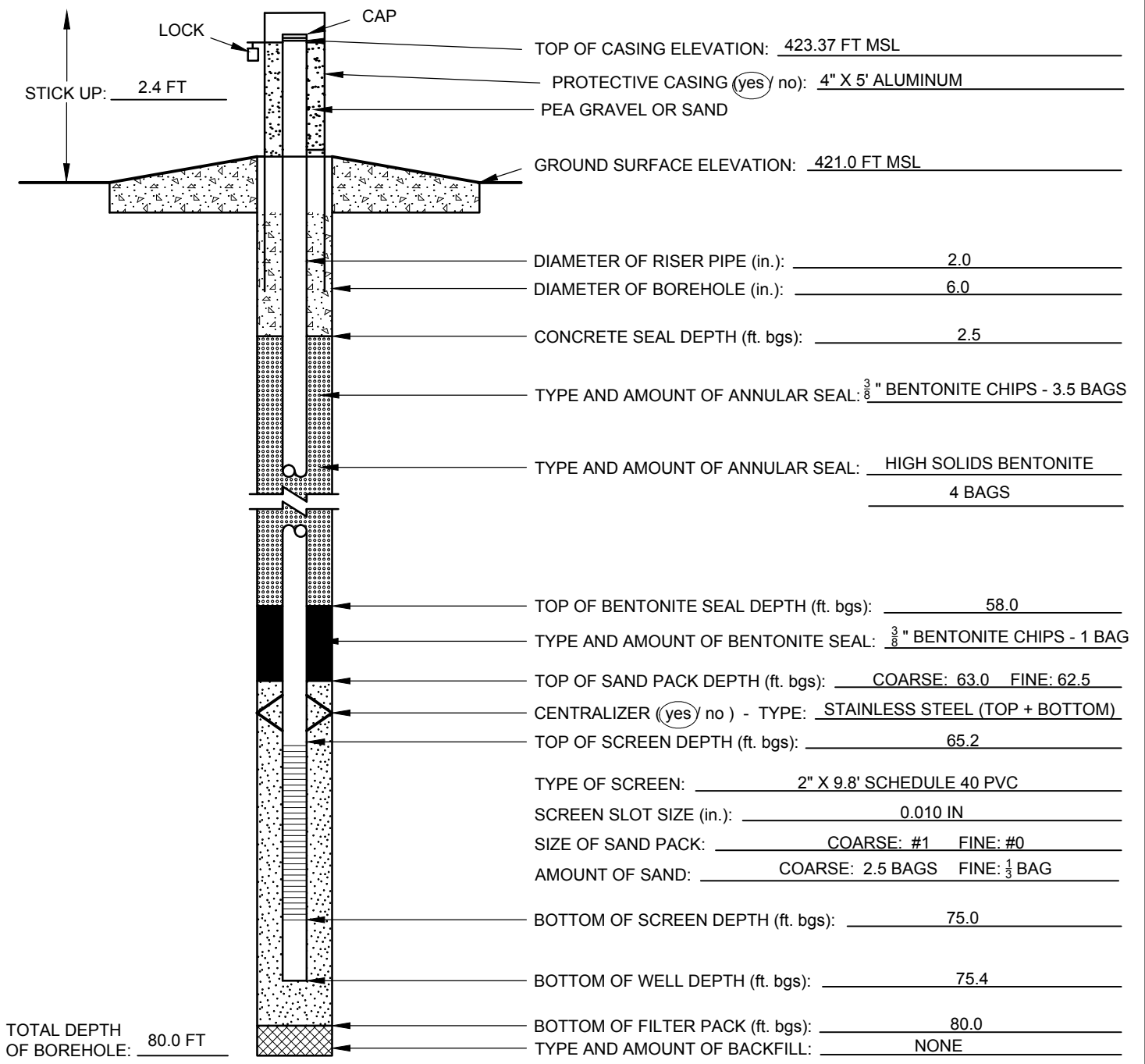
ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
 200 GALLONS OF H2O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON FEBRUARY 4, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

CHECKED BY: J. INGRAM
 DATE CHECKED: 4/25/2016
 PREPARED BY: J. SUOZZI



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG MW-8

| | | | |
|--|-----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: MW-8 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 421.0 FT MSL | |
| GEOLOGIST: J. SUOZZI | NORTHING: 935303.6 | EASTING: 866797.8 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 38.20 FT BTOC | COMPLETION DATE: 1/24/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



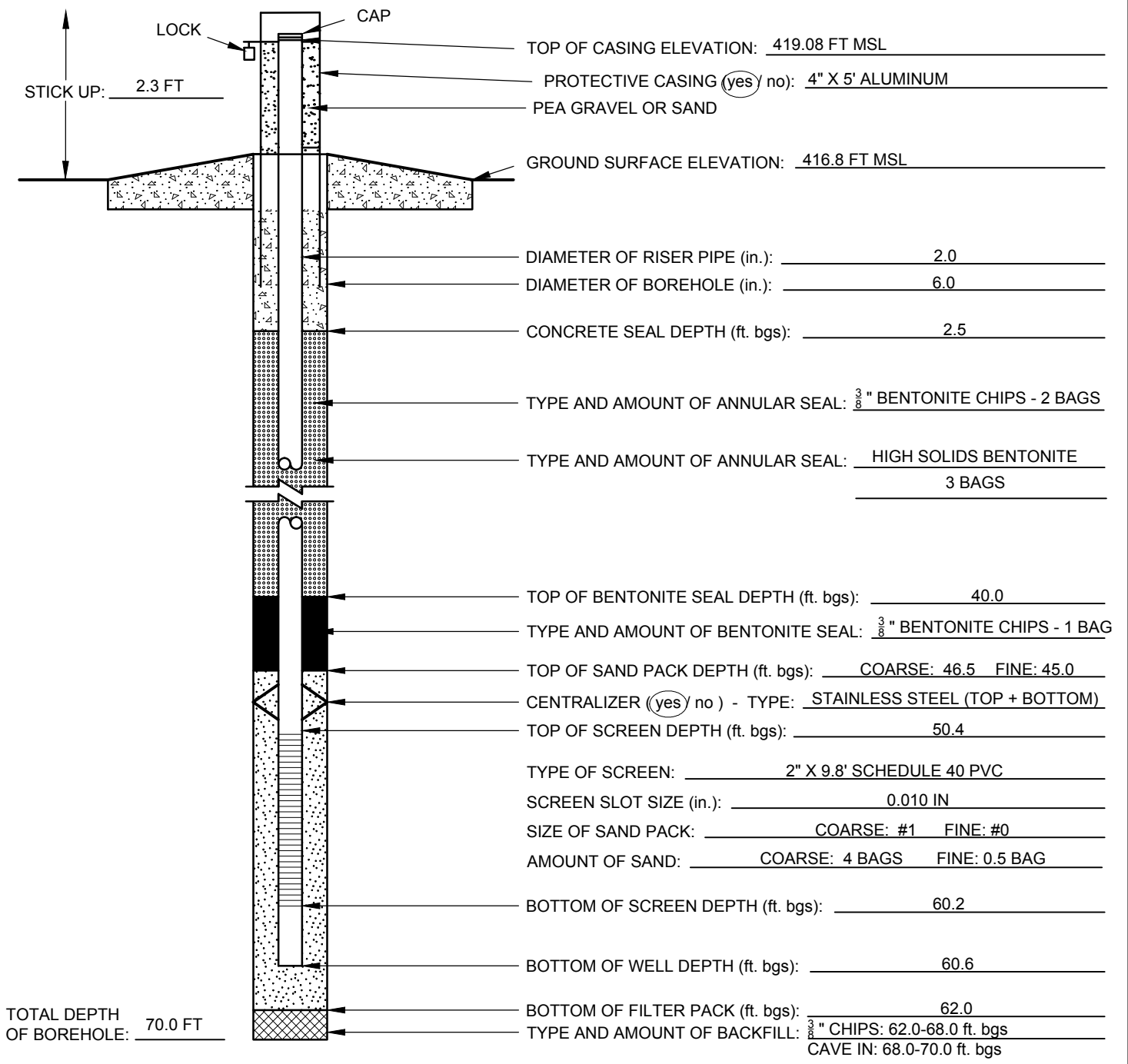
ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
 250 GALLONS OF H2O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON FEBRUARY 4, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

CHECKED BY: J. INGRAM
 DATE CHECKED: 4/25/2016
 PREPARED BY: J. SUOZZI



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG BMW-1

| | | | |
|--|-----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: BMW-1 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 416.8 FT MSL | |
| GEOLOGIST: J. INGRAM | NORTHING: 935220.4 | EASTING: 867989.4 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 25.42 FT BTOC | COMPLETION DATE: 4/7/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



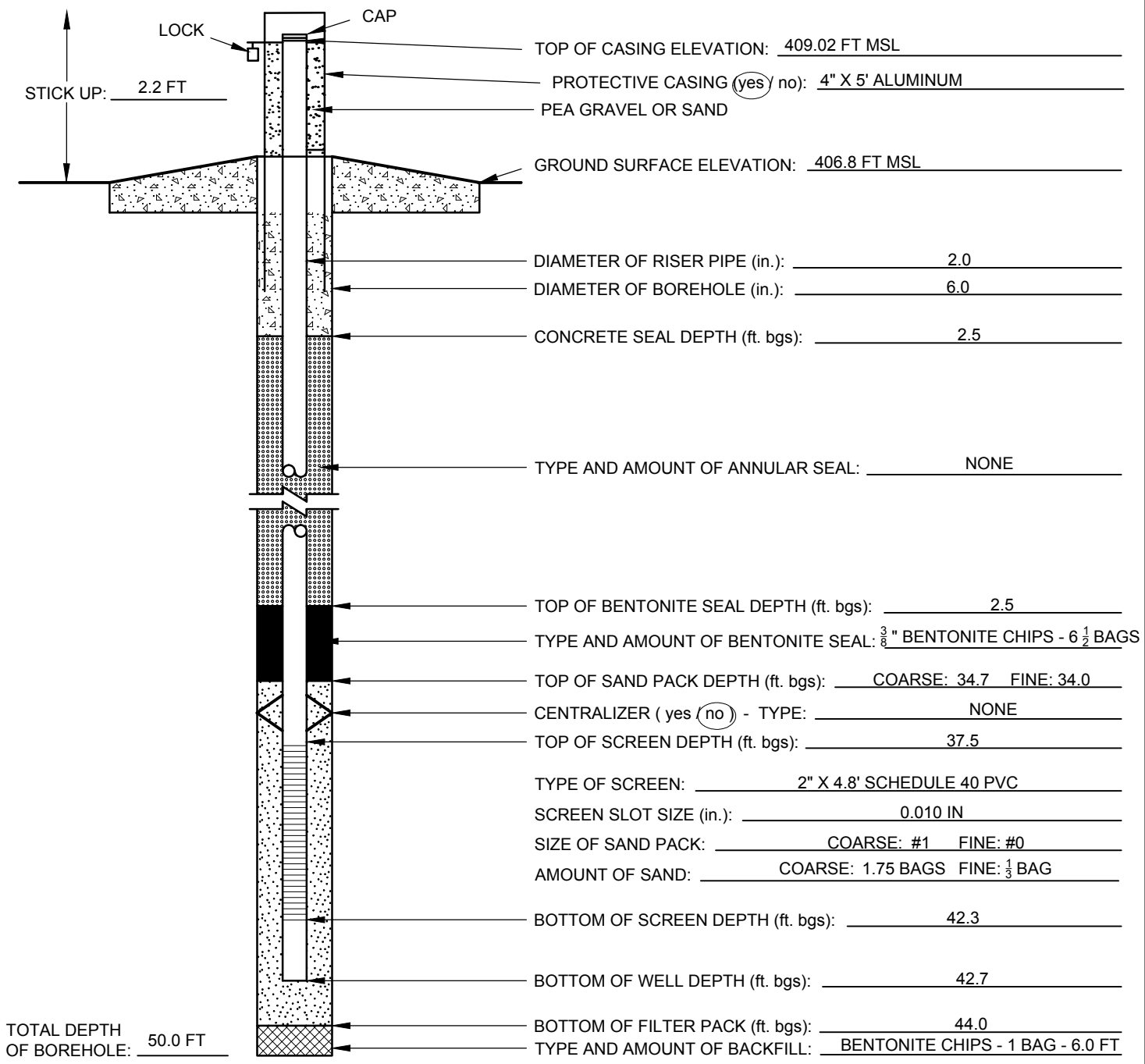
ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
 200 GALLONS OF H2O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON APRIL 28, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

CHECKED BY: J. INGRAM
 DATE CHECKED: 6/2/2016
 PREPARED BY: J. SUOZZI



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG BMW-2

| | | | |
|--|-----------------------------------|---------------------------------|--|
| PROJECT NAME: AMEREN CCR GW MONITORING | | PROJECT NUMBER: 153-1406.0004A | |
| SITE NAME: MERAMEC ENERGY CENTER | | LOCATION: BMW-2 | |
| CLIENT: AMEREN MISSOURI | | SURFACE ELEVATION: 406.8 FT MSL | |
| GEOLOGIST: J. SUOZZI | NORTHING: 937927.1 | EASTING: 866342.2 | |
| DRILLER: J. DRABEK | STATIC WATER LEVEL: 14.11 FT BTOC | COMPLETION DATE: 1/25/2016 | |
| DRILLING COMPANY: CASCADE | | DRILLING METHODS: SONIC | |



ADDITIONAL NOTES: FT BGS = FEET BELOW GROUND SURFACE. FT MSL = FEET ABOVE MEAN SEA LEVEL.
 120 GALLONS OF H2O USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FT (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. WELL SURVEYED BY ZAHNER AND ASSOCIATES, INC ON FEBRUARY 4, 2016.
 FT BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH.

CHECKED BY: J. INGRAM
 DATE CHECKED: 4/25/2016
 PREPARED BY: J. SUOZZI

APPENDIX B – LABORATORY ANALYTICAL DATA

April 22, 2016

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60216046

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on April 01, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Pennsylvania Certification IDs

Georgia Certification #: C040
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|------------|--------|----------------|----------------|
| 60216046001 | M-MW-1 | Water | 03/29/16 13:00 | 04/01/16 04:00 |
| 60216046002 | M-MW-2 | Water | 03/29/16 10:24 | 04/01/16 04:00 |
| 60216046003 | M-MW-3 | Water | 03/29/16 13:30 | 04/01/16 04:00 |
| 60216046004 | M-MW-4 | Water | 03/29/16 16:27 | 04/01/16 04:00 |
| 60216046005 | M-MW-5 | Water | 03/29/16 10:00 | 04/01/16 04:00 |
| 60216046006 | M-MW-6 | Water | 03/30/16 15:15 | 04/01/16 04:00 |
| 60216046007 | M-MW-7 | Water | 03/29/16 14:20 | 04/01/16 04:00 |
| 60216046008 | M-MW-8 | Water | 03/30/16 16:55 | 04/01/16 04:00 |
| 60216046009 | M-BMW-2 | Water | 03/29/16 10:25 | 04/01/16 04:00 |
| 60216046010 | M-DUP-1 | Water | 03/29/16 00:00 | 04/01/16 04:00 |
| 60216046011 | M-FB-1 | Water | 03/29/16 15:02 | 04/01/16 04:00 |
| 60216046012 | M-MW-2 MS | Water | 03/29/16 10:24 | 04/01/16 04:00 |
| 60216046013 | M-MW-2 MSD | Water | 03/29/16 10:24 | 04/01/16 04:00 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60216046001 | M-MW-1 | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LJS | 1 | PASI-K |
| | | SM 4500-H+B | LJS | 1 | PASI-K |
| 60216046002 | M-MW-2 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LJS | 1 | PASI-K |
| 60216046003 | M-MW-3 | SM 4500-H+B | LJS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60216046004 | M-MW-4 | SM 2540C | LJS | 1 | PASI-K |
| | | SM 4500-H+B | LJS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ, SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| 60216046005 | M-MW-5 | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LJS | 1 | PASI-K |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | SM 4500-H+B | LJS | 1 | PASI-K |
| | | EPA 200.7 | NDJ, SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| EPA 7470 | ZBM | 1 | PASI-K | | |
| EPA 903.1 | WRR | 1 | PASI-PA | | |
| EPA 904.0 | JLW | 1 | PASI-PA | | |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60216046006 | M-MW-6 | SM 2540C | LJS | 1 | PASI-K |
| | | SM 4500-H+B | LJS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ, SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | AGO | 1 | PASI-K |
| 60216046007 | M-MW-7 | SM 4500-H+B | LJS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ, SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LJS | 1 | PASI-K |
| | | SM 4500-H+B | LJS | 1 | PASI-K |
| 60216046008 | M-MW-8 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ, SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | AGO | 1 | PASI-K |
| | | SM 4500-H+B | LJS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60216046009 | M-BMW-2 | EPA 200.7 | NDJ, SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LJS | 1 | PASI-K |
| | | SM 4500-H+B | LJS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ, SMW | 8 | PASI-K |
| 60216046010 | M-DUP-1 | EPA 200.7 | NDJ, SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|--------------------|-------------------|-------------|----------|-------------------|------------|
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LJS | 1 | PASI-K |
| | | SM 4500-H+B | LJS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60216046011 | M-FB-1 | EPA 200.7 | NDJ, SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LJS | 1 | PASI-K |
| | | SM 4500-H+B | LJS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60216046012 | M-MW-2 MS | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60216046013 | M-MW-2 MSD | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-1 **Lab ID: 60216046001** Collected: 03/29/16 13:00 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 352 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 16:51 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 16:51 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 16:51 | 7440-42-8 | |
| Calcium | 121000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 16:51 | 7440-70-2 | |
| Cobalt | 1.5J | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/05/16 16:51 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/05/16 16:51 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 16:51 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 16:51 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.063J | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 16:24 | 7440-36-0 | |
| Arsenic | 0.83J | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 16:24 | 7440-38-2 | |
| Cadmium | 0.042J | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 16:24 | 7440-43-9 | |
| Chromium | 0.97J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 16:24 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 16:24 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 16:24 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 11:59 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 611 | mg/L | 5.0 | 5.0 | 1 | | 04/03/16 17:15 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.6 | Std. Units | 0.10 | 0.10 | 1 | | 04/05/16 12:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 92.7 | mg/L | 10.0 | 5.0 | 10 | | 04/05/16 10:49 | 16887-00-6 | |
| Fluoride | 0.30 | mg/L | 0.20 | 0.073 | 1 | | 04/04/16 02:16 | 16984-48-8 | |
| Sulfate | 55.2 | mg/L | 5.0 | 1.2 | 5 | | 04/05/16 10:04 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-2 **Lab ID: 60216046002** Collected: 03/29/16 10:24 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 471 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 16:53 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 16:53 | 7440-41-7 | |
| Boron | 4530 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 16:53 | 7440-42-8 | |
| Calcium | 113000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 16:53 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/05/16 16:53 | 7440-48-4 | |
| Lead | 2.6J | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/05/16 16:53 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 16:53 | 7439-93-2 | |
| Molybdenum | 1.2J | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 16:53 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 16:29 | 7440-36-0 | |
| Arsenic | 2.0 | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 16:29 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 16:29 | 7440-43-9 | |
| Chromium | 0.74J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 16:29 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 16:29 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 16:29 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:02 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 716 | mg/L | 5.0 | 5.0 | 1 | | 04/03/16 17:15 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.5 | Std. Units | 0.10 | 0.10 | 1 | | 04/05/16 12:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 26.5 | mg/L | 2.0 | 1.0 | 2 | | 04/05/16 12:05 | 16887-00-6 | |
| Fluoride | 0.17J | mg/L | 0.20 | 0.073 | 1 | | 04/04/16 02:58 | 16984-48-8 | |
| Sulfate | 313 | mg/L | 20.0 | 5.0 | 20 | | 04/05/16 12:36 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-3 **Lab ID: 60216046003** Collected: 03/29/16 13:30 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 238 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 16:59 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 16:59 | 7440-41-7 | |
| Boron | 5610 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 16:59 | 7440-42-8 | |
| Calcium | 122000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 16:59 | 7440-70-2 | M1 |
| Cobalt | 1.0J | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/05/16 16:59 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/05/16 16:59 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 16:59 | 7439-93-2 | |
| Molybdenum | 2.5J | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 16:59 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 16:42 | 7440-36-0 | |
| Arsenic | 4.6 | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 16:42 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 16:42 | 7440-43-9 | |
| Chromium | 0.93J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 16:42 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 16:42 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 16:42 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:08 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 682 | mg/L | 5.0 | 5.0 | 1 | | 04/03/16 17:16 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 04/06/16 09:35 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 48.9 | mg/L | 5.0 | 2.5 | 5 | | 04/05/16 13:06 | 16887-00-6 | |
| Fluoride | 0.14J | mg/L | 0.20 | 0.073 | 1 | | 04/04/16 03:26 | 16984-48-8 | |
| Sulfate | 231 | mg/L | 20.0 | 5.0 | 20 | | 04/05/16 13:21 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-4 **Lab ID: 60216046004** Collected: 03/29/16 16:27 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 222 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7440-41-7 | |
| Boron | 8980 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7440-42-8 | |
| Calcium | 160000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/06/16 13:38 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/06/16 13:38 | 7439-92-1 | |
| Lithium | 22.4 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7439-93-2 | |
| Molybdenum | 51.7 | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 16:46 | 7440-36-0 | |
| Arsenic | 10.5 | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 16:46 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 16:46 | 7440-43-9 | |
| Chromium | 0.68J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 16:46 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 16:46 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 16:46 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:11 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 918 | mg/L | 5.0 | 5.0 | 1 | | 04/03/16 17:16 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 04/06/16 09:35 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 35.8 | mg/L | 5.0 | 2.5 | 5 | | 04/05/16 13:36 | 16887-00-6 | |
| Fluoride | 0.21 | mg/L | 0.20 | 0.073 | 1 | | 04/04/16 03:40 | 16984-48-8 | |
| Sulfate | 370 | mg/L | 50.0 | 12.4 | 50 | | 04/05/16 13:52 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-5 **Lab ID: 60216046005** Collected: 03/29/16 10:00 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 289 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 17:11 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 17:11 | 7440-41-7 | |
| Boron | 7300 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 17:11 | 7440-42-8 | |
| Calcium | 156000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 17:11 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/06/16 13:41 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/06/16 13:41 | 7439-92-1 | |
| Lithium | 19.6 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 17:11 | 7439-93-2 | |
| Molybdenum | 82.2 | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 17:11 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 16:55 | 7440-36-0 | |
| Arsenic | 8.0 | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 16:55 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 16:55 | 7440-43-9 | |
| Chromium | 0.42J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 16:55 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 16:55 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 16:55 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:13 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 918 | mg/L | 5.0 | 5.0 | 1 | | 04/03/16 17:17 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.5 | Std. Units | 0.10 | 0.10 | 1 | | 04/05/16 12:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 40.2 | mg/L | 5.0 | 2.5 | 5 | | 04/05/16 14:37 | 16887-00-6 | |
| Fluoride | 0.25 | mg/L | 0.20 | 0.073 | 1 | | 04/04/16 04:22 | 16984-48-8 | |
| Sulfate | 374 | mg/L | 50.0 | 12.4 | 50 | | 04/05/16 14:52 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-6 **Lab ID: 60216046006** Collected: 03/30/16 15:15 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 75.4 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 17:13 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 17:13 | 7440-41-7 | |
| Boron | 18800 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 17:13 | 7440-42-8 | |
| Calcium | 301000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 17:13 | 7440-70-2 | |
| Cobalt | 0.86J | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/06/16 13:45 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/06/16 13:45 | 7439-92-1 | |
| Lithium | 129 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 17:13 | 7439-93-2 | |
| Molybdenum | 137 | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 17:13 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.062J | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7440-36-0 | |
| Arsenic | 5.0 | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7440-43-9 | |
| Chromium | 0.37J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 17:08 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:15 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1280 | mg/L | 5.0 | 5.0 | 1 | | 04/05/16 09:17 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.6 | Std. Units | 0.10 | 0.10 | 1 | | 04/12/16 16:40 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 23.4 | mg/L | 2.0 | 1.0 | 2 | | 04/05/16 15:08 | 16887-00-6 | |
| Fluoride | 0.17J | mg/L | 0.20 | 0.073 | 1 | | 04/04/16 04:36 | 16984-48-8 | |
| Sulfate | 580 | mg/L | 50.0 | 12.4 | 50 | | 04/05/16 15:23 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-7 **Lab ID: 60216046007** Collected: 03/29/16 14:20 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|-----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 57.4 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 17:15 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 17:15 | 7440-41-7 | |
| Boron | 21500 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 17:15 | 7440-42-8 | |
| Calcium | 293000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 17:15 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/06/16 13:49 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/06/16 13:49 | 7439-92-1 | |
| Lithium | 37.8 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 17:15 | 7439-93-2 | |
| Molybdenum | 451 | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 17:15 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.41J | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 17:12 | 7440-36-0 | |
| Arsenic | 2.6 | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 17:12 | 7440-38-2 | |
| Cadmium | 0.081J | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 17:12 | 7440-43-9 | |
| Chromium | 0.91J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 17:12 | 7440-47-3 | |
| Selenium | 1.5 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 17:12 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 17:12 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:17 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1590 | mg/L | 5.0 | 5.0 | 1 | | 04/03/16 17:17 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.7 | Std. Units | 0.10 | 0.10 | 1 | | 04/06/16 09:35 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 58.3 | mg/L | 5.0 | 2.5 | 5 | | 04/05/16 15:38 | 16887-00-6 | |
| Fluoride | 0.31 | mg/L | 0.20 | 0.073 | 1 | | 04/04/16 04:49 | 16984-48-8 | |
| Sulfate | 911 | mg/L | 100 | 24.8 | 100 | | 04/05/16 15:53 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-8 **Lab ID: 60216046008** Collected: 03/30/16 16:55 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 179 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 17:17 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 17:17 | 7440-41-7 | |
| Boron | 9940 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 17:17 | 7440-42-8 | |
| Calcium | 155000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 17:17 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/06/16 13:53 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/06/16 13:53 | 7439-92-1 | |
| Lithium | 27.6 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 17:17 | 7439-93-2 | |
| Molybdenum | 229 | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 17:17 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.060J | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 17:16 | 7440-36-0 | |
| Arsenic | 6.6 | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 17:16 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 17:16 | 7440-43-9 | |
| Chromium | 0.88J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 17:16 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 17:16 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 17:16 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:24 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 875 | mg/L | 5.0 | 5.0 | 1 | | 04/05/16 09:17 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.6 | Std. Units | 0.10 | 0.10 | 1 | | 04/12/16 16:40 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 24.5 | mg/L | 2.0 | 1.0 | 2 | | 04/05/16 16:08 | 16887-00-6 | |
| Fluoride | 0.29 | mg/L | 0.20 | 0.073 | 1 | | 04/04/16 05:03 | 16984-48-8 | |
| Sulfate | 469 | mg/L | 50.0 | 12.4 | 50 | | 04/05/16 16:24 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-BMW-2 **Lab ID: 60216046009** Collected: 03/29/16 10:25 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 485 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 17:20 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 17:20 | 7440-41-7 | |
| Boron | 94.2J | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 17:20 | 7440-42-8 | |
| Calcium | 89000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 17:20 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/06/16 13:57 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/06/16 13:57 | 7439-92-1 | |
| Lithium | 5.7J | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 17:20 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 17:20 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 17:21 | 7440-36-0 | |
| Arsenic | 0.80J | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 17:21 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 17:21 | 7440-43-9 | |
| Chromium | 0.62J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 17:21 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 17:21 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 17:21 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:26 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 434 | mg/L | 5.0 | 5.0 | 1 | | 04/03/16 17:18 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.4 | Std. Units | 0.10 | 0.10 | 1 | | 04/05/16 12:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 11.8 | mg/L | 1.0 | 0.50 | 1 | | 04/05/16 16:39 | 16887-00-6 | |
| Fluoride | 0.38 | mg/L | 0.20 | 0.073 | 1 | | 04/05/16 16:39 | 16984-48-8 | |
| Sulfate | 14.8 | mg/L | 1.0 | 0.25 | 1 | | 04/05/16 16:39 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-DUP-1 **Lab ID: 60216046010** Collected: 03/29/16 00:00 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 235 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 17:22 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 17:22 | 7440-41-7 | |
| Boron | 5600 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 17:22 | 7440-42-8 | |
| Calcium | 120000 | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 17:22 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/06/16 14:00 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/06/16 14:00 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 17:22 | 7439-93-2 | |
| Molybdenum | 2.0J | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 17:22 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 17:25 | 7440-36-0 | |
| Arsenic | 4.3 | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 17:25 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 17:25 | 7440-43-9 | |
| Chromium | 0.96J | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 17:25 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 17:25 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 17:25 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:28 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 692 | mg/L | 5.0 | 5.0 | 1 | | 04/03/16 17:19 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 04/05/16 12:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 49.6 | mg/L | 5.0 | 2.5 | 5 | | 04/05/16 16:54 | 16887-00-6 | |
| Fluoride | 0.13J | mg/L | 0.20 | 0.073 | 1 | | 04/04/16 05:31 | 16984-48-8 | |
| Sulfate | 230 | mg/L | 20.0 | 5.0 | 20 | | 04/05/16 17:40 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-FB-1 **Lab ID: 60216046011** Collected: 03/29/16 15:02 Received: 04/01/16 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | <0.58 | ug/L | 10.0 | 0.58 | 1 | 04/01/16 14:00 | 04/05/16 17:24 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 04/01/16 14:00 | 04/05/16 17:24 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 04/01/16 14:00 | 04/05/16 17:24 | 7440-42-8 | |
| Calcium | 31.2J | ug/L | 100 | 8.1 | 1 | 04/01/16 14:00 | 04/05/16 17:24 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 04/01/16 14:00 | 04/06/16 14:04 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 04/01/16 14:00 | 04/06/16 14:04 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 04/01/16 14:00 | 04/05/16 17:24 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 04/01/16 14:00 | 04/05/16 17:24 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 04/01/16 14:00 | 04/05/16 17:38 | 7440-36-0 | |
| Arsenic | <0.10 | ug/L | 1.0 | 0.10 | 1 | 04/01/16 14:00 | 04/05/16 17:38 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 04/01/16 14:00 | 04/05/16 17:38 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 04/01/16 14:00 | 04/05/16 17:38 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 04/01/16 14:00 | 04/05/16 17:38 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 04/01/16 14:00 | 04/05/16 17:38 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 04/11/16 16:50 | 04/12/16 12:31 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | <5.0 | mg/L | 5.0 | 5.0 | 1 | | 04/03/16 17:20 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 04/06/16 09:35 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 04/05/16 17:55 | 16887-00-6 | |
| Fluoride | <0.073 | mg/L | 0.20 | 0.073 | 1 | | 04/05/16 17:55 | 16984-48-8 | |
| Sulfate | <0.25 | mg/L | 1.0 | 0.25 | 1 | | 04/05/16 17:55 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| | | | |
|-------------------------|---|-----------------------|---------------------|
| QC Batch: | MPRP/35408 | Analysis Method: | EPA 200.7 |
| QC Batch Method: | EPA 200.7 | Analysis Description: | 200.7 Metals, Total |
| Associated Lab Samples: | 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046006, 60216046007, 60216046008, 60216046009, 60216046010, 60216046011 | | |

| | | | |
|-------------------------|---|---------|-------|
| METHOD BLANK: | 1734663 | Matrix: | Water |
| Associated Lab Samples: | 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046006, 60216046007, 60216046008, 60216046009, 60216046010, 60216046011 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | <0.58 | 10.0 | 0.58 | 04/05/16 16:48 | |
| Beryllium | ug/L | <0.26 | 1.0 | 0.26 | 04/05/16 16:48 | |
| Boron | ug/L | <50.0 | 100 | 50.0 | 04/05/16 16:48 | |
| Calcium | ug/L | <8.1 | 100 | 8.1 | 04/05/16 16:48 | |
| Cobalt | ug/L | <0.72 | 5.0 | 0.72 | 04/05/16 16:48 | |
| Lead | ug/L | <2.5 | 5.0 | 2.5 | 04/05/16 16:48 | |
| Lithium | ug/L | <4.9 | 10.0 | 4.9 | 04/05/16 16:48 | |
| Molybdenum | ug/L | <0.52 | 20.0 | 0.52 | 04/05/16 16:48 | |

LABORATORY CONTROL SAMPLE: 1734664

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 961 | 96 | 85-115 | |
| Beryllium | ug/L | 1000 | 939 | 94 | 85-115 | |
| Boron | ug/L | 1000 | 1040 | 104 | 85-115 | |
| Calcium | ug/L | 10000 | 9310 | 93 | 85-115 | |
| Cobalt | ug/L | 1000 | 1120 | 112 | 85-115 | |
| Lead | ug/L | 1000 | 1100 | 110 | 85-115 | |
| Lithium | ug/L | 1000 | 954 | 95 | 85-115 | |
| Molybdenum | ug/L | 1000 | 1140 | 114 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1734665 1734666

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|------------|-------|--------------------|-------------|-------------|-----------|----------|-----------|--------------|--------|---------|------|
| | | 60216046002 Result | Spike Conc. | Spike Conc. | MS Result | | | | | | |
| Barium | ug/L | 471 | 1000 | 1000 | 1430 | 1430 | 96 | 96 | 70-130 | 0 | 20 |
| Beryllium | ug/L | <0.26 | 1000 | 1000 | 917 | 922 | 92 | 92 | 70-130 | 1 | 20 |
| Boron | ug/L | 4530 | 1000 | 1000 | 5640 | 5660 | 111 | 113 | 70-130 | 0 | 20 |
| Calcium | ug/L | 113000 | 10000 | 10000 | 122000 | 123000 | 96 | 103 | 70-130 | 1 | 20 |
| Cobalt | ug/L | <0.72 | 1000 | 1000 | 1090 | 1090 | 109 | 109 | 70-130 | 0 | 20 |
| Lead | ug/L | 2.6J | 1000 | 1000 | 1080 | 1080 | 107 | 107 | 70-130 | 0 | 20 |
| Lithium | ug/L | <4.9 | 1000 | 1000 | 991 | 996 | 99 | 99 | 70-130 | 0 | 20 |
| Molybdenum | ug/L | 1.2J | 1000 | 1000 | 1140 | 1140 | 114 | 114 | 70-130 | 0 | 20 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| MATRIX SPIKE SAMPLE: 1734667 | | 60216046003 | Spike | MS | MS | % Rec | |
|------------------------------|-------|-------------|-------|--------|-------|--------|------------|
| Parameter | Units | Result | Conc. | Result | % Rec | Limits | Qualifiers |
| Barium | ug/L | 238 | 1000 | 1180 | 95 | 70-130 | |
| Beryllium | ug/L | <0.26 | 1000 | 918 | 92 | 70-130 | |
| Boron | ug/L | 5610 | 1000 | 6570 | 96 | 70-130 | |
| Calcium | ug/L | 122000 | 10000 | 129000 | 64 | 70-130 | M1 |
| Cobalt | ug/L | 1.0J | 1000 | 1090 | 109 | 70-130 | |
| Lead | ug/L | <2.5 | 1000 | 1080 | 108 | 70-130 | |
| Lithium | ug/L | <4.9 | 1000 | 995 | 99 | 70-130 | |
| Molybdenum | ug/L | 2.5J | 1000 | 1140 | 114 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

QC Batch: MPRP/35409 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Associated Lab Samples: 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046006, 60216046007, 60216046008, 60216046009, 60216046010, 60216046011

METHOD BLANK: 1734668 Matrix: Water
 Associated Lab Samples: 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046006, 60216046007, 60216046008, 60216046009, 60216046010, 60216046011

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.058 | 1.0 | 0.058 | 04/05/16 16:16 | |
| Arsenic | ug/L | <0.10 | 1.0 | 0.10 | 04/05/16 16:16 | |
| Cadmium | ug/L | <0.029 | 0.50 | 0.029 | 04/05/16 16:16 | |
| Chromium | ug/L | <0.34 | 1.0 | 0.34 | 04/05/16 16:16 | |
| Selenium | ug/L | <0.18 | 1.0 | 0.18 | 04/05/16 16:16 | |
| Thallium | ug/L | <0.50 | 1.0 | 0.50 | 04/05/16 16:16 | |

LABORATORY CONTROL SAMPLE: 1734669

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 40.7 | 102 | 85-115 | |
| Arsenic | ug/L | 40 | 41.9 | 105 | 85-115 | |
| Cadmium | ug/L | 40 | 40.6 | 102 | 85-115 | |
| Chromium | ug/L | 40 | 39.8 | 100 | 85-115 | |
| Selenium | ug/L | 40 | 41.6 | 104 | 85-115 | |
| Thallium | ug/L | 40 | 36.5 | 91 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1734670 1734671

| Parameter | Units | 60216046002 Result | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|-------------|-----------|------------|------------|----------|-----------|--------------|-----|---------|------|
| | | | Spike Conc. | MS Result | MSD Result | MSD Result | | | | | | |
| Antimony | ug/L | <0.058 | 40 | 40 | 39.5 | 40.1 | 99 | 100 | 70-130 | 1 | 20 | |
| Arsenic | ug/L | 2.0 | 40 | 40 | 42.9 | 43.1 | 102 | 103 | 70-130 | 0 | 20 | |
| Cadmium | ug/L | <0.029 | 40 | 40 | 38.2 | 38.5 | 96 | 96 | 70-130 | 1 | 20 | |
| Chromium | ug/L | 0.74J | 40 | 40 | 40.1 | 39.7 | 98 | 97 | 70-130 | 1 | 20 | |
| Selenium | ug/L | <0.18 | 40 | 40 | 39.2 | 39.3 | 98 | 98 | 70-130 | 0 | 20 | |
| Thallium | ug/L | <0.50 | 40 | 40 | 39.3 | 39.5 | 98 | 99 | 70-130 | 0 | 20 | |

MATRIX SPIKE SAMPLE: 1734672

| Parameter | Units | 60216046004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | <0.058 | 40 | 39.3 | 98 | 70-130 | |
| Arsenic | ug/L | 10.5 | 40 | 51.1 | 102 | 70-130 | |
| Cadmium | ug/L | <0.029 | 40 | 38.5 | 96 | 70-130 | |
| Chromium | ug/L | 0.68J | 40 | 39.1 | 96 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| MATRIX SPIKE SAMPLE: | | 1734672 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60216046004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Selenium | ug/L | <0.18 | 40 | 37.6 | 94 | 70-130 | |
| Thallium | ug/L | <0.50 | 40 | 39.7 | 99 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

QC Batch: WET/60966 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046007, 60216046009,
 60216046010, 60216046011

METHOD BLANK: 1735399 Matrix: Water
 Associated Lab Samples: 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046007, 60216046009,
 60216046010, 60216046011

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 04/03/16 17:13 | |

LABORATORY CONTROL SAMPLE: 1735400

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 974 | 97 | 80-120 | |

SAMPLE DUPLICATE: 1735401

| Parameter | Units | 60215998002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 978 | 980 | 0 | 10 | |

SAMPLE DUPLICATE: 1735403

| Parameter | Units | 60216046002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 716 | 722 | 1 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

QC Batch: WET/60996

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60216046006, 60216046008

METHOD BLANK: 1735821

Matrix: Water

Associated Lab Samples: 60216046006, 60216046008

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 04/05/16 09:10 | |

LABORATORY CONTROL SAMPLE: 1735822

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 980 | 98 | 80-120 | |

SAMPLE DUPLICATE: 1735823

| Parameter | Units | 60215933004 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 16100 | 14800 | 8 | 10 | |

SAMPLE DUPLICATE: 1735824

| Parameter | Units | 60216013002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 627 | 622 | 1 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

QC Batch: WET/61006 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60216046001, 60216046002, 60216046005, 60216046009, 60216046010

SAMPLE DUPLICATE: 1735894

| Parameter | Units | 60216046002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 6.5 | 6.5 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

QC Batch: WET/61024 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60216046003, 60216046004, 60216046007, 60216046011

SAMPLE DUPLICATE: 1736512

| Parameter | Units | 60216046003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 6.9 | 7.0 | 1 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

QC Batch: WET/61161 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60216046006, 60216046008

SAMPLE DUPLICATE: 1740237

| Parameter | Units | 60215921002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.6 | 7.7 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

QC Batch: WETA/38818 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046006, 60216046007, 60216046008, 60216046009, 60216046010, 60216046011

METHOD BLANK: 1735389 Matrix: Water
 Associated Lab Samples: 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046006, 60216046007, 60216046008, 60216046010

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Fluoride | mg/L | <0.073 | 0.20 | 0.073 | 04/04/16 01:49 | |

METHOD BLANK: 1735895 Matrix: Water
 Associated Lab Samples: 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046006, 60216046007, 60216046008, 60216046009, 60216046010, 60216046011

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 04/05/16 18:10 | |
| Fluoride | mg/L | <0.073 | 0.20 | 0.073 | 04/05/16 18:10 | |
| Sulfate | mg/L | <0.25 | 1.0 | 0.25 | 04/05/16 18:10 | |

LABORATORY CONTROL SAMPLE: 1735390

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Fluoride | mg/L | 2.5 | 2.5 | 102 | 90-110 | |

LABORATORY CONTROL SAMPLE: 1735896

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.6 | 92 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.3 | 91 | 90-110 | |
| Sulfate | mg/L | 5 | 4.9 | 98 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1735391 1735392

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|-------------|-------------|--------|----------|-----------|--------------|--------|---------|------|
| | | 60216046001 Result | Spike Conc. | Spike Conc. | Result | | | | | | |
| Chloride | mg/L | 92.7 | 50 | 50 | 143 | 143 | 101 | 101 | 80-120 | 0 | 15 |
| Fluoride | mg/L | 0.30 | 2.5 | 2.5 | 2.8 | 2.8 | 102 | 102 | 80-120 | 0 | 15 |
| Sulfate | mg/L | 55.2 | 25 | 25 | 81.8 | 82.3 | 106 | 108 | 80-120 | 1 | 15 |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| MATRIX SPIKE SAMPLE: | | 1735393 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60216046002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Chloride | mg/L | 26.5 | 10 | 36.7 | 102 | 80-120 | |
| Fluoride | mg/L | 0.17J | 2.5 | 2.8 | 104 | 80-120 | |
| Sulfate | mg/L | 313 | 100 | 415 | 102 | 80-120 | |

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-1 **Lab ID: 60216046001** Collected: 03/29/16 13:00 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.142 ± 0.482 (0.931) C:NA T:90% | pCi/L | 04/14/16 10:06 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | -0.163 ± 0.342 (0.826) C:81% T:86% | pCi/L | 04/13/16 17:41 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-2 **Lab ID: 60216046002** Collected: 03/29/16 10:24 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.215 ± 0.373 (0.666) C:NA T:89% | pCi/L | 04/14/16 10:06 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.355 ± 0.361 (0.749) C:87% T:85% | pCi/L | 04/13/16 17:41 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-3 **Lab ID: 60216046003** Collected: 03/29/16 13:30 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.136 ± 0.310 (0.499) C:NA T:90% | pCi/L | 04/14/16 10:22 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.618 ± 0.410 (0.789) C:82% T:85% | pCi/L | 04/13/16 17:41 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-4 **Lab ID: 60216046004** Collected: 03/29/16 16:27 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0675 ± 0.439 (0.884) C:NA T:90% | pCi/L | 04/14/16 10:05 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.561 ± 0.359 (0.682) C:86% T:92% | pCi/L | 04/13/16 17:42 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-5 **Lab ID: 60216046005** Collected: 03/29/16 10:00 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.370 ± 0.455 (0.741) C:NA T:103% | pCi/L | 04/14/16 10:22 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.704 ± 0.408 (0.753) C:83% T:85% | pCi/L | 04/13/16 17:42 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-6 **Lab ID: 60216046006** Collected: 03/30/16 15:15 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0693 ± 0.316 (0.644) C:NA T:92% | pCi/L | 04/14/16 10:24 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.576 ± 0.402 (0.782) C:84% T:86% | pCi/L | 04/13/16 17:42 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-7 **Lab ID: 60216046007** Collected: 03/29/16 14:20 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.454 ± 0.385 (0.478) C:NA T:98% | pCi/L | 04/14/16 10:40 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.429 ± 0.340 (0.672) C:82% T:86% | pCi/L | 04/13/16 17:42 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-8 **Lab ID: 60216046008** Collected: 03/30/16 16:55 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.125 ± 0.566 (0.984) C:NA T:82% | pCi/L | 04/14/16 10:24 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.658 ± 0.363 (0.638) C:80% T:83% | pCi/L | 04/13/16 17:42 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-BMW-2 **Lab ID: 60216046009** Collected: 03/29/16 10:25 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.124 ± 0.298 (0.576) C:NA T:99% | pCi/L | 04/14/16 10:41 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.514 ± 0.414 (0.829) C:78% T:88% | pCi/L | 04/13/16 17:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-DUP-1 **Lab ID: 60216046010** Collected: 03/29/16 00:00 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.192 ± 0.292 (0.173) C:NA T:94% | pCi/L | 04/14/16 10:41 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.761 ± 0.423 (0.766) C:81% T:82% | pCi/L | 04/13/16 17:44 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-FB-1 **Lab ID: 60216046011** Collected: 03/29/16 15:02 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.147 ± 0.335 (0.539) C:NA T:85% | pCi/L | 04/14/16 11:02 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | -0.103 ± 0.353 (0.839) C:85% T:79% | pCi/L | 04/13/16 17:44 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

Sample: M-MW-2 MS **Lab ID: 60216046012** Collected: 03/29/16 10:24 Received: 04/01/16 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 79.3 %REC +/- NA (NA) C:NA T:NA | pCi/L | 04/14/16 10:41 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 100.6 %REC ± NA (NA) C:NA T:NA | pCi/L | 04/13/16 14:45 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|-----------------------------------|------------------------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 73.4 %REC NA (NA) C:NA T:NA | 7.63 RPD +/- pCi/L | 04/14/16 11:14 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 95.1 %REC NA (NA) C:NA T:NA | 5.70 RPD ± NA pCi/L | 04/13/16 14:45 | 15262-20-1 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| | | | |
|-------------------------|---|-----------------------|------------------|
| QC Batch: | RADC/28790 | Analysis Method: | EPA 904.0 |
| QC Batch Method: | EPA 904.0 | Analysis Description: | 904.0 Radium 228 |
| Associated Lab Samples: | 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046006, 60216046007, 60216046008, 60216046009, 60216046010, 60216046011, 60216046012, 60216046013 | | |

METHOD BLANK: 1054498 Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|------------------------------------|-------|----------------|------------|
| Radium-228 | 0.0825 ± 0.327 (0.741) C:88% T:82% | pCi/L | 04/13/16 13:16 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| | | | |
|-------------------------|---|-----------------------|------------------|
| QC Batch: | RADC/28786 | Analysis Method: | EPA 903.1 |
| QC Batch Method: | EPA 903.1 | Analysis Description: | 903.1 Radium-226 |
| Associated Lab Samples: | 60216046001, 60216046002, 60216046003, 60216046004, 60216046005, 60216046006, 60216046007, 60216046008, 60216046009, 60216046010, 60216046011, 60216046012, 60216046013 | | |

METHOD BLANK: 1054494 Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|----------------------------------|-------|----------------|------------|
| Radium-226 | 0.330 ± 0.390 (0.612) C:NA T:96% | pCi/L | 04/14/16 10:05 | |

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|------------|-------------------|------------------|
| 60216046001 | M-MW-1 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046002 | M-MW-2 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046003 | M-MW-3 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046004 | M-MW-4 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046005 | M-MW-5 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046006 | M-MW-6 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046007 | M-MW-7 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046008 | M-MW-8 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046009 | M-BMW-2 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046010 | M-DUP-1 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046011 | M-FB-1 | EPA 200.7 | MPRP/35408 | EPA 200.7 | ICP/25907 |
| 60216046001 | M-MW-1 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046002 | M-MW-2 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046003 | M-MW-3 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046004 | M-MW-4 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046005 | M-MW-5 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046006 | M-MW-6 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046007 | M-MW-7 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046008 | M-MW-8 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046009 | M-BMW-2 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046010 | M-DUP-1 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046011 | M-FB-1 | EPA 200.8 | MPRP/35409 | EPA 200.8 | ICPM/4178 |
| 60216046001 | M-MW-1 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046002 | M-MW-2 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046003 | M-MW-3 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046004 | M-MW-4 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046005 | M-MW-5 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046006 | M-MW-6 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046007 | M-MW-7 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046008 | M-MW-8 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046009 | M-BMW-2 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046010 | M-DUP-1 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046011 | M-FB-1 | EPA 7470 | MERP/10492 | EPA 7470 | MERC/10438 |
| 60216046001 | M-MW-1 | EPA 903.1 | RADC/28786 | | |
| 60216046002 | M-MW-2 | EPA 903.1 | RADC/28786 | | |
| 60216046003 | M-MW-3 | EPA 903.1 | RADC/28786 | | |
| 60216046004 | M-MW-4 | EPA 903.1 | RADC/28786 | | |
| 60216046005 | M-MW-5 | EPA 903.1 | RADC/28786 | | |
| 60216046006 | M-MW-6 | EPA 903.1 | RADC/28786 | | |
| 60216046007 | M-MW-7 | EPA 903.1 | RADC/28786 | | |
| 60216046008 | M-MW-8 | EPA 903.1 | RADC/28786 | | |
| 60216046009 | M-BMW-2 | EPA 903.1 | RADC/28786 | | |
| 60216046010 | M-DUP-1 | EPA 903.1 | RADC/28786 | | |
| 60216046011 | M-FB-1 | EPA 903.1 | RADC/28786 | | |
| 60216046012 | M-MW-2 MS | EPA 903.1 | RADC/28786 | | |
| 60216046013 | M-MW-2 MSD | EPA 903.1 | RADC/28786 | | |
| 60216046001 | M-MW-1 | EPA 904.0 | RADC/28790 | | |

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|------------|-------------------|------------------|
| 60216046002 | M-MW-2 | EPA 904.0 | RADC/28790 | | |
| 60216046003 | M-MW-3 | EPA 904.0 | RADC/28790 | | |
| 60216046004 | M-MW-4 | EPA 904.0 | RADC/28790 | | |
| 60216046005 | M-MW-5 | EPA 904.0 | RADC/28790 | | |
| 60216046006 | M-MW-6 | EPA 904.0 | RADC/28790 | | |
| 60216046007 | M-MW-7 | EPA 904.0 | RADC/28790 | | |
| 60216046008 | M-MW-8 | EPA 904.0 | RADC/28790 | | |
| 60216046009 | M-BMW-2 | EPA 904.0 | RADC/28790 | | |
| 60216046010 | M-DUP-1 | EPA 904.0 | RADC/28790 | | |
| 60216046011 | M-FB-1 | EPA 904.0 | RADC/28790 | | |
| 60216046012 | M-MW-2 MS | EPA 904.0 | RADC/28790 | | |
| 60216046013 | M-MW-2 MSD | EPA 904.0 | RADC/28790 | | |
| 60216046001 | M-MW-1 | SM 2540C | WET/60966 | | |
| 60216046002 | M-MW-2 | SM 2540C | WET/60966 | | |
| 60216046003 | M-MW-3 | SM 2540C | WET/60966 | | |
| 60216046004 | M-MW-4 | SM 2540C | WET/60966 | | |
| 60216046005 | M-MW-5 | SM 2540C | WET/60966 | | |
| 60216046006 | M-MW-6 | SM 2540C | WET/60996 | | |
| 60216046007 | M-MW-7 | SM 2540C | WET/60966 | | |
| 60216046008 | M-MW-8 | SM 2540C | WET/60996 | | |
| 60216046009 | M-BMW-2 | SM 2540C | WET/60966 | | |
| 60216046010 | M-DUP-1 | SM 2540C | WET/60966 | | |
| 60216046011 | M-FB-1 | SM 2540C | WET/60966 | | |
| 60216046001 | M-MW-1 | SM 4500-H+B | WET/61006 | | |
| 60216046002 | M-MW-2 | SM 4500-H+B | WET/61006 | | |
| 60216046003 | M-MW-3 | SM 4500-H+B | WET/61024 | | |
| 60216046004 | M-MW-4 | SM 4500-H+B | WET/61024 | | |
| 60216046005 | M-MW-5 | SM 4500-H+B | WET/61006 | | |
| 60216046006 | M-MW-6 | SM 4500-H+B | WET/61161 | | |
| 60216046007 | M-MW-7 | SM 4500-H+B | WET/61024 | | |
| 60216046008 | M-MW-8 | SM 4500-H+B | WET/61161 | | |
| 60216046009 | M-BMW-2 | SM 4500-H+B | WET/61006 | | |
| 60216046010 | M-DUP-1 | SM 4500-H+B | WET/61006 | | |
| 60216046011 | M-FB-1 | SM 4500-H+B | WET/61024 | | |
| 60216046001 | M-MW-1 | EPA 300.0 | WETA/38818 | | |
| 60216046002 | M-MW-2 | EPA 300.0 | WETA/38818 | | |
| 60216046003 | M-MW-3 | EPA 300.0 | WETA/38818 | | |
| 60216046004 | M-MW-4 | EPA 300.0 | WETA/38818 | | |
| 60216046005 | M-MW-5 | EPA 300.0 | WETA/38818 | | |
| 60216046006 | M-MW-6 | EPA 300.0 | WETA/38818 | | |
| 60216046007 | M-MW-7 | EPA 300.0 | WETA/38818 | | |
| 60216046008 | M-MW-8 | EPA 300.0 | WETA/38818 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60216046

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---------------|------------------|------------------------|-----------------|--------------------------|-------------------------|
| 60216046009 | M-BMW-2 | EPA 300.0 | WETA/38818 | | |
| 60216046010 | M-DUP-1 | EPA 300.0 | WETA/38818 | | |
| 60216046011 | M-FB-1 | EPA 300.0 | WETA/38818 | | |

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Sample Condition Upon Receipt

WO#: 60216046



60216046

Client Name: Goldder

Courier: FedEx UPS VIA Clay PEX ECI Pace Other Client

Tracking #: _____ Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: ^{CF +1.0} T-239 / ^{DF 0.0} T-262 Type of Ice: Wet Blue None Samples received on ice, cooling process has begun.

Cooler Temperature: 1.7/13.7/11.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV3 - PV4/1/16

| | | |
|--|---|-----------------------------|
| Chain of Custody present: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 1. |
| Chain of Custody filled out: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2. |
| Chain of Custody relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3. |
| Sampler name & signature on COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4. |
| Samples arrived within holding time: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5. |
| Short Hold Time analyses (<72hr): | <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 6. <u>PH</u> |
| Rush Turn Around Time requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 7. |
| Sufficient volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8. |
| Correct containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Pace containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 9. |
| Containers intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 10. |
| Unpreserved 5035A soils frozen w/in 48hrs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 11. |
| Filtered volume received for dissolved tests? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 12. |
| Sample labels match COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Includes date/time/ID/analyses | Matrix: <u>WT</u> | 13. |
| All containers needing preservation have been checked. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 14. |
| Exceptions: VOA, Coliform, O&G, WI-DRO (water) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Initial when completed |
| Trip Blank present: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Lot # of added preservative |
| Pace Trip Blank lot # (if purchased): | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 15. |
| Headspace in VOA vials (>6mm): | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 16. |
| Project sampled in USDA Regulated Area: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 17. List State: |
| Additional labels attached to 5035A vials in the field? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 18. |

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

June 14, 2016

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN-MERAMEC ENERGY CENTER
Pace Project No.: 60219173

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between May 14, 2016 and May 19, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Emily Webb for
Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 15-016-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

Kansas Field Laboratory Accreditation: # E-92587

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SAMPLE SUMMARY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|------------|--------|----------------|----------------|
| 60219173001 | M-BMW-1 | Water | 05/13/16 08:45 | 05/14/16 04:05 |
| 60219173002 | M-BMW-2 | Water | 05/13/16 11:33 | 05/14/16 04:05 |
| 60219173003 | M-MW-5 | Water | 05/13/16 10:40 | 05/14/16 04:05 |
| 60219173004 | M-MW-6 | Water | 05/13/16 12:50 | 05/14/16 04:05 |
| 60219173005 | M-MW-7 | Water | 05/13/16 14:05 | 05/14/16 04:05 |
| 60219492001 | M-FB-1 | Water | 05/16/16 10:20 | 05/19/16 03:20 |
| 60219492002 | M-MW-1 | Water | 05/17/16 13:50 | 05/19/16 03:20 |
| 60219492003 | M-MW-2 | Water | 05/16/16 11:50 | 05/19/16 03:20 |
| 60219492004 | M-MW-3 | Water | 05/17/16 11:03 | 05/19/16 03:20 |
| 60219492005 | M-MW-4 | Water | 05/16/16 10:08 | 05/19/16 03:20 |
| 60219492006 | M-MW-8 | Water | 05/16/16 16:00 | 05/19/16 03:20 |
| 60219492007 | M-DUP-1 | Water | 05/16/16 00:00 | 05/19/16 03:20 |
| 60219173013 | M-MW-3 MS | Water | 05/17/16 11:03 | 05/19/16 03:20 |
| 60219173014 | M-MW-3 MSD | Water | 05/17/16 11:03 | 05/19/16 03:20 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60219173001 | M-BMW-1 | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| 60219173002 | M-BMW-2 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| 60219173003 | M-MW-5 | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60219173004 | M-MW-6 | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| 60219173005 | M-MW-7 | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60219492001 | M-FB-1 | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60219492002 | M-MW-1 | SM 2540C | JMC1 | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60219492003 | M-MW-2 | SM 2540C | JMC1 | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60219492004 | M-MW-3 | SM 2540C | JMC1 | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60219492005 | M-MW-4 | SM 2540C | JMC1 | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |

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SAMPLE ANALYTE COUNT

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|------------|-------------|----------|-------------------|------------|
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JMC1 | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60219492006 | M-MW-8 | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JMC1 | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60219492007 | M-DUP-1 | EPA 200.7 | ZBM | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JMC1 | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60219173013 | M-MW-3 MS | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60219173014 | M-MW-3 MSD | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-BMW-1 **Lab ID: 60219173001** Collected: 05/13/16 08:45 Received: 05/14/16 04:05 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 254 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:02 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:02 | 7440-41-7 | |
| Boron | 138 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:02 | 7440-42-8 | |
| Calcium | 114000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:02 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:02 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:02 | 7439-92-1 | |
| Lithium | 16.0 | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:02 | 7439-93-2 | |
| Molybdenum | 5.6J | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:02 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.71J | ug/L | 1.0 | 0.058 | 1 | 05/19/16 09:30 | 05/23/16 11:32 | 7440-36-0 | |
| Arsenic | 1.2 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 09:30 | 05/23/16 11:32 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 09:30 | 05/23/16 11:32 | 7440-43-9 | |
| Chromium | 0.95J | ug/L | 1.0 | 0.34 | 1 | 05/19/16 09:30 | 05/23/16 11:32 | 7440-47-3 | B |
| Selenium | 0.39J | ug/L | 1.0 | 0.18 | 1 | 05/19/16 09:30 | 05/23/16 11:32 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 09:30 | 05/23/16 11:32 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 05/19/16 10:00 | 05/19/16 14:16 | 7439-97-6 | L3 |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 832 | mg/L | 5.0 | 5.0 | 1 | | 05/19/16 14:30 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 05/16/16 10:20 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 219 | mg/L | 20.0 | 10.0 | 20 | | 06/04/16 23:06 | 16887-00-6 | |
| Fluoride | 0.42 | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 20:15 | 16984-48-8 | |
| Sulfate | 64.0 | mg/L | 5.0 | 1.2 | 5 | | 06/04/16 22:21 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-BMW-2 **Lab ID: 60219173002** Collected: 05/13/16 11:33 Received: 05/14/16 04:05 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 538 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:04 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:04 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:04 | 7440-42-8 | |
| Calcium | 103000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:04 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:04 | 7440-48-4 | |
| Lead | 3.1J | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:04 | 7439-92-1 | |
| Lithium | 8.3J | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:04 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:04 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/19/16 09:30 | 05/23/16 11:35 | 7440-36-0 | |
| Arsenic | 1.3 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 09:30 | 05/23/16 11:35 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 09:30 | 05/23/16 11:35 | 7440-43-9 | |
| Chromium | 1.5 | ug/L | 1.0 | 0.34 | 1 | 05/19/16 09:30 | 05/23/16 11:35 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/19/16 09:30 | 05/23/16 11:35 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 09:30 | 05/23/16 11:35 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 05/19/16 10:00 | 05/19/16 14:18 | 7439-97-6 | L3 |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 430 | mg/L | 5.0 | 5.0 | 1 | | 05/19/16 14:30 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 05/17/16 13:30 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 12.4 | mg/L | 1.0 | 0.50 | 1 | | 06/03/16 21:00 | 16887-00-6 | |
| Fluoride | 0.34 | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 21:00 | 16984-48-8 | |
| Sulfate | 11.0 | mg/L | 1.0 | 0.25 | 1 | | 06/03/16 21:00 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-5 **Lab ID: 60219173003** Collected: 05/13/16 10:40 Received: 05/14/16 04:05 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 292 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:11 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:11 | 7440-41-7 | |
| Boron | 6900 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:11 | 7440-42-8 | |
| Calcium | 167000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:11 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:11 | 7440-48-4 | |
| Lead | 4.2J | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:11 | 7439-92-1 | |
| Lithium | 21.2 | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:11 | 7439-93-2 | |
| Molybdenum | 74.4 | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:11 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/19/16 09:30 | 05/23/16 11:39 | 7440-36-0 | |
| Arsenic | 13.4 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 09:30 | 05/23/16 11:39 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 09:30 | 05/23/16 11:39 | 7440-43-9 | |
| Chromium | 0.85J | ug/L | 1.0 | 0.34 | 1 | 05/19/16 09:30 | 05/23/16 11:39 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/19/16 09:30 | 05/23/16 11:39 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 09:30 | 05/23/16 11:39 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 05/19/16 10:00 | 05/19/16 14:20 | 7439-97-6 | L3 |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 940 | mg/L | 5.0 | 5.0 | 1 | | 05/19/16 14:30 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 05/16/16 10:20 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 41.5 | mg/L | 5.0 | 2.5 | 5 | | 06/04/16 23:51 | 16887-00-6 | |
| Fluoride | 0.25 | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 22:29 | 16984-48-8 | |
| Sulfate | 355 | mg/L | 50.0 | 12.4 | 50 | | 06/05/16 00:35 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-6 **Lab ID: 60219173004** Collected: 05/13/16 12:50 Received: 05/14/16 04:05 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 94.4 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:14 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:14 | 7440-41-7 | |
| Boron | 25900 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:14 | 7440-42-8 | |
| Calcium | 352000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:14 | 7440-70-2 | |
| Cobalt | 0.74J | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:14 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:14 | 7439-92-1 | |
| Lithium | 164 | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:14 | 7439-93-2 | |
| Molybdenum | 124 | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:14 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/19/16 09:30 | 05/23/16 11:42 | 7440-36-0 | |
| Arsenic | 8.3 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 09:30 | 05/23/16 11:42 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 09:30 | 05/23/16 11:42 | 7440-43-9 | |
| Chromium | 0.96J | ug/L | 1.0 | 0.34 | 1 | 05/19/16 09:30 | 05/23/16 11:42 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/19/16 09:30 | 05/23/16 11:42 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 09:30 | 05/23/16 11:42 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 05/19/16 10:00 | 05/19/16 14:23 | 7439-97-6 | L3 |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1310 | mg/L | 5.0 | 5.0 | 1 | | 05/19/16 14:31 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 05/17/16 13:30 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 28.4 | mg/L | 2.0 | 1.0 | 2 | | 06/05/16 00:50 | 16887-00-6 | |
| Fluoride | 0.15J | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 22:14 | 16984-48-8 | |
| Sulfate | 631 | mg/L | 50.0 | 12.4 | 50 | | 06/05/16 01:05 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-7 **Lab ID: 60219173005** Collected: 05/13/16 14:05 Received: 05/14/16 04:05 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|-----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 59.6 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:16 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:16 | 7440-41-7 | |
| Boron | 18700 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:16 | 7440-42-8 | |
| Calcium | 336000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:16 | 7440-70-2 | |
| Cobalt | 1.2J | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:16 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:16 | 7439-92-1 | |
| Lithium | 40.3 | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:16 | 7439-93-2 | |
| Molybdenum | 338 | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:16 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.37J | ug/L | 1.0 | 0.058 | 1 | 05/19/16 09:30 | 05/23/16 11:45 | 7440-36-0 | |
| Arsenic | 3.8 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 09:30 | 05/23/16 11:45 | 7440-38-2 | |
| Cadmium | 0.11J | ug/L | 0.50 | 0.029 | 1 | 05/19/16 09:30 | 05/23/16 11:45 | 7440-43-9 | |
| Chromium | 0.88J | ug/L | 1.0 | 0.34 | 1 | 05/19/16 09:30 | 05/23/16 11:45 | 7440-47-3 | B |
| Selenium | 0.55J | ug/L | 1.0 | 0.18 | 1 | 05/19/16 09:30 | 05/23/16 11:45 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 09:30 | 05/23/16 11:45 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 05/19/16 10:00 | 05/19/16 14:25 | 7439-97-6 | L3 |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1660 | mg/L | 5.0 | 5.0 | 1 | | 05/19/16 14:31 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.3 | Std. Units | 0.10 | 0.10 | 1 | | 05/17/16 13:30 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 74.3 | mg/L | 10.0 | 5.0 | 10 | | 06/05/16 01:20 | 16887-00-6 | |
| Fluoride | 0.36 | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 21:59 | 16984-48-8 | |
| Sulfate | 941 | mg/L | 100 | 24.8 | 100 | | 06/05/16 01:35 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-FB-1 **Lab ID: 60219492001** Collected: 05/16/16 10:20 Received: 05/19/16 03:20 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | <0.58 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:18 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:18 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:18 | 7440-42-8 | |
| Calcium | 48.7J | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:18 | 7440-70-2 | B |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:18 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:18 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:18 | 7439-93-2 | |
| Molybdenum | 1.4J | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:18 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/23/16 14:00 | 05/24/16 19:32 | 7440-36-0 | |
| Arsenic | <0.10 | ug/L | 1.0 | 0.10 | 1 | 05/23/16 14:00 | 05/24/16 19:32 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/23/16 14:00 | 05/24/16 19:32 | 7440-43-9 | |
| Chromium | 0.66J | ug/L | 1.0 | 0.34 | 1 | 05/23/16 14:00 | 05/24/16 19:32 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/23/16 14:00 | 05/24/16 19:32 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/23/16 14:00 | 05/24/16 19:32 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | 0.040J | ug/L | 0.20 | 0.039 | 1 | 05/20/16 08:30 | 05/20/16 13:19 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | <5.0 | mg/L | 5.0 | 5.0 | 1 | | 05/23/16 15:20 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.1 | Std. Units | 0.10 | 0.10 | 1 | | 05/19/16 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 0.53J | mg/L | 1.0 | 0.50 | 1 | | 06/03/16 22:44 | 16887-00-6 | |
| Fluoride | <0.073 | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 22:44 | 16984-48-8 | |
| Sulfate | <0.25 | mg/L | 1.0 | 0.25 | 1 | | 06/03/16 22:44 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-1 **Lab ID: 60219492002** Collected: 05/17/16 13:50 Received: 05/19/16 03:20 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 375 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:20 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:20 | 7440-41-7 | |
| Boron | 59.1J | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:20 | 7440-42-8 | |
| Calcium | 133000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:20 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:20 | 7440-48-4 | |
| Lead | 4.3J | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:20 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:20 | 7439-93-2 | |
| Molybdenum | 0.84J | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:20 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/19/16 14:00 | 05/23/16 12:32 | 7440-36-0 | |
| Arsenic | 0.63J | ug/L | 1.0 | 0.10 | 1 | 05/19/16 14:00 | 05/23/16 12:32 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 14:00 | 05/23/16 12:32 | 7440-43-9 | |
| Chromium | 1.3 | ug/L | 1.0 | 0.34 | 1 | 05/19/16 14:00 | 05/23/16 12:32 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/19/16 14:00 | 05/23/16 12:32 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 14:00 | 05/23/16 12:32 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | 0.041J | ug/L | 0.20 | 0.039 | 1 | 05/20/16 08:30 | 05/20/16 13:21 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 663 | mg/L | 5.0 | 5.0 | 1 | | 05/24/16 07:37 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 05/31/16 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 42.0 | mg/L | 10.0 | 5.0 | 10 | | 06/05/16 16:39 | 16887-00-6 | |
| Fluoride | 0.30 | mg/L | 0.20 | 0.073 | 1 | | 06/05/16 01:50 | 16984-48-8 | |
| Sulfate | 98.0 | mg/L | 10.0 | 2.5 | 10 | | 06/05/16 16:39 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-2 **Lab ID: 60219492003** Collected: 05/16/16 11:50 Received: 05/19/16 03:20 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 500 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:23 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:23 | 7440-41-7 | |
| Boron | 5400 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:23 | 7440-42-8 | |
| Calcium | 124000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:23 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:23 | 7440-48-4 | |
| Lead | 2.8J | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:23 | 7439-92-1 | |
| Lithium | 6.0J | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:23 | 7439-93-2 | |
| Molybdenum | 0.87J | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:23 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/19/16 14:00 | 05/23/16 12:35 | 7440-36-0 | |
| Arsenic | 2.5 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 14:00 | 05/23/16 12:35 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 14:00 | 05/23/16 12:35 | 7440-43-9 | |
| Chromium | 1.0 | ug/L | 1.0 | 0.34 | 1 | 05/19/16 14:00 | 05/23/16 12:35 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/19/16 14:00 | 05/23/16 12:35 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 14:00 | 05/23/16 12:35 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | 0.040J | ug/L | 0.20 | 0.039 | 1 | 05/20/16 08:30 | 05/20/16 13:23 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 847 | mg/L | 5.0 | 5.0 | 1 | | 05/23/16 15:20 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.7 | Std. Units | 0.10 | 0.10 | 1 | | 05/24/16 13:30 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 28.5 | mg/L | 2.0 | 1.0 | 2 | | 06/05/16 02:20 | 16887-00-6 | |
| Fluoride | 0.16J | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 22:59 | 16984-48-8 | |
| Sulfate | 329 | mg/L | 50.0 | 12.4 | 50 | | 06/05/16 02:34 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-3 **Lab ID: 60219492004** Collected: 05/17/16 11:03 Received: 05/19/16 03:20 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 255 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:25 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:25 | 7440-41-7 | |
| Boron | 5960 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:25 | 7440-42-8 | M1 |
| Calcium | 138000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:25 | 7440-70-2 | M1 |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:25 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:25 | 7439-92-1 | |
| Lithium | 8.0J | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:25 | 7439-93-2 | |
| Molybdenum | 1.9J | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:25 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/19/16 14:00 | 05/23/16 12:39 | 7440-36-0 | |
| Arsenic | 6.1 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 14:00 | 05/23/16 12:39 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 14:00 | 05/23/16 12:39 | 7440-43-9 | |
| Chromium | 0.97J | ug/L | 1.0 | 0.34 | 1 | 05/19/16 14:00 | 05/23/16 12:39 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/19/16 14:00 | 05/23/16 12:39 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 14:00 | 05/23/16 12:39 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | 0.041J | ug/L | 0.20 | 0.039 | 1 | 05/20/16 08:30 | 05/20/16 13:25 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 755 | mg/L | 5.0 | 5.0 | 1 | | 05/24/16 07:37 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.7 | Std. Units | 0.10 | 0.10 | 1 | | 05/25/16 11:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 45.4 | mg/L | 5.0 | 2.5 | 5 | | 06/05/16 16:52 | 16887-00-6 | |
| Fluoride | 0.14J | mg/L | 0.20 | 0.073 | 1 | | 06/05/16 02:49 | 16984-48-8 | |
| Sulfate | 264 | mg/L | 50.0 | 12.4 | 50 | | 06/05/16 03:49 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-4 Lab ID: 60219492005 Collected: 05/16/16 10:08 Received: 05/19/16 03:20 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 222 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:31 | 7440-39-3 | |
| Beryllium | 0.47J | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:31 | 7440-41-7 | |
| Boron | 8360 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:31 | 7440-42-8 | |
| Calcium | 166000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:31 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:31 | 7440-48-4 | |
| Lead | 3.6J | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:31 | 7439-92-1 | |
| Lithium | 22.7 | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:31 | 7439-93-2 | |
| Molybdenum | 49.7 | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:31 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/19/16 14:00 | 05/23/16 12:55 | 7440-36-0 | |
| Arsenic | 13.0 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 14:00 | 05/23/16 12:55 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 14:00 | 05/23/16 12:55 | 7440-43-9 | |
| Chromium | 0.98J | ug/L | 1.0 | 0.34 | 1 | 05/19/16 14:00 | 05/23/16 12:55 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/19/16 14:00 | 05/23/16 12:55 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 14:00 | 05/23/16 12:55 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 05/20/16 08:30 | 05/20/16 13:32 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1030 | mg/L | 5.0 | 5.0 | 1 | | 05/23/16 15:21 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 05/19/16 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 37.3 | mg/L | 5.0 | 2.5 | 5 | | 06/05/16 04:19 | 16887-00-6 | |
| Fluoride | 0.21 | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 23:44 | 16984-48-8 | |
| Sulfate | 380 | mg/L | 50.0 | 12.4 | 50 | | 06/05/16 04:34 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-8 **Lab ID: 60219492006** Collected: 05/16/16 16:00 Received: 05/19/16 03:20 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 218 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:37 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:37 | 7440-41-7 | |
| Boron | 9560 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:37 | 7440-42-8 | |
| Calcium | 177000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:37 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:37 | 7440-48-4 | |
| Lead | 4.8J | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:37 | 7439-92-1 | |
| Lithium | 30.4 | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:37 | 7439-93-2 | |
| Molybdenum | 204 | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:37 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/19/16 14:00 | 05/23/16 12:59 | 7440-36-0 | |
| Arsenic | 6.2 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 14:00 | 05/23/16 12:59 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 14:00 | 05/23/16 12:59 | 7440-43-9 | |
| Chromium | 1.2 | ug/L | 1.0 | 0.34 | 1 | 05/19/16 14:00 | 05/23/16 12:59 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/19/16 14:00 | 05/23/16 12:59 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 14:00 | 05/23/16 12:59 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | 0.047J | ug/L | 0.20 | 0.039 | 1 | 05/20/16 08:30 | 05/20/16 13:34 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 959 | mg/L | 5.0 | 5.0 | 1 | | 05/23/16 15:25 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.4 | Std. Units | 0.10 | 0.10 | 1 | | 05/24/16 13:30 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 24.8 | mg/L | 2.0 | 1.0 | 2 | | 06/05/16 04:49 | 16887-00-6 | |
| Fluoride | 0.28 | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 23:29 | 16984-48-8 | |
| Sulfate | 449 | mg/L | 50.0 | 12.4 | 50 | | 06/05/16 05:04 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-DUP-1 **Lab ID: 60219492007** Collected: 05/16/16 00:00 Received: 05/19/16 03:20 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 238 | ug/L | 10.0 | 0.58 | 1 | 05/19/16 14:00 | 05/20/16 17:40 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 05/19/16 14:00 | 05/20/16 17:40 | 7440-41-7 | |
| Boron | 8710 | ug/L | 100 | 50.0 | 1 | 05/19/16 14:00 | 05/20/16 17:40 | 7440-42-8 | |
| Calcium | 178000 | ug/L | 100 | 8.1 | 1 | 05/19/16 14:00 | 05/20/16 17:40 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 05/19/16 14:00 | 05/20/16 17:40 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 05/19/16 14:00 | 05/20/16 17:40 | 7439-92-1 | |
| Lithium | 24.6 | ug/L | 10.0 | 4.9 | 1 | 05/19/16 14:00 | 05/20/16 17:40 | 7439-93-2 | |
| Molybdenum | 49.0 | ug/L | 20.0 | 0.52 | 1 | 05/19/16 14:00 | 05/20/16 17:40 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 05/19/16 14:00 | 05/23/16 13:02 | 7440-36-0 | |
| Arsenic | 13.7 | ug/L | 1.0 | 0.10 | 1 | 05/19/16 14:00 | 05/23/16 13:02 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 05/19/16 14:00 | 05/23/16 13:02 | 7440-43-9 | |
| Chromium | 0.92J | ug/L | 1.0 | 0.34 | 1 | 05/19/16 14:00 | 05/23/16 13:02 | 7440-47-3 | B |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 05/19/16 14:00 | 05/23/16 13:02 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 05/19/16 14:00 | 05/23/16 13:02 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 05/20/16 08:30 | 05/20/16 13:36 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 740 | mg/L | 5.0 | 5.0 | 1 | | 05/23/16 15:25 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 05/19/16 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 37.3 | mg/L | 5.0 | 2.5 | 5 | | 06/05/16 05:18 | 16887-00-6 | |
| Fluoride | 0.21 | mg/L | 0.20 | 0.073 | 1 | | 06/03/16 23:14 | 16984-48-8 | |
| Sulfate | 382 | mg/L | 50.0 | 12.4 | 50 | | 06/05/16 05:33 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: MERP/10628

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005

METHOD BLANK: 1761311

Matrix: Water

Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Mercury | ug/L | <0.039 | 0.20 | 0.039 | 05/19/16 13:38 | |

LABORATORY CONTROL SAMPLE: 1761312

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury | ug/L | 5 | 6.6 | 133 | 80-120 L0 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1761313 1761314

| Parameter | Units | 60219054001 | | MS | | MSD | | MS | | MSD | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|-------|-------------|-------------|--------|--------|-------|-------|--------|---|--------------|-----|---------|------|
| | | Result | Conc. | Spike Conc. | Spike Conc. | Result | Result | % Rec | % Rec | | | | | | |
| Mercury | ug/L | <0.039 | | 5 | 5 | 5.3 | 5.3 | 106 | 106 | 75-125 | 0 | 20 | | | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: MERP/10635

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Associated Lab Samples: 60219492001, 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

METHOD BLANK: 1762225

Matrix: Water

Associated Lab Samples: 60219492001, 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Mercury | ug/L | <0.039 | 0.20 | 0.039 | 05/20/16 11:54 | |

LABORATORY CONTROL SAMPLE: 1762226

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury | ug/L | 5 | 5.6 | 111 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1762227 1762228

| Parameter | Units | 60219492004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury | ug/L | 0.041J | 5 | 5 | 4.2 | 4.1 | 83 | 81 | 75-125 | 3 | 20 | |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Project No.: 60219173

QC Batch: MPRP/36000 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005, 60219492001, 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

METHOD BLANK: 1761809 Matrix: Water
 Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005, 60219492001, 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | <0.58 | 10.0 | 0.58 | 05/20/16 16:34 | |
| Beryllium | ug/L | <0.26 | 1.0 | 0.26 | 05/20/16 16:34 | |
| Boron | ug/L | <50.0 | 100 | 50.0 | 05/20/16 16:34 | |
| Calcium | ug/L | 9.1J | 100 | 8.1 | 05/20/16 16:34 | |
| Cobalt | ug/L | <0.72 | 5.0 | 0.72 | 05/20/16 16:34 | |
| Lead | ug/L | <2.5 | 5.0 | 2.5 | 05/20/16 16:34 | |
| Lithium | ug/L | <4.9 | 10.0 | 4.9 | 05/20/16 16:34 | |
| Molybdenum | ug/L | <0.52 | 20.0 | 0.52 | 05/20/16 16:34 | |

LABORATORY CONTROL SAMPLE: 1761810

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 999 | 100 | 85-115 | |
| Beryllium | ug/L | 1000 | 988 | 99 | 85-115 | |
| Boron | ug/L | 1000 | 970 | 97 | 85-115 | |
| Calcium | ug/L | 10000 | 9890 | 99 | 85-115 | |
| Cobalt | ug/L | 1000 | 988 | 99 | 85-115 | |
| Lead | ug/L | 1000 | 986 | 99 | 85-115 | |
| Lithium | ug/L | 1000 | 954 | 95 | 85-115 | |
| Molybdenum | ug/L | 1000 | 1010 | 101 | 85-115 | |

MATRIX SPIKE SAMPLE: 1761811

| Parameter | Units | 60219085001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|------------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Barium | ug/L | 22.3 | 1000 | 1010 | 99 | 70-130 | |
| Beryllium | ug/L | ND | 1000 | 987 | 99 | 70-130 | |
| Boron | ug/L | 323 | 1000 | 1320 | 100 | 70-130 | |
| Calcium | ug/L | 4640 | 10000 | 14400 | 97 | 70-130 | |
| Cobalt | ug/L | ND | 1000 | 965 | 96 | 70-130 | |
| Lead | ug/L | ND | 1000 | 951 | 95 | 70-130 | |
| Lithium | ug/L | 10.7 | 1000 | 990 | 98 | 70-130 | |
| Molybdenum | ug/L | ND | 1000 | 1010 | 101 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| MATRIX SPIKE SAMPLE: | | 1761812 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60219492004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Barium | ug/L | 255 | 1000 | 1250 | 99 | 70-130 | |
| Beryllium | ug/L | <0.26 | 1000 | 991 | 99 | 70-130 | |
| Boron | ug/L | 5960 | 1000 | 6520 | 57 | 70-130 | M1 |
| Calcium | ug/L | 138000 | 10000 | 139000 | 3 | 70-130 | M1 |
| Cobalt | ug/L | <0.72 | 1000 | 969 | 97 | 70-130 | |
| Lead | ug/L | <2.5 | 1000 | 965 | 96 | 70-130 | |
| Lithium | ug/L | 8.0J | 1000 | 1000 | 99 | 70-130 | |
| Molybdenum | ug/L | 1.9J | 1000 | 1020 | 102 | 70-130 | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: MPRP/35985 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005

METHOD BLANK: 1761347 Matrix: Water
 Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.058 | 1.0 | 0.058 | 05/23/16 10:42 | |
| Arsenic | ug/L | <0.10 | 1.0 | 0.10 | 05/23/16 10:42 | |
| Cadmium | ug/L | <0.029 | 0.50 | 0.029 | 05/23/16 10:42 | |
| Chromium | ug/L | 0.50J | 1.0 | 0.34 | 05/23/16 10:42 | |
| Selenium | ug/L | <0.18 | 1.0 | 0.18 | 05/23/16 10:42 | |
| Thallium | ug/L | <0.50 | 1.0 | 0.50 | 05/23/16 10:42 | |

LABORATORY CONTROL SAMPLE: 1761348

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 41.0 | 103 | 85-115 | |
| Arsenic | ug/L | 40 | 41.3 | 103 | 85-115 | |
| Cadmium | ug/L | 40 | 41.1 | 103 | 85-115 | |
| Chromium | ug/L | 40 | 40.1 | 100 | 85-115 | |
| Selenium | ug/L | 40 | 43.6 | 109 | 85-115 | |
| Thallium | ug/L | 40 | 36.9 | 92 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1761349 1761350

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|--------|-------------|--------|----------|-----------|--------------|--------|---------|------|
| | | Spike Conc. | Result | Spike Conc. | Result | | | | | | |
| Antimony | ug/L | 0.35J | 40 | 40 | 40.8 | 41.0 | 101 | 102 | 70-130 | 0 | 20 |
| Arsenic | ug/L | 1.7 | 40 | 40 | 43.3 | 43.9 | 104 | 105 | 70-130 | 1 | 20 |
| Cadmium | ug/L | 2.7 | 40 | 40 | 42.7 | 43.1 | 100 | 101 | 70-130 | 1 | 20 |
| Chromium | ug/L | 2.5 | 40 | 40 | 41.5 | 42.4 | 97 | 100 | 70-130 | 2 | 20 |
| Selenium | ug/L | 0.21J | 40 | 40 | 41.7 | 41.9 | 104 | 104 | 70-130 | 0 | 20 |
| Thallium | ug/L | <0.50 | 40 | 40 | 38.2 | 41.0 | 95 | 102 | 70-130 | 7 | 20 |

MATRIX SPIKE SAMPLE: 1761351

| Parameter | Units | 60219203002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | 0.72J | 40 | 42.2 | 104 | 70-130 | |
| Arsenic | ug/L | 4.4 | 40 | 46.8 | 106 | 70-130 | |
| Cadmium | ug/L | 2.1 | 40 | 43.1 | 103 | 70-130 | |
| Chromium | ug/L | 0.74J | 40 | 41.1 | 101 | 70-130 | |
| Selenium | ug/L | <0.18 | 40 | 41.7 | 104 | 70-130 | |
| Thallium | ug/L | <0.50 | 40 | 40.6 | 101 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: MPRP/35999 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Associated Lab Samples: 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

METHOD BLANK: 1761805 Matrix: Water
 Associated Lab Samples: 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.058 | 1.0 | 0.058 | 05/23/16 12:16 | |
| Arsenic | ug/L | <0.10 | 1.0 | 0.10 | 05/23/16 12:16 | |
| Cadmium | ug/L | <0.029 | 0.50 | 0.029 | 05/23/16 12:16 | |
| Chromium | ug/L | 0.49J | 1.0 | 0.34 | 05/23/16 12:16 | |
| Selenium | ug/L | <0.18 | 1.0 | 0.18 | 05/23/16 12:16 | |
| Thallium | ug/L | <0.50 | 1.0 | 0.50 | 05/23/16 12:16 | |

LABORATORY CONTROL SAMPLE: 1761806

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 42.7 | 107 | 85-115 | |
| Arsenic | ug/L | 40 | 43.1 | 108 | 85-115 | |
| Cadmium | ug/L | 40 | 43.1 | 108 | 85-115 | |
| Chromium | ug/L | 40 | 41.8 | 105 | 85-115 | |
| Selenium | ug/L | 40 | 44.6 | 111 | 85-115 | |
| Thallium | ug/L | 40 | 38.7 | 97 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1761807 1761808

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|-------------|-------------|--------|----------|-----------|--------------|--------|---------|------|
| | | 60219492004 Result | Spike Conc. | Spike Conc. | Result | | | | | | |
| Antimony | ug/L | <0.058 | 40 | 40 | 41.4 | 41.8 | 103 | 104 | 70-130 | 1 | 20 |
| Arsenic | ug/L | 6.1 | 40 | 40 | 48.7 | 49.0 | 107 | 107 | 70-130 | 1 | 20 |
| Cadmium | ug/L | <0.029 | 40 | 40 | 40.1 | 40.2 | 100 | 100 | 70-130 | 0 | 20 |
| Chromium | ug/L | 0.97J | 40 | 40 | 41.6 | 41.5 | 102 | 101 | 70-130 | 0 | 20 |
| Selenium | ug/L | <0.18 | 40 | 40 | 40.7 | 41.1 | 102 | 103 | 70-130 | 1 | 20 |
| Thallium | ug/L | <0.50 | 40 | 40 | 41.5 | 41.3 | 104 | 103 | 70-130 | 1 | 20 |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: MPRP/36031 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Associated Lab Samples: 60219492001

METHOD BLANK: 1763795 Matrix: Water

Associated Lab Samples: 60219492001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.058 | 1.0 | 0.058 | 05/24/16 10:00 | |
| Arsenic | ug/L | <0.10 | 1.0 | 0.10 | 05/24/16 10:00 | |
| Cadmium | ug/L | <0.029 | 0.50 | 0.029 | 05/24/16 10:00 | |
| Chromium | ug/L | 0.50J | 1.0 | 0.34 | 05/24/16 10:00 | |
| Selenium | ug/L | <0.18 | 1.0 | 0.18 | 05/24/16 10:00 | |
| Thallium | ug/L | <0.50 | 1.0 | 0.50 | 05/24/16 10:00 | |

LABORATORY CONTROL SAMPLE: 1763796

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 42.1 | 105 | 85-115 | |
| Arsenic | ug/L | 40 | 42.8 | 107 | 85-115 | |
| Cadmium | ug/L | 40 | 41.6 | 104 | 85-115 | |
| Chromium | ug/L | 40 | 40.3 | 101 | 85-115 | |
| Selenium | ug/L | 40 | 45.5 | 114 | 85-115 | |
| Thallium | ug/L | 40 | 36.6 | 91 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1763797 1763798

| Parameter | Units | 60219590001 | | 60219590003 | | MS | | MSD | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|----------------|-----------------|-------------|------------|-------|-------|-----|--------|--------------|-----|---------|------|
| | | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | % Rec | % Rec | | | | | | |
| Antimony | ug/L | 1.1 | 40 | 40 | 42.0 | 43.2 | 102 | 105 | 70-130 | 3 | 20 | | |
| Arsenic | ug/L | 1.5 | 40 | 40 | 43.4 | 44.7 | 105 | 108 | 70-130 | 3 | 20 | | |
| Cadmium | ug/L | 254 | 40 | 40 | 289 | 296 | 87 | 104 | 70-130 | 2 | 20 | | |
| Chromium | ug/L | 0.89J | 40 | 40 | 40.3 | 41.7 | 98 | 102 | 70-130 | 4 | 20 | | |
| Selenium | ug/L | 0.46J | 40 | 40 | 41.6 | 42.9 | 103 | 106 | 70-130 | 3 | 20 | | |
| Thallium | ug/L | 23.5 | 40 | 40 | 63.2 | 64.4 | 99 | 102 | 70-130 | 2 | 20 | | |

MATRIX SPIKE SAMPLE: 1763799

| Parameter | Units | 60219590003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | 0.99J | 40 | 43.0 | 105 | 70-130 | |
| Arsenic | ug/L | 0.42J | 40 | 43.6 | 108 | 70-130 | |
| Cadmium | ug/L | 0.036J | 40 | 41.4 | 103 | 70-130 | |
| Chromium | ug/L | 1.3 | 40 | 42.6 | 103 | 70-130 | |
| Selenium | ug/L | 0.39J | 40 | 42.4 | 105 | 70-130 | |
| Thallium | ug/L | 5.4 | 40 | 44.5 | 98 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/61904

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005

METHOD BLANK: 1761520

Matrix: Water

Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 05/19/16 14:27 | |

LABORATORY CONTROL SAMPLE: 1761521

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 1070 | 107 | 80-120 | |

SAMPLE DUPLICATE: 1761522

| Parameter | Units | 60219311009 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 678 | 686 | 1 | 10 | |

SAMPLE DUPLICATE: 1761523

| Parameter | Units | 60219311013 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 7.0 | 5.0 | 33 | 10 | D6 |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/61973

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60219492001, 60219492003, 60219492005

METHOD BLANK: 1763835

Matrix: Water

Associated Lab Samples: 60219492001, 60219492003, 60219492005

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 05/23/16 15:14 | |

LABORATORY CONTROL SAMPLE: 1763836

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 1000 | 100 | 80-120 | |

SAMPLE DUPLICATE: 1763837

| Parameter | Units | 60219258001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 246 | 246 | 0 | 10 | |

SAMPLE DUPLICATE: 1763838

| Parameter | Units | 60219265002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 1700 | 1630 | 4 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/61982

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60219492006, 60219492007

METHOD BLANK: 1763919

Matrix: Water

Associated Lab Samples: 60219492006, 60219492007

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 05/23/16 15:24 | |

LABORATORY CONTROL SAMPLE: 1763920

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 1020 | 102 | 80-120 | |

SAMPLE DUPLICATE: 1763921

| Parameter | Units | 60219492006 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 959 | 981 | 2 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/61987

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60219492002, 60219492004

METHOD BLANK: 1763960

Matrix: Water

Associated Lab Samples: 60219492002, 60219492004

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 05/24/16 07:34 | |

LABORATORY CONTROL SAMPLE: 1763961

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 991 | 99 | 80-120 | |

SAMPLE DUPLICATE: 1763962

| Parameter | Units | 60219389001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 257 | 247 | 4 | 10 | |

SAMPLE DUPLICATE: 1763963

| Parameter | Units | 60219492004 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 755 | 776 | 3 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/61800 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60219173001, 60219173003

SAMPLE DUPLICATE: 1759304

| Parameter | Units | 60219043001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 8.3 | 8.3 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/61843 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60219173002, 60219173004, 60219173005

SAMPLE DUPLICATE: 1759944

| Parameter | Units | 60219215001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.8 | 7.8 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/61918 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60219492001, 60219492005, 60219492007

SAMPLE DUPLICATE: 1761913

| Parameter | Units | 60219269001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.9 | 8.0 | 1 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/62000 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60219492003, 60219492006

SAMPLE DUPLICATE: 1764488

| Parameter | Units | 60219253001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 8.0 | 8.0 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/62019 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60219492004

SAMPLE DUPLICATE: 1765057

| Parameter | Units | 60219492004 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 6.7 | 6.7 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WET/62112 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60219492002

SAMPLE DUPLICATE: 1767972

| Parameter | Units | 60219367001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.8 | 7.8 | 1 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| | | | |
|-------------------------|--|-----------------------|-----------------|
| QC Batch: | WETA/39841 | Analysis Method: | EPA 300.0 |
| QC Batch Method: | EPA 300.0 | Analysis Description: | 300.0 IC Anions |
| Associated Lab Samples: | 60219173001, 60219173002, 60219173003, 60219173004, 60219173005, 60219492001, 60219492003, 60219492005, 60219492006, 60219492007 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1770111 | Matrix: | Water |
| Associated Lab Samples: | 60219173001, 60219173002, 60219173003, 60219173004, 60219173005, 60219492001, 60219492003, 60219492005, 60219492006, 60219492007 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 06/03/16 19:45 | |
| Fluoride | mg/L | <0.073 | 0.20 | 0.073 | 06/03/16 19:45 | |
| Sulfate | mg/L | <0.25 | 1.0 | 0.25 | 06/03/16 19:45 | |

LABORATORY CONTROL SAMPLE: 1770112

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.8 | 96 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.4 | 96 | 90-110 | |
| Sulfate | mg/L | 5 | 4.9 | 98 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1770113 1770114

| Parameter | Units | 60219173001 | | 1770114 | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|----------------|-----------------|-----------|------------|----------|-----------|--------------|--------|---------|------|
| | | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | | | | | | |
| Fluoride | mg/L | 0.42 | 2.5 | 2.5 | 2.8 | 2.8 | 94 | 95 | 80-120 | 1 | 15 |

MATRIX SPIKE SAMPLE: 1770115

| Parameter | Units | 60219173002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 12.4 | 5 | 17.3 | 97 | 80-120 | |
| Fluoride | mg/L | 0.34 | 2.5 | 2.7 | 94 | 80-120 | |
| Sulfate | mg/L | 11.0 | 5 | 15.6 | 92 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WETA/39865 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60219173001, 60219173003, 60219173004, 60219173005, 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

METHOD BLANK: 1770821 Matrix: Water
 Associated Lab Samples: 60219173001, 60219173003, 60219173004, 60219173005, 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 06/04/16 21:51 | |
| Fluoride | mg/L | <0.073 | 0.20 | 0.073 | 06/04/16 21:51 | |
| Sulfate | mg/L | <0.25 | 1.0 | 0.25 | 06/04/16 21:51 | |

LABORATORY CONTROL SAMPLE: 1770822

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.9 | 97 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.6 | 103 | 90-110 | |
| Sulfate | mg/L | 5 | 5.1 | 103 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1770823 1770824

| Parameter | Units | 60219173001 | | 1770824 | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|----------------|-----------------|-----------|------------|----------|-----------|--------------|--------|---------|------|
| | | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | | | | | | |
| Chloride | mg/L | 219 | 100 | 100 | 330 | 332 | 111 | 113 | 80-120 | 1 | 15 |
| Sulfate | mg/L | 64.0 | 25 | 25 | 90.3 | 90.7 | 105 | 107 | 80-120 | 0 | 15 |

MATRIX SPIKE SAMPLE: 1770825

| Parameter | Units | 60219492004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 45.4 | | 291 | | | |
| Fluoride | mg/L | 0.14J | 2.5 | 2.6 | 97 | 80-120 | |
| Sulfate | mg/L | 264 | 250 | 521 | 103 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: WETA/39875

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60219492002, 60219492004

METHOD BLANK: 1770990

Matrix: Water

Associated Lab Samples: 60219492002, 60219492004

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 06/05/16 15:34 | |
| Sulfate | mg/L | <0.25 | 1.0 | 0.25 | 06/05/16 15:34 | |

LABORATORY CONTROL SAMPLE: 1770991

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.9 | 97 | 90-110 | |
| Sulfate | mg/L | 5 | 5.0 | 100 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1770994 1770995

| Parameter | Units | 60219492004 | | 1770995 | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
|-----------|-------|-------------|----------------|-----------------|-----------|----------|-----------|--------------|--------|---------|------|------------|
| | | Result | MS Spike Conc. | MSD Spike Conc. | MS Result | | | | | | | MSD Result |
| Chloride | mg/L | 45.4 | 25 | 25 | 70.2 | 70.1 | 99 | 99 | 80-120 | 0 | 15 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-BMW-1 **Lab ID: 60219173001** Collected: 05/13/16 08:45 Received: 05/14/16 04:05 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.109 ± 0.497 (0.917) C:NA T:100% | pCi/L | 06/10/16 18:58 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.501 ± 0.360 (0.692) C:81% T:80% | pCi/L | 06/08/16 20:25 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-BMW-2 **Lab ID: 60219173002** Collected: 05/13/16 11:33 Received: 05/14/16 04:05 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.309 ± 0.373 (0.569) C:NA T:93% | pCi/L | 06/10/16 18:58 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.524 ± 0.369 (0.712) C:80% T:88% | pCi/L | 06/08/16 20:25 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-5 **Lab ID: 60219173003** Collected: 05/13/16 10:40 Received: 05/14/16 04:05 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.272 ± 0.471 (0.841) C:NA T:84% | pCi/L | 06/10/16 18:59 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.149 ± 0.352 (0.783) C:77% T:84% | pCi/L | 06/08/16 20:25 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-6 **Lab ID: 60219173004** Collected: 05/13/16 12:50 Received: 05/14/16 04:05 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.238 ± 0.517 (0.955) C:NA T:92% | pCi/L | 06/10/16 19:12 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.610 ± 0.374 (0.699) C:80% T:88% | pCi/L | 06/08/16 20:25 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-7 **Lab ID: 60219173005** Collected: 05/13/16 14:05 Received: 05/14/16 04:05 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0769 ± 0.399 (0.828) C:NA T:94% | pCi/L | 06/10/16 19:00 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.771 ± 0.447 (0.832) C:81% T:83% | pCi/L | 06/08/16 20:25 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-FB-1 **Lab ID: 60219492001** Collected: 05/16/16 10:20 Received: 05/19/16 03:20 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0686 ± 0.313 (0.505) C:NA T:92% | pCi/L | 06/13/16 12:27 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.238 ± 0.322 (0.689) C:79% T:92% | pCi/L | 06/09/16 16:15 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-1 **Lab ID: 60219492002** Collected: 05/17/16 13:50 Received: 05/19/16 03:20 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.370 ± 0.485 (0.808) C:NA T:91% | pCi/L | 06/13/16 12:45 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.631 ± 0.390 (0.730) C:79% T:83% | pCi/L | 06/09/16 16:15 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-2 **Lab ID: 60219492003** Collected: 05/16/16 11:50 Received: 05/19/16 03:20 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.227 ± 0.445 (0.813) C:NA T:85% | pCi/L | 06/13/16 12:33 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.515 ± 0.419 (0.841) C:80% T:79% | pCi/L | 06/09/16 16:15 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-3 **Lab ID: 60219492004** Collected: 05/17/16 11:03 Received: 05/19/16 03:20 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.515 ± 0.362 (0.175) C:NA T:92% | pCi/L | 06/13/16 12:50 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.457 ± 0.377 (0.757) C:80% T:86% | pCi/L | 06/09/16 16:15 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-4 **Lab ID: 60219492005** Collected: 05/16/16 10:08 Received: 05/19/16 03:20 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.319 ± 0.333 (0.470) C:NA T:96% | pCi/L | 06/13/16 12:38 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.248 ± 0.349 (0.749) C:81% T:84% | pCi/L | 06/09/16 20:05 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-8 **Lab ID: 60219492006** Collected: 05/16/16 16:00 Received: 05/19/16 03:20 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.000 ± 0.299 (0.671) C:NA T:94% | pCi/L | 06/13/16 12:54 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.796 ± 0.417 (0.741) C:83% T:82% | pCi/L | 06/09/16 20:05 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-DUP-1 **Lab ID: 60219492007** Collected: 05/16/16 00:00 Received: 05/19/16 03:20 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.257 ± 0.358 (0.598) C:NA T:91% | pCi/L | 06/13/16 13:01 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.509 ± 0.399 (0.792) C:80% T:90% | pCi/L | 06/09/16 20:05 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

Sample: M-MW-3 MS **Lab ID: 60219173013** Collected: 05/17/16 11:03 Received: 05/19/16 03:20 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 77.9 %REC ± NA (NA) C:NA T:NA | pCi/L | 06/13/16 12:50 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 74.9 %REC ± NA (NA) C:NA T:NA | pCi/L | 06/09/16 20:06 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 72.4 %REC 7.21 RPD ± NA (NA) C:NA T:NA | pCi/L | 06/13/16 12:44 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 86.4 %REC 14.2 RPD ± NA (NA) C:NA T:NA | pCi/L | 06/09/16 20:05 | 15262-20-1 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: RADC/29667

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005

METHOD BLANK: 1083713

Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.394 ± 0.400 (0.826) C:80% T:76% | pCi/L | 06/08/16 20:25 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: RADC/29710

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Associated Lab Samples: 60219173013, 60219173014, 60219492001, 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

METHOD BLANK: 1084998

Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.495 ± 0.402 (0.804) C:75% T:83% | pCi/L | 06/09/16 12:40 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: RADC/29665

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Associated Lab Samples: 60219173013, 60219173014, 60219492001, 60219492002, 60219492003, 60219492004, 60219492005, 60219492006, 60219492007

METHOD BLANK: 1083706

Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|----------------------------------|-------|----------------|------------|
| Radium-226 | 0.127 ± 0.290 (0.172) C:NA T:92% | pCi/L | 06/13/16 12:39 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

QC Batch: RADC/29662

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Associated Lab Samples: 60219173001, 60219173002, 60219173003, 60219173004, 60219173005

METHOD BLANK: 1083701

Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-226 | -0.089 ± 0.404 (0.953) C:NA T:88% | pCi/L | 06/10/16 11:13 | |

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QUALIFIERS

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|------------|-------------------|------------------|
| 60219173001 | M-BMW-1 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219173002 | M-BMW-2 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219173003 | M-MW-5 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219173004 | M-MW-6 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219173005 | M-MW-7 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219492001 | M-FB-1 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219492002 | M-MW-1 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219492003 | M-MW-2 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219492004 | M-MW-3 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219492005 | M-MW-4 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219492006 | M-MW-8 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219492007 | M-DUP-1 | EPA 200.7 | MPRP/36000 | EPA 200.7 | ICP/26280 |
| 60219173001 | M-BMW-1 | EPA 200.8 | MPRP/35985 | EPA 200.8 | ICPM/4279 |
| 60219173002 | M-BMW-2 | EPA 200.8 | MPRP/35985 | EPA 200.8 | ICPM/4279 |
| 60219173003 | M-MW-5 | EPA 200.8 | MPRP/35985 | EPA 200.8 | ICPM/4279 |
| 60219173004 | M-MW-6 | EPA 200.8 | MPRP/35985 | EPA 200.8 | ICPM/4279 |
| 60219173005 | M-MW-7 | EPA 200.8 | MPRP/35985 | EPA 200.8 | ICPM/4279 |
| 60219492001 | M-FB-1 | EPA 200.8 | MPRP/36031 | EPA 200.8 | ICPM/4287 |
| 60219492002 | M-MW-1 | EPA 200.8 | MPRP/35999 | EPA 200.8 | ICPM/4281 |
| 60219492003 | M-MW-2 | EPA 200.8 | MPRP/35999 | EPA 200.8 | ICPM/4281 |
| 60219492004 | M-MW-3 | EPA 200.8 | MPRP/35999 | EPA 200.8 | ICPM/4281 |
| 60219492005 | M-MW-4 | EPA 200.8 | MPRP/35999 | EPA 200.8 | ICPM/4281 |
| 60219492006 | M-MW-8 | EPA 200.8 | MPRP/35999 | EPA 200.8 | ICPM/4281 |
| 60219492007 | M-DUP-1 | EPA 200.8 | MPRP/35999 | EPA 200.8 | ICPM/4281 |
| 60219173001 | M-BMW-1 | EPA 7470 | MERP/10628 | EPA 7470 | MERC/10571 |
| 60219173002 | M-BMW-2 | EPA 7470 | MERP/10628 | EPA 7470 | MERC/10571 |
| 60219173003 | M-MW-5 | EPA 7470 | MERP/10628 | EPA 7470 | MERC/10571 |
| 60219173004 | M-MW-6 | EPA 7470 | MERP/10628 | EPA 7470 | MERC/10571 |
| 60219173005 | M-MW-7 | EPA 7470 | MERP/10628 | EPA 7470 | MERC/10571 |
| 60219492001 | M-FB-1 | EPA 7470 | MERP/10635 | EPA 7470 | MERC/10583 |
| 60219492002 | M-MW-1 | EPA 7470 | MERP/10635 | EPA 7470 | MERC/10583 |
| 60219492003 | M-MW-2 | EPA 7470 | MERP/10635 | EPA 7470 | MERC/10583 |
| 60219492004 | M-MW-3 | EPA 7470 | MERP/10635 | EPA 7470 | MERC/10583 |
| 60219492005 | M-MW-4 | EPA 7470 | MERP/10635 | EPA 7470 | MERC/10583 |
| 60219492006 | M-MW-8 | EPA 7470 | MERP/10635 | EPA 7470 | MERC/10583 |
| 60219492007 | M-DUP-1 | EPA 7470 | MERP/10635 | EPA 7470 | MERC/10583 |
| 60219173001 | M-BMW-1 | EPA 903.1 | RADC/29662 | | |
| 60219173002 | M-BMW-2 | EPA 903.1 | RADC/29662 | | |
| 60219173003 | M-MW-5 | EPA 903.1 | RADC/29662 | | |
| 60219173004 | M-MW-6 | EPA 903.1 | RADC/29662 | | |
| 60219173005 | M-MW-7 | EPA 903.1 | RADC/29662 | | |
| 60219492001 | M-FB-1 | EPA 903.1 | RADC/29665 | | |
| 60219492002 | M-MW-1 | EPA 903.1 | RADC/29665 | | |
| 60219492003 | M-MW-2 | EPA 903.1 | RADC/29665 | | |
| 60219492004 | M-MW-3 | EPA 903.1 | RADC/29665 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|------------|-------------------|------------------|
| 60219492005 | M-MW-4 | EPA 903.1 | RADC/29665 | | |
| 60219492006 | M-MW-8 | EPA 903.1 | RADC/29665 | | |
| 60219492007 | M-DUP-1 | EPA 903.1 | RADC/29665 | | |
| 60219173013 | M-MW-3 MS | EPA 903.1 | RADC/29665 | | |
| 60219173014 | M-MW-3 MSD | EPA 903.1 | RADC/29665 | | |
| 60219173001 | M-BMW-1 | EPA 904.0 | RADC/29667 | | |
| 60219173002 | M-BMW-2 | EPA 904.0 | RADC/29667 | | |
| 60219173003 | M-MW-5 | EPA 904.0 | RADC/29667 | | |
| 60219173004 | M-MW-6 | EPA 904.0 | RADC/29667 | | |
| 60219173005 | M-MW-7 | EPA 904.0 | RADC/29667 | | |
| 60219492001 | M-FB-1 | EPA 904.0 | RADC/29710 | | |
| 60219492002 | M-MW-1 | EPA 904.0 | RADC/29710 | | |
| 60219492003 | M-MW-2 | EPA 904.0 | RADC/29710 | | |
| 60219492004 | M-MW-3 | EPA 904.0 | RADC/29710 | | |
| 60219492005 | M-MW-4 | EPA 904.0 | RADC/29710 | | |
| 60219492006 | M-MW-8 | EPA 904.0 | RADC/29710 | | |
| 60219492007 | M-DUP-1 | EPA 904.0 | RADC/29710 | | |
| 60219173013 | M-MW-3 MS | EPA 904.0 | RADC/29710 | | |
| 60219173014 | M-MW-3 MSD | EPA 904.0 | RADC/29710 | | |
| 60219173001 | M-BMW-1 | SM 2540C | WET/61904 | | |
| 60219173002 | M-BMW-2 | SM 2540C | WET/61904 | | |
| 60219173003 | M-MW-5 | SM 2540C | WET/61904 | | |
| 60219173004 | M-MW-6 | SM 2540C | WET/61904 | | |
| 60219173005 | M-MW-7 | SM 2540C | WET/61904 | | |
| 60219492001 | M-FB-1 | SM 2540C | WET/61973 | | |
| 60219492002 | M-MW-1 | SM 2540C | WET/61987 | | |
| 60219492003 | M-MW-2 | SM 2540C | WET/61973 | | |
| 60219492004 | M-MW-3 | SM 2540C | WET/61987 | | |
| 60219492005 | M-MW-4 | SM 2540C | WET/61973 | | |
| 60219492006 | M-MW-8 | SM 2540C | WET/61982 | | |
| 60219492007 | M-DUP-1 | SM 2540C | WET/61982 | | |
| 60219173001 | M-BMW-1 | SM 4500-H+B | WET/61800 | | |
| 60219173002 | M-BMW-2 | SM 4500-H+B | WET/61843 | | |
| 60219173003 | M-MW-5 | SM 4500-H+B | WET/61800 | | |
| 60219173004 | M-MW-6 | SM 4500-H+B | WET/61843 | | |
| 60219173005 | M-MW-7 | SM 4500-H+B | WET/61843 | | |
| 60219492001 | M-FB-1 | SM 4500-H+B | WET/61918 | | |
| 60219492002 | M-MW-1 | SM 4500-H+B | WET/62112 | | |
| 60219492003 | M-MW-2 | SM 4500-H+B | WET/62000 | | |
| 60219492004 | M-MW-3 | SM 4500-H+B | WET/62019 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN-MERAMEC ENERGY CENTER

Pace Project No.: 60219173

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|------------|-------------------|------------------|
| 60219492005 | M-MW-4 | SM 4500-H+B | WET/61918 | | |
| 60219492006 | M-MW-8 | SM 4500-H+B | WET/62000 | | |
| 60219492007 | M-DUP-1 | SM 4500-H+B | WET/61918 | | |
| 60219173001 | M-BMW-1 | EPA 300.0 | WETA/39841 | | |
| 60219173001 | M-BMW-1 | EPA 300.0 | WETA/39865 | | |
| 60219173002 | M-BMW-2 | EPA 300.0 | WETA/39841 | | |
| 60219173003 | M-MW-5 | EPA 300.0 | WETA/39841 | | |
| 60219173003 | M-MW-5 | EPA 300.0 | WETA/39865 | | |
| 60219173004 | M-MW-6 | EPA 300.0 | WETA/39841 | | |
| 60219173004 | M-MW-6 | EPA 300.0 | WETA/39865 | | |
| 60219173005 | M-MW-7 | EPA 300.0 | WETA/39841 | | |
| 60219173005 | M-MW-7 | EPA 300.0 | WETA/39865 | | |
| 60219492001 | M-FB-1 | EPA 300.0 | WETA/39841 | | |
| 60219492002 | M-MW-1 | EPA 300.0 | WETA/39865 | | |
| 60219492002 | M-MW-1 | EPA 300.0 | WETA/39875 | | |
| 60219492003 | M-MW-2 | EPA 300.0 | WETA/39841 | | |
| 60219492003 | M-MW-2 | EPA 300.0 | WETA/39865 | | |
| 60219492004 | M-MW-3 | EPA 300.0 | WETA/39865 | | |
| 60219492004 | M-MW-3 | EPA 300.0 | WETA/39875 | | |
| 60219492005 | M-MW-4 | EPA 300.0 | WETA/39841 | | |
| 60219492005 | M-MW-4 | EPA 300.0 | WETA/39865 | | |
| 60219492006 | M-MW-8 | EPA 300.0 | WETA/39841 | | |
| 60219492006 | M-MW-8 | EPA 300.0 | WETA/39865 | | |
| 60219492007 | M-DUP-1 | EPA 300.0 | WETA/39841 | | |
| 60219492007 | M-DUP-1 | EPA 300.0 | WETA/39865 | | |

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60219173

 60219173

Client Name: Goldner

Courier: FedEx UPS VIA Clay PEX ECI Pace Other Client

Tracking #: Xroads Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: CF +1.0 T-239 / CF 0.0 T-262 Type of Ice: Not Blue None Samples received on ice, cooling process has begun. (circle one)

Cooler Temperature: 19.5 3.6

Date and initials of person examining contents: JW 5/14/16

Temperature should be above freezing to 6°C

| | | |
|--|--|---|
| Chain of Custody present: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 1. |
| Chain of Custody filled out: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2. |
| Chain of Custody relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3. |
| Sampler name & signature on COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4. |
| Samples arrived within holding time: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5. |
| Short Hold Time analyses (<72hr): | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 6. <u>p+1</u> |
| Rush Turn Around Time requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 7. |
| Sufficient volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8. |
| Correct containers used: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Pace containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 9. |
| Containers intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 10. |
| Unpreserved 5035A soils frozen w/in 48hrs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 11. |
| Filtered volume received for dissolved tests? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 12. |
| Sample labels match COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 13. <u>No volume for M-BMW-2 extra sample called "M-M-W-8" 2 (40.1N) "M3F" M30 5/13/16 @ 1133</u> |
| Includes date/time/ID/analyses Matrix: <u>WT</u> | | |
| All containers needing preservation have been checked. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 14. |
| Exceptions: VOA, Coliform, O&G, WI-DRO (water) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Initial when completed |
| Trip Blank present: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Lot # of added preservative |
| Pace Trip Blank lot # (if purchased): | | 15. |
| Headspace in VOA vials (>6mm): | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 16. |
| Project sampled in USDA Regulated Area: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 17. List State: |
| Additional labels attached to 5035A vials in the field? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 18. |

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____ Per John, M-BMW-2 is the correct sample ID.

Project Manager Review: Jami Church Date: 5/14/16

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | | |
|-------------------------------------|-------------------------|--------------------------------------|--------------------------------|-----------------------------|----------------------------|
| Section A | | Section B | | Section C | |
| Required Client Information: | | Required Project Information: | | Invoice Information: | |
| Company: | Golder Associates | Report To: | Mark Haddock | Attention: | |
| Address: | 820 S. Main St | Copy To: | | Company Name: | |
| City: | Saint Charles, MO 63301 | Purchase Order #: | | Address: | |
| Email: | mhaddock@golder.com | Project Name: | Ameren - Meramec Energy Center | Pace Quote: | |
| Phone: | 636-936-1554 | Requested Due Date: | | Pace Project Manager: | jamie.church@pace-labs.com |
| | | | | Pace Profile #: | |
| | | | | Regulatory Agency: | |
| | | | | State / Location: | MO |

| ITEM # | MATRIX | CODE | COLLECTED | | SAMPLE TYPE (G=GRAB C=COMP) | MATRIX CODE (see valid codes to left) | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | PRESERVATIVES | | | | | | | ANALYSES TEST Y/N | Requested Analysis Filtered (Y/N) | Residual Chlorine (Y/N) |
|--------|----------|------|------------|----------|-----------------------------|---------------------------------------|---------------------------|-----------------|---------------|------|-----|---------|----------|-------|--------|-------------------|-----------------------------------|-------------------------|
| | | | START DATE | END DATE | | | | | H2SO4 | HNO3 | HCl | Na2S2O3 | Methanol | Other | Metals | | | |
| 1 | M-BMW-1 | WT | 5/13/16 | 02:45 | WT | | 41 | 3 | | | | | | | | | | |
| 2 | M-BMW-2 | WT | 5/13/16 | 11:53 | WT | | 41 | 3 | | | | | | | | | | |
| 3 | M-BMW-3 | WT | | | WT | | | | | | | | | | | | | |
| 4 | M-BMW-4 | WT | | | WT | | | | | | | | | | | | | |
| 5 | M-BMW-5 | WT | | | WT | | | | | | | | | | | | | |
| 6 | M-BMW-6 | WT | | | WT | | | | | | | | | | | | | |
| 7 | M-BMW-7 | WT | | | WT | | | | | | | | | | | | | |
| 8 | M-BMW-8 | WT | 5/13/16 | | WT | | 41 | 3 | | | | | | | | | | |
| 9 | M-BMW-9 | WT | 5/13/16 | 10:40 | WT | | 41 | 3 | | | | | | | | | | |
| 10 | M-BMW-10 | WT | | 12:50 | WT | | 41 | 3 | | | | | | | | | | |
| 11 | M-BMW-11 | WT | | 14:05 | WT | | 41 | 3 | | | | | | | | | | |
| 12 | M-BMW-12 | WT | | | WT | | | | | | | | | | | | | |

| RELIQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | |
|------------------------------|---------|------|---------------------------|---------|------|-------------------|--------------|--------------|
| | | | | | | Ice (Y/N) | Sealed (Y/N) | Cooler (Y/N) |
| John Swartz / Golder | 5/13/16 | 1609 | John Swartz / PACE | 5/13/16 | 1607 | | | |
| John Swartz / PACE | 5/13/16 | 1702 | John Swartz / PACE | 5/14/16 | 0405 | MS | Y | Y |
| | | | | | | 3.6 | Y | Y |

| | | | |
|-----------------------------------|--|----------------------|--|
| SAMPLER NAME AND SIGNATURE | | John Swartz | |
| PRINT Name of SAMPLER: | | John Swartz | |
| SIGNATURE of SAMPLER: | | <i>[Signature]</i> | |
| | | DATE Signed: 5/13/16 | |

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



July 06, 2016

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60221557

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on June 17, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 15-016-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

Kansas Field Laboratory Accreditation: # E-92587

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60221557

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|-----------|--------|----------------|----------------|
| 60221557001 | M-BMW-1 | Water | 06/16/16 11:22 | 06/17/16 03:50 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60221557001 | M-BMW-1 | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | SMW | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

Sample: M-BMW-1 **Lab ID: 60221557001** Collected: 06/16/16 11:22 Received: 06/17/16 03:50 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 239 | ug/L | 10.0 | 0.58 | 1 | 06/20/16 11:30 | 06/21/16 10:57 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 06/20/16 11:30 | 06/21/16 10:57 | 7440-41-7 | |
| Boron | 153 | ug/L | 100 | 50.0 | 1 | 06/20/16 11:30 | 06/21/16 10:57 | 7440-42-8 | |
| Calcium | 106000 | ug/L | 100 | 8.1 | 1 | 06/20/16 11:30 | 06/21/16 10:57 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 06/20/16 11:30 | 06/21/16 10:57 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 06/20/16 11:30 | 06/21/16 10:57 | 7439-92-1 | |
| Lithium | 12.0 | ug/L | 10.0 | 4.9 | 1 | 06/20/16 11:30 | 06/21/16 10:57 | 7439-93-2 | |
| Molybdenum | 6.6J | ug/L | 20.0 | 0.52 | 1 | 06/20/16 11:30 | 06/21/16 10:57 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.79J | ug/L | 1.0 | 0.058 | 1 | 06/24/16 09:30 | 06/28/16 11:59 | 7440-36-0 | B |
| Arsenic | 1.3 | ug/L | 1.0 | 0.10 | 1 | 06/24/16 09:30 | 06/28/16 11:59 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 06/24/16 09:30 | 06/28/16 11:59 | 7440-43-9 | |
| Chromium | 0.50J | ug/L | 1.0 | 0.34 | 1 | 06/24/16 09:30 | 06/28/16 11:59 | 7440-47-3 | |
| Selenium | 0.32J | ug/L | 1.0 | 0.18 | 1 | 06/24/16 09:30 | 06/28/16 11:59 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 06/24/16 09:30 | 06/28/16 11:59 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 06/23/16 15:30 | 06/27/16 11:53 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 755 | mg/L | 5.0 | 5.0 | 1 | | 06/20/16 13:42 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.5 | Std. Units | 0.10 | 0.10 | 1 | | 06/21/16 10:30 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 202 | mg/L | 20.0 | 10.0 | 20 | | 06/26/16 22:57 | 16887-00-6 | |
| Fluoride | 0.42 | mg/L | 0.20 | 0.073 | 1 | | 06/26/16 01:38 | 16984-48-8 | |
| Sulfate | 60.3 | mg/L | 5.0 | 1.2 | 5 | | 06/26/16 22:42 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

| | | | |
|-------------------------|-------------|-----------------------|--------------|
| QC Batch: | MERP/10740 | Analysis Method: | EPA 7470 |
| QC Batch Method: | EPA 7470 | Analysis Description: | 7470 Mercury |
| Associated Lab Samples: | 60221557001 | | |

METHOD BLANK: 1781441 Matrix: Water
Associated Lab Samples: 60221557001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Mercury | ug/L | <0.039 | 0.20 | 0.039 | 06/27/16 10:51 | |

LABORATORY CONTROL SAMPLE: 1781442

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury | ug/L | 5 | 5.0 | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1781443 1781444

| Parameter | Units | 60221617003 | | MSD | | MS | | MSD | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|----------------|-----------------|-----------|------------|----------|-----------|--------|--------------|-----|---------|------|
| | | Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | | | | | |
| Mercury | ug/L | ND | 5 | 5 | 4.8 | 4.9 | 96 | 97 | 75-125 | 2 | 20 | | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

QC Batch: MPRP/36397 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Associated Lab Samples: 60221557001

METHOD BLANK: 1779239 Matrix: Water

Associated Lab Samples: 60221557001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | <0.58 | 10.0 | 0.58 | 06/21/16 10:01 | |
| Beryllium | ug/L | <0.26 | 1.0 | 0.26 | 06/21/16 10:01 | |
| Boron | ug/L | <50.0 | 100 | 50.0 | 06/21/16 10:01 | |
| Calcium | ug/L | <8.1 | 100 | 8.1 | 06/21/16 10:01 | |
| Cobalt | ug/L | <0.72 | 5.0 | 0.72 | 06/21/16 10:01 | |
| Lead | ug/L | <2.5 | 5.0 | 2.5 | 06/21/16 10:01 | |
| Lithium | ug/L | <4.9 | 10.0 | 4.9 | 06/21/16 10:01 | |
| Molybdenum | ug/L | <0.52 | 20.0 | 0.52 | 06/21/16 10:01 | |

LABORATORY CONTROL SAMPLE: 1779240

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 990 | 99 | 85-115 | |
| Beryllium | ug/L | 1000 | 995 | 100 | 85-115 | |
| Boron | ug/L | 1000 | 967 | 97 | 85-115 | |
| Calcium | ug/L | 10000 | 9900 | 99 | 85-115 | |
| Cobalt | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Lead | ug/L | 1000 | 1020 | 102 | 85-115 | |
| Lithium | ug/L | 1000 | 973 | 97 | 85-115 | |
| Molybdenum | ug/L | 1000 | 1040 | 104 | 85-115 | |

MATRIX SPIKE SAMPLE: 1779241

| Parameter | Units | 60221275002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|------------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Barium | ug/L | 132 | 1000 | 1130 | 100 | 70-130 | |
| Beryllium | ug/L | ND | 1000 | 1020 | 102 | 70-130 | |
| Boron | ug/L | 104 | 1000 | 1120 | 102 | 70-130 | |
| Calcium | ug/L | 76200 | 10000 | 85800 | 96 | 70-130 | |
| Cobalt | ug/L | ND | 1000 | 982 | 98 | 70-130 | |
| Lead | ug/L | ND | 1000 | 963 | 96 | 70-130 | |
| Lithium | ug/L | 12.9 | 1000 | 1020 | 101 | 70-130 | |
| Molybdenum | ug/L | ND | 1000 | 1050 | 105 | 70-130 | |

MATRIX SPIKE SAMPLE: 1779242

| Parameter | Units | 60221462001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Barium | ug/L | 203 | 1000 | 1210 | 100 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

| MATRIX SPIKE SAMPLE: | | 1779242 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60221462001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Beryllium | ug/L | <0.26 | 1000 | 1010 | 101 | 70-130 | |
| Boron | ug/L | 84.7J | 1000 | 1080 | 100 | 70-130 | |
| Calcium | ug/L | 140000 | 10000 | 145000 | 48 | 70-130 | M1 |
| Cobalt | ug/L | <0.72 | 1000 | 986 | 99 | 70-130 | |
| Lead | ug/L | <2.5 | 1000 | 983 | 98 | 70-130 | |
| Lithium | ug/L | 27.1 | 1000 | 1030 | 101 | 70-130 | |
| Molybdenum | ug/L | <0.52 | 1000 | 1050 | 105 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

QC Batch: MPRP/36444 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Associated Lab Samples: 60221557001

METHOD BLANK: 1782192 Matrix: Water
Associated Lab Samples: 60221557001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | 0.12J | 1.0 | 0.058 | 06/28/16 11:02 | |
| Arsenic | ug/L | <0.10 | 1.0 | 0.10 | 06/28/16 11:02 | |
| Cadmium | ug/L | <0.029 | 0.50 | 0.029 | 06/28/16 11:02 | |
| Chromium | ug/L | <0.34 | 1.0 | 0.34 | 06/28/16 11:02 | |
| Selenium | ug/L | <0.18 | 1.0 | 0.18 | 06/28/16 11:02 | |
| Thallium | ug/L | <0.50 | 1.0 | 0.50 | 06/28/16 11:02 | |

LABORATORY CONTROL SAMPLE: 1782193

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 41.8 | 104 | 85-115 | |
| Arsenic | ug/L | 40 | 42.1 | 105 | 85-115 | |
| Cadmium | ug/L | 40 | 42.2 | 106 | 85-115 | |
| Chromium | ug/L | 40 | 41.5 | 104 | 85-115 | |
| Selenium | ug/L | 40 | 43.2 | 108 | 85-115 | |
| Thallium | ug/L | 40 | 38.4 | 96 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1782195 1782196

| Parameter | Units | 60221462001 | | 60221462002 | | 60221462002 | | % Rec Limits | Max RPD | Qual |
|-----------|-------|-------------|-----------------|-------------|-----------------|-------------|-----------|--------------|---------|------|
| | | MS Result | MSD Spike Conc. | MS Result | MSD Spike Conc. | MS % Rec | MSD % Rec | | | |
| Antimony | ug/L | 0.25J | 40 | 40 | 41.9 | 41.7 | 104 | 104 | 70-130 | 1 20 |
| Arsenic | ug/L | 0.51J | 40 | 40 | 42.6 | 42.6 | 105 | 105 | 70-130 | 0 20 |
| Cadmium | ug/L | 0.044J | 40 | 40 | 40.9 | 40.9 | 102 | 102 | 70-130 | 0 20 |
| Chromium | ug/L | <0.34 | 40 | 40 | 40.9 | 40.2 | 102 | 100 | 70-130 | 2 20 |
| Selenium | ug/L | 1.9 | 40 | 40 | 43.2 | 42.9 | 103 | 103 | 70-130 | 1 20 |
| Thallium | ug/L | 0.51J | 40 | 40 | 40.6 | 40.3 | 100 | 100 | 70-130 | 1 20 |

MATRIX SPIKE SAMPLE: 1782197

| Parameter | Units | 60221462002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | 0.19J | 40 | 41.5 | 103 | 70-130 | |
| Arsenic | ug/L | 1.3 | 40 | 43.4 | 105 | 70-130 | |
| Cadmium | ug/L | <0.029 | 40 | 40.4 | 101 | 70-130 | |
| Chromium | ug/L | 0.77J | 40 | 41.0 | 100 | 70-130 | |
| Selenium | ug/L | 1.4 | 40 | 42.1 | 102 | 70-130 | |
| Thallium | ug/L | <0.50 | 40 | 40.7 | 102 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

QC Batch: WET/62493

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60221557001

METHOD BLANK: 1779160

Matrix: Water

Associated Lab Samples: 60221557001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 06/20/16 13:28 | |

LABORATORY CONTROL SAMPLE: 1779161

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 986 | 99 | 80-120 | |

SAMPLE DUPLICATE: 1779162

| Parameter | Units | 60221624001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 1090 | 1100 | 0 | 10 | |

SAMPLE DUPLICATE: 1779163

| Parameter | Units | 60221462001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 506 | 502 | 1 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

QC Batch: WET/62527 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60221557001

SAMPLE DUPLICATE: 1779712

| Parameter | Units | 60221533002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 8.3 | 8.3 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

QC Batch: WETA/40261

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60221557001

METHOD BLANK: 1782979

Matrix: Water

Associated Lab Samples: 60221557001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Fluoride | mg/L | <0.073 | 0.20 | 0.073 | 06/26/16 00:54 | |

LABORATORY CONTROL SAMPLE: 1782980

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Fluoride | mg/L | 2.5 | 2.5 | 100 | 90-110 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

| | | | |
|-------------------------|-------------|-----------------------|-----------------|
| QC Batch: | WETA/40273 | Analysis Method: | EPA 300.0 |
| QC Batch Method: | EPA 300.0 | Analysis Description: | 300.0 IC Anions |
| Associated Lab Samples: | 60221557001 | | |

METHOD BLANK: 1783416 Matrix: Water
Associated Lab Samples: 60221557001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 06/26/16 17:18 | |
| Sulfate | mg/L | <0.25 | 1.0 | 0.25 | 06/26/16 17:18 | |

LABORATORY CONTROL SAMPLE: 1783417

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.8 | 96 | 90-110 | |
| Sulfate | mg/L | 5 | 4.9 | 98 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1783418 1783419

| Parameter | Units | 60221617011 | | MSD | | MS | | MSD | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|-------------|-------------|-----------|------------|-------|-------|--------|--------------|-----|---------|------|
| | | Result | Spike Conc. | Spike Conc. | MS Result | MSD Result | % Rec | % Rec | | | | | |
| Chloride | mg/L | 233 | 100 | 100 | 338 | 336 | 106 | 103 | 80-120 | 1 | 15 | | |

MATRIX SPIKE SAMPLE: 1783420

| Parameter | Units | 60222010001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 177 | | 416 | | | |

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

Sample: M-BMW-1 **Lab ID: 60221557001** Collected: 06/16/16 11:22 Received: 06/17/16 03:50 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0658 ± 0.300 (0.484) C:NA T:88% | pCi/L | 06/29/16 20:04 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.205 ± 0.324 (0.701) C:79% T:92% | pCi/L | 06/28/16 17:48 | 15262-20-1 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

QC Batch: RADC/30023

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Associated Lab Samples: 60221557001

METHOD BLANK: 1096879

Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.350 ± 0.324 (0.661) C:83% T:88% | pCi/L | 06/28/16 16:35 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

QC Batch: RADC/30020

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Associated Lab Samples: 60221557001

METHOD BLANK: 1096876

Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|----------------------------------|-------|----------------|------------|
| Radium-226 | 0.128 ± 0.308 (0.595) C:NA T:98% | pCi/L | 06/29/16 13:55 | |

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QUALIFIERS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60221557

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|------------|-------------------|------------------|
| 60221557001 | M-BMW-1 | EPA 200.7 | MPRP/36397 | EPA 200.7 | ICP/26530 |
| 60221557001 | M-BMW-1 | EPA 200.8 | MPRP/36444 | EPA 200.8 | ICPM/4337 |
| 60221557001 | M-BMW-1 | EPA 7470 | MERP/10740 | EPA 7470 | MERC/10688 |
| 60221557001 | M-BMW-1 | EPA 903.1 | RADC/30020 | | |
| 60221557001 | M-BMW-1 | EPA 904.0 | RADC/30023 | | |
| 60221557001 | M-BMW-1 | SM 2540C | WET/62493 | | |
| 60221557001 | M-BMW-1 | SM 4500-H+B | WET/62527 | | |
| 60221557001 | M-BMW-1 | EPA 300.0 | WETA/40261 | | |
| 60221557001 | M-BMW-1 | EPA 300.0 | WETA/40273 | | |

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60221557
Barcode
60221557

Client Name: Golder

Courier: FedEx [] UPS [] VIA [] Clay [] PEX [] ECI [] Pace [] Other [x] Client []

Tracking #: Pace Shipping Label Used? Yes [] No [x]

Custody Seal on Cooler/Box Present: Yes [x] No [] Seals intact: Yes [x] No []

Packing Material: Bubble Wrap [] Bubble Bags [] Foam [] None [x] Other []

Thermometer Used: T-239 / T-262 Type of Ice: Wet [x] Blue [] None [] Samples received on ice, cooling process has begun.

Cooler Temperature: 0.7 / 12.3

Date and initials of person examining contents: [Handwritten initials]

Temperature should be above freezing to 6°C

Table with 18 rows of inspection items and checkboxes. Items include Chain of Custody, Short Hold Time analyses, Rush Turn Around Time, etc.

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Date: 6/17

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: **Section B** Required Project Information: **Section C** Invoice Information:

Company: **Goldier Associates** Report To: **Mark Haddock (mhaddock@golder.com)** Attention: **Mark Haddock**

Address: **820 South Main Street, Suite 100** Coor To: **Jeffrey Ingram** Company Name: **Goldier Associates**

Address: **St Charles, MO 63301**

Email To: **maddock@golder.com** Purchase Order No.: **6004**

Phone: **636-724-9191** Fax: **636-724-9323** Project Name: **Ameren-Sleux Energy Center** Pace Quote Reference: **Jamie Church**

Requested Due Date/TAT: **Standard** Project Number: **153-1408-0003-0004** Pace Profile #: **9285**

REGULATORY AGENCY: NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location: **MO**

| ITEM # | Section D Required Client Information | Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WW WASTE WATER WW PRODUCT SILSOLID OIL | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED | | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives | Analysis Test | Requested Analysis Filtered (Y/N) | Residual Chlorine (Y/N) | SAMPLE CONDITIONS | | | | |
|--------|--|--|---------------------------------------|-----------------------------|-----------|-------|---------------------------|-----------------|---------------|--|-----------------------------------|-------------------------|-------------------|------|------------|-----------------------|-----------------------------|
| | | | | | DATE | TIME | | | | | | | DATE | TIME | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) |
| 1 | M-BMW-1 | | | | 6/16/16 | 11:22 | 4 | 1 | 3 | Metals* H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other | Y | | 18034 | Y | Y | Y | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |

ADDITIONAL COMMENTS

EPA 200.7: Ba, Be, B, Ca, Co, Pb, Li, Mo + EPA 7470A Hg
 EPA 200.8: Sb, As, Cd, Cr, Se, Tl

RELINQUISHED BY / AFFILIATION: **Mark Haddock** DATE: **6/16/16** TIME: **1548** ACCEPTED BY / AFFILIATION: **John Swartz** DATE: **6/16/16** TIME: **0350**

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: **John Swartz** DATE Signed (MM/DD/YYYY): **6/16/16**

SIGNATURE OF SAMPLER: *[Signature]*

Temp in °C: **12.3** Received on Ice (Y/N): **Y** Custody Sealed Cooler (Y/N): **Y** Samples Intact (Y/N): **Y**

August 11, 2016

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60223843

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on July 20, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Emily Webb for
Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 15-016-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

Kansas Field Laboratory Accreditation: # E-92587

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|------------|--------|----------------|----------------|
| 60223843001 | M-MW-1 | Water | 07/18/16 13:22 | 07/20/16 04:10 |
| 60223843002 | M-MW-2 | Water | 07/18/16 16:12 | 07/20/16 04:10 |
| 60223843003 | M-MW-3 | Water | 07/18/16 16:15 | 07/20/16 04:10 |
| 60223843004 | M-MW-4 | Water | 07/19/16 09:15 | 07/20/16 04:10 |
| 60223843005 | M-MW-5 | Water | 07/19/16 10:30 | 07/20/16 04:10 |
| 60223843006 | M-MW-6 | Water | 07/19/16 11:25 | 07/20/16 04:10 |
| 60223843007 | M-MW-7 | Water | 07/19/16 11:35 | 07/20/16 04:10 |
| 60223843008 | M-MW-8 | Water | 07/19/16 09:52 | 07/20/16 04:10 |
| 60223843009 | M-BMW-1 | Water | 07/19/16 12:35 | 07/20/16 04:10 |
| 60223843010 | M-BMW-2 | Water | 07/19/16 11:32 | 07/20/16 04:10 |
| 60223843011 | M-DUP-1 | Water | 07/19/16 00:00 | 07/20/16 04:10 |
| 60223843012 | M-FB-1 | Water | 07/18/16 16:40 | 07/20/16 04:10 |
| 60223843013 | M-MW-1 MS | Water | 07/18/16 13:22 | 07/20/16 04:10 |
| 60223843014 | M-MW-1 MSD | Water | 07/18/16 13:22 | 07/20/16 04:10 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60223843001 | M-MW-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| 60223843002 | M-MW-2 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| 60223843003 | M-MW-3 | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60223843004 | M-MW-4 | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| 60223843005 | M-MW-5 | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| 60223843005 | M-MW-5 | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60223843006 | M-MW-6 | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| 60223843007 | M-MW-7 | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| 60223843008 | M-MW-8 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60223843009 | M-BMW-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| 60223843010 | M-BMW-2 | EPA 200.8 | JGP | 6 | PASI-K |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|------------|-------------|----------|-------------------|------------|
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60223843011 | M-DUP-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60223843012 | M-FB-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | HAC | 1 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60223843013 | M-MW-1 MS | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60223843014 | M-MW-1 MSD | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-1 **Lab ID: 60223843001** Collected: 07/18/16 13:22 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 374 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:20 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:20 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:20 | 7440-42-8 | |
| Calcium | 129000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:20 | 7440-70-2 | M1 |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:20 | 7440-48-4 | |
| Lead | 4.9J | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/25/16 10:49 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:20 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:20 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 18:09 | 7440-36-0 | |
| Arsenic | 0.49J | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 18:09 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 18:09 | 7440-43-9 | |
| Chromium | 0.79J | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 18:09 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 18:09 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 18:09 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:04 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 675 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:13 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.4 | Std. Units | 0.10 | 0.10 | 1 | | 07/25/16 10:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 43.6 | mg/L | 5.0 | 2.5 | 5 | | 08/02/16 21:03 | 16887-00-6 | |
| Fluoride | 0.25 | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 15:07 | 16984-48-8 | |
| Sulfate | 99.8 | mg/L | 10.0 | 1.5 | 10 | | 08/02/16 21:45 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-2 **Lab ID: 60223843002** Collected: 07/18/16 16:12 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 490 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:31 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:31 | 7440-41-7 | |
| Boron | 4060 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:31 | 7440-42-8 | |
| Calcium | 132000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:31 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:31 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 13:31 | 7439-92-1 | |
| Lithium | 6.1J | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:31 | 7439-93-2 | |
| Molybdenum | 2.1J | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:31 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 18:22 | 7440-36-0 | |
| Arsenic | 1.4 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 18:22 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 18:22 | 7440-43-9 | |
| Chromium | 0.43J | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 18:22 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 18:22 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 18:22 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:11 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 811 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:15 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.7 | Std. Units | 0.10 | 0.10 | 1 | | 07/25/16 10:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 24.3 | mg/L | 2.0 | 1.0 | 2 | | 08/02/16 22:56 | 16887-00-6 | |
| Fluoride | 0.11J | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 16:19 | 16984-48-8 | |
| Sulfate | 299 | mg/L | 50.0 | 7.7 | 50 | | 08/02/16 23:24 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-3 **Lab ID: 60223843003** Collected: 07/18/16 16:15 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 253 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:33 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:33 | 7440-41-7 | |
| Boron | 8280 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:33 | 7440-42-8 | |
| Calcium | 152000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:33 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:33 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 13:33 | 7439-92-1 | |
| Lithium | 7.1J | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:33 | 7439-93-2 | |
| Molybdenum | 3.4J | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:33 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 18:27 | 7440-36-0 | |
| Arsenic | 6.6 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 18:27 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 18:27 | 7440-43-9 | |
| Chromium | 0.50J | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 18:27 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 18:27 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 18:27 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:13 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 872 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:16 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 07/25/16 10:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 34.6 | mg/L | 2.0 | 1.0 | 2 | | 08/02/16 23:52 | 16887-00-6 | |
| Fluoride | 0.082J | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 16:48 | 16984-48-8 | |
| Sulfate | 309 | mg/L | 50.0 | 7.7 | 50 | | 08/03/16 00:06 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-4 **Lab ID: 60223843004** Collected: 07/19/16 09:15 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 216 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:35 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:35 | 7440-41-7 | |
| Boron | 8710 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:35 | 7440-42-8 | |
| Calcium | 179000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:35 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:35 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 13:35 | 7439-92-1 | |
| Lithium | 23.2 | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:35 | 7439-93-2 | |
| Molybdenum | 54.0 | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:35 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 18:31 | 7440-36-0 | |
| Arsenic | 13.3 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 18:31 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 18:31 | 7440-43-9 | |
| Chromium | 1.0 | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 18:31 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 18:31 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 18:31 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:15 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 993 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:25 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 07/25/16 10:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 37.1 | mg/L | 5.0 | 2.5 | 5 | | 08/03/16 00:20 | 16887-00-6 | |
| Fluoride | 0.15J | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 17:02 | 16984-48-8 | |
| Sulfate | 366 | mg/L | 50.0 | 7.7 | 50 | | 08/03/16 00:35 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-5 **Lab ID: 60223843005** Collected: 07/19/16 10:30 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 293 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:37 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:37 | 7440-41-7 | |
| Boron | 7070 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:37 | 7440-42-8 | |
| Calcium | 181000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:37 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:37 | 7440-48-4 | |
| Lead | 3.3J | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/25/16 10:52 | 7439-92-1 | |
| Lithium | 20.9 | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:37 | 7439-93-2 | |
| Molybdenum | 84.0 | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:37 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 18:39 | 7440-36-0 | |
| Arsenic | 17.1 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 18:39 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 18:39 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 18:39 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 18:39 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 18:39 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:17 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1030 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:26 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.3 | Std. Units | 0.10 | 0.10 | 1 | | 07/25/16 10:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 40.3 | mg/L | 5.0 | 2.5 | 5 | | 08/03/16 00:49 | 16887-00-6 | |
| Fluoride | 0.21 | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 17:17 | 16984-48-8 | |
| Sulfate | 341 | mg/L | 50.0 | 7.7 | 50 | | 08/03/16 01:03 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-6 **Lab ID: 60223843006** Collected: 07/19/16 11:25 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 72.5 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:42 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:42 | 7440-41-7 | |
| Boron | 14700 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:42 | 7440-42-8 | |
| Calcium | 340000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:42 | 7440-70-2 | |
| Cobalt | 5.7 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:42 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 13:42 | 7439-92-1 | |
| Lithium | 130 | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:42 | 7439-93-2 | |
| Molybdenum | 129 | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:42 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 18:53 | 7440-36-0 | |
| Arsenic | <0.10 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 18:53 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 18:53 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 18:53 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 18:53 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 18:53 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:20 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1370 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:26 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.0 | Std. Units | 0.10 | 0.10 | 1 | | 07/25/16 10:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 20.9 | mg/L | 2.0 | 1.0 | 2 | | 08/03/16 01:45 | 16887-00-6 | |
| Fluoride | 0.13J | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 17:31 | 16984-48-8 | |
| Sulfate | 555 | mg/L | 50.0 | 7.7 | 50 | | 08/03/16 01:59 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-7 **Lab ID: 60223843007** Collected: 07/19/16 11:35 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|-----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 49.1 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:44 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:44 | 7440-41-7 | |
| Boron | 21100 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:44 | 7440-42-8 | |
| Calcium | 373000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:44 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:44 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 13:44 | 7439-92-1 | |
| Lithium | 50.9 | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:44 | 7439-93-2 | |
| Molybdenum | 359 | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:44 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.065J | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 18:57 | 7440-36-0 | |
| Arsenic | 3.7 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 18:57 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 18:57 | 7440-43-9 | |
| Chromium | 0.74J | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 18:57 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 18:57 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 18:57 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:22 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1780 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:27 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.4 | Std. Units | 0.10 | 0.10 | 1 | | 07/25/16 10:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 68.9 | mg/L | 5.0 | 2.5 | 5 | | 08/03/16 02:13 | 16887-00-6 | |
| Fluoride | 0.25 | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 17:45 | 16984-48-8 | |
| Sulfate | 881 | mg/L | 100 | 15.4 | 100 | | 08/03/16 02:27 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-8 **Lab ID: 60223843008** Collected: 07/19/16 09:52 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 236 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:46 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:46 | 7440-41-7 | |
| Boron | 9050 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:46 | 7440-42-8 | |
| Calcium | 183000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:46 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:46 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 13:46 | 7439-92-1 | |
| Lithium | 32.0 | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:46 | 7439-93-2 | |
| Molybdenum | 215 | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:46 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.38J | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 19:01 | 7440-36-0 | |
| Arsenic | 2.1 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 19:01 | 7440-38-2 | |
| Cadmium | 0.11J | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 19:01 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 19:01 | 7440-47-3 | |
| Selenium | 9.0 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 19:01 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 19:01 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:28 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 985 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:28 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.1 | Std. Units | 0.10 | 0.10 | 1 | | 07/25/16 10:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 25.2 | mg/L | 2.0 | 1.0 | 2 | | 08/03/16 02:41 | 16887-00-6 | |
| Fluoride | 0.23 | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 18:00 | 16984-48-8 | |
| Sulfate | 437 | mg/L | 50.0 | 7.7 | 50 | | 08/03/16 02:56 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-BMW-1 **Lab ID: 60223843009** Collected: 07/19/16 12:35 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 232 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:55 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:55 | 7440-41-7 | |
| Boron | 170 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:55 | 7440-42-8 | |
| Calcium | 109000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:55 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:55 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 13:55 | 7439-92-1 | |
| Lithium | 15.2 | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:55 | 7439-93-2 | |
| Molybdenum | 6.8J | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:55 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.081J | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 19:06 | 7440-36-0 | |
| Arsenic | 5.5 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 19:06 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 19:06 | 7440-43-9 | |
| Chromium | 0.47J | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 19:06 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 19:06 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 19:06 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:31 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 772 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:28 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.5 | Std. Units | 0.10 | 0.10 | 1 | | 07/25/16 10:45 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 214 | mg/L | 20.0 | 10.0 | 20 | | 08/03/16 03:24 | 16887-00-6 | |
| Fluoride | 0.37 | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 18:14 | 16984-48-8 | |
| Sulfate | 54.9 | mg/L | 5.0 | 0.77 | 5 | | 08/03/16 03:10 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-BMW-2 **Lab ID: 60223843010** Collected: 07/19/16 11:32 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 503 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:57 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:57 | 7440-41-7 | |
| Boron | 77.1J | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:57 | 7440-42-8 | |
| Calcium | 101000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:57 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:57 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 13:57 | 7439-92-1 | |
| Lithium | 6.8J | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:57 | 7439-93-2 | |
| Molybdenum | 0.53J | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:57 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.63J | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 19:10 | 7440-36-0 | |
| Arsenic | 1.2 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 19:10 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 19:10 | 7440-43-9 | |
| Chromium | 0.36J | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 19:10 | 7440-47-3 | |
| Selenium | 0.28J | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 19:10 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 19:10 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:33 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 435 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:29 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.3 | Std. Units | 0.10 | 0.10 | 1 | | 07/26/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 12.0 | mg/L | 1.0 | 0.50 | 1 | | 07/31/16 18:57 | 16887-00-6 | |
| Fluoride | 0.25 | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 18:57 | 16984-48-8 | |
| Sulfate | 16.6 | mg/L | 1.0 | 0.15 | 1 | | 07/31/16 18:57 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-DUP-1 **Lab ID: 60223843011** Collected: 07/19/16 00:00 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 218 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 13:59 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 13:59 | 7440-41-7 | |
| Boron | 8690 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 13:59 | 7440-42-8 | |
| Calcium | 180000 | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 13:59 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 13:59 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 13:59 | 7439-92-1 | |
| Lithium | 24.8 | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 13:59 | 7439-93-2 | |
| Molybdenum | 53.6 | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 13:59 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 19:15 | 7440-36-0 | |
| Arsenic | 1.5 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 19:15 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 19:15 | 7440-43-9 | |
| Chromium | 0.49J | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 19:15 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 19:15 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 19:15 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:35 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 999 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:30 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.0 | Std. Units | 0.10 | 0.10 | 1 | | 07/26/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 36.5 | mg/L | 5.0 | 2.5 | 5 | | 08/03/16 03:38 | 16887-00-6 | |
| Fluoride | 0.15J | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 19:12 | 16984-48-8 | |
| Sulfate | 358 | mg/L | 50.0 | 7.7 | 50 | | 08/03/16 03:52 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-FB-1 **Lab ID: 60223843012** Collected: 07/18/16 16:40 Received: 07/20/16 04:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | <0.58 | ug/L | 10.0 | 0.58 | 1 | 07/21/16 11:20 | 07/22/16 14:02 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 07/21/16 11:20 | 07/22/16 14:02 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 07/21/16 11:20 | 07/22/16 14:02 | 7440-42-8 | |
| Calcium | 47.6J | ug/L | 100 | 8.1 | 1 | 07/21/16 11:20 | 07/22/16 14:02 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 07/21/16 11:20 | 07/22/16 14:02 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 07/21/16 11:20 | 07/22/16 14:02 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 07/21/16 11:20 | 07/22/16 14:02 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 07/21/16 11:20 | 07/22/16 14:02 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 07/21/16 15:35 | 07/25/16 19:19 | 7440-36-0 | |
| Arsenic | 13.2 | ug/L | 1.0 | 0.10 | 1 | 07/21/16 15:35 | 07/25/16 19:19 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 07/21/16 15:35 | 07/25/16 19:19 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 07/21/16 15:35 | 07/25/16 19:19 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 07/21/16 15:35 | 07/25/16 19:19 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 07/21/16 15:35 | 07/25/16 19:19 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 07/26/16 15:45 | 07/27/16 13:37 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | <5.0 | mg/L | 5.0 | 5.0 | 1 | | 07/21/16 14:17 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.2 | Std. Units | 0.10 | 0.10 | 1 | | 07/26/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 07/31/16 19:26 | 16887-00-6 | |
| Fluoride | <0.027 | mg/L | 0.20 | 0.027 | 1 | | 07/31/16 19:26 | 16984-48-8 | |
| Sulfate | 0.29J | mg/L | 1.0 | 0.15 | 1 | | 07/31/16 19:26 | 14808-79-8 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| | | | |
|-------------------------|--|-----------------------|---------------------|
| QC Batch: | 439445 | Analysis Method: | EPA 200.7 |
| QC Batch Method: | EPA 200.7 | Analysis Description: | 200.7 Metals, Total |
| Associated Lab Samples: | 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843010, 60223843011, 60223843012 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1797201 | Matrix: | Water |
| Associated Lab Samples: | 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843010, 60223843011, 60223843012 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | <0.58 | 10.0 | 0.58 | 07/22/16 12:53 | |
| Beryllium | ug/L | <0.26 | 1.0 | 0.26 | 07/22/16 12:53 | |
| Boron | ug/L | <50.0 | 100 | 50.0 | 07/22/16 12:53 | |
| Calcium | ug/L | <8.1 | 100 | 8.1 | 07/22/16 12:53 | |
| Cobalt | ug/L | <0.72 | 5.0 | 0.72 | 07/22/16 12:53 | |
| Lead | ug/L | <2.5 | 5.0 | 2.5 | 07/25/16 10:31 | |
| Lithium | ug/L | <4.9 | 10.0 | 4.9 | 07/22/16 12:53 | |
| Molybdenum | ug/L | <0.52 | 20.0 | 0.52 | 07/22/16 12:53 | |

LABORATORY CONTROL SAMPLE: 1797202

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 1050 | 105 | 85-115 | |
| Beryllium | ug/L | 1000 | 1030 | 103 | 85-115 | |
| Boron | ug/L | 1000 | 1000 | 100 | 85-115 | |
| Calcium | ug/L | 10000 | 10200 | 102 | 85-115 | |
| Cobalt | ug/L | 1000 | 1040 | 104 | 85-115 | |
| Lead | ug/L | 1000 | 1030 | 103 | 85-115 | |
| Lithium | ug/L | 1000 | 1020 | 102 | 85-115 | |
| Molybdenum | ug/L | 1000 | 1080 | 108 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1797203 1797204

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|------------|-------|--------------------|-------------|-------------|-----------|----------|-----------|--------------|--------|---------|-------|
| | | 60223843001 Result | Spike Conc. | Spike Conc. | MS Result | | | | | | |
| Barium | ug/L | 374 | 1000 | 1000 | 1390 | 1400 | 102 | 103 | 70-130 | 1 | 20 |
| Beryllium | ug/L | <0.26 | 1000 | 1000 | 1010 | 1020 | 101 | 102 | 70-130 | 2 | 20 |
| Boron | ug/L | <50.0 | 1000 | 1000 | 1050 | 1060 | 100 | 102 | 70-130 | 1 | 20 |
| Calcium | ug/L | 129000 | 10000 | 10000 | 138000 | 143000 | 95 | 143 | 70-130 | 3 | 20 M1 |
| Cobalt | ug/L | <0.72 | 1000 | 1000 | 994 | 1010 | 99 | 101 | 70-130 | 2 | 20 |
| Lead | ug/L | 4.9J | 1000 | 1000 | 997 | 995 | 99 | 99 | 70-130 | 0 | 20 |
| Lithium | ug/L | <4.9 | 1000 | 1000 | 1040 | 1040 | 103 | 104 | 70-130 | 1 | 20 |
| Molybdenum | ug/L | <0.52 | 1000 | 1000 | 1070 | 1090 | 107 | 109 | 70-130 | 1 | 20 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| MATRIX SPIKE SAMPLE: | | 1797205 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60223843005 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Barium | ug/L | 293 | 1000 | 1310 | 102 | 70-130 | |
| Beryllium | ug/L | <0.26 | 1000 | 1020 | 102 | 70-130 | |
| Boron | ug/L | 7070 | 1000 | 8120 | 105 | 70-130 | |
| Calcium | ug/L | 181000 | 10000 | 192000 | 108 | 70-130 | |
| Cobalt | ug/L | <0.72 | 1000 | 1000 | 100 | 70-130 | |
| Lead | ug/L | 3.3J | 1000 | 979 | 98 | 70-130 | |
| Lithium | ug/L | 20.9 | 1000 | 1050 | 103 | 70-130 | |
| Molybdenum | ug/L | 84.0 | 1000 | 1170 | 108 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| | | | |
|-------------------------|--|-----------------------|-----------|
| QC Batch: | 439521 | Analysis Method: | EPA 200.8 |
| QC Batch Method: | EPA 200.8 | Analysis Description: | 200.8 MET |
| Associated Lab Samples: | 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843010, 60223843011, 60223843012 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1797620 | Matrix: | Water |
| Associated Lab Samples: | 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843010, 60223843011, 60223843012 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.058 | 1.0 | 0.058 | 07/25/16 18:01 | |
| Arsenic | ug/L | <0.10 | 1.0 | 0.10 | 07/25/16 18:01 | |
| Cadmium | ug/L | <0.029 | 0.50 | 0.029 | 07/25/16 18:01 | |
| Chromium | ug/L | <0.34 | 1.0 | 0.34 | 07/25/16 18:01 | |
| Selenium | ug/L | <0.18 | 1.0 | 0.18 | 07/25/16 18:01 | |
| Thallium | ug/L | <0.50 | 1.0 | 0.50 | 07/25/16 18:01 | |

LABORATORY CONTROL SAMPLE: 1797621

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 40.9 | 102 | 85-115 | |
| Arsenic | ug/L | 40 | 41.4 | 103 | 85-115 | |
| Cadmium | ug/L | 40 | 40.9 | 102 | 85-115 | |
| Chromium | ug/L | 40 | 41.6 | 104 | 85-115 | |
| Selenium | ug/L | 40 | 41.6 | 104 | 85-115 | |
| Thallium | ug/L | 40 | 39.8 | 100 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1797622 1797623

| Parameter | Units | 60223843001 | | MSD | | MS | | MSD | | % Rec Limits | Max RPD | Qual |
|-----------|-------|-------------|-------------|-------------|--------|--------|-------|-------|--------|--------------|---------|------|
| | | Result | Spike Conc. | Spike Conc. | Result | Result | % Rec | % Rec | | | | |
| Antimony | ug/L | <0.058 | 40 | 40 | 40.5 | 40.4 | 101 | 101 | 70-130 | 0 | 20 | |
| Arsenic | ug/L | 0.49J | 40 | 40 | 40.7 | 40.8 | 101 | 101 | 70-130 | 0 | 20 | |
| Cadmium | ug/L | <0.029 | 40 | 40 | 39.6 | 39.4 | 99 | 98 | 70-130 | 1 | 20 | |
| Chromium | ug/L | 0.79J | 40 | 40 | 41.9 | 41.6 | 103 | 102 | 70-130 | 1 | 20 | |
| Selenium | ug/L | <0.18 | 40 | 40 | 38.4 | 38.0 | 96 | 95 | 70-130 | 1 | 20 | |
| Thallium | ug/L | <0.50 | 40 | 40 | 40.8 | 41.0 | 102 | 102 | 70-130 | 0 | 20 | |

MATRIX SPIKE SAMPLE: 1797624

| Parameter | Units | 60223843004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | <0.058 | 40 | 40.6 | 101 | 70-130 | |
| Arsenic | ug/L | 13.3 | 40 | 54.3 | 103 | 70-130 | |
| Cadmium | ug/L | <0.029 | 40 | 39.4 | 98 | 70-130 | |
| Chromium | ug/L | 1.0 | 40 | 42.0 | 102 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| MATRIX SPIKE SAMPLE: | | 1797624 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60223843004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Selenium | ug/L | <0.18 | 40 | 38.3 | 96 | 70-130 | |
| Thallium | ug/L | <0.50 | 40 | 41.1 | 103 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

QC Batch: 439432 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007,
 60223843008, 60223843009, 60223843010, 60223843011, 60223843012

METHOD BLANK: 1797169 Matrix: Water
 Associated Lab Samples: 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007,
 60223843008, 60223843009, 60223843010, 60223843011, 60223843012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 07/21/16 14:08 | |

LABORATORY CONTROL SAMPLE: 1797170

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 917 | 92 | 80-120 | |

SAMPLE DUPLICATE: 1797171

| Parameter | Units | 60223612001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 429 | 423 | 1 | 10 | |

SAMPLE DUPLICATE: 1797172

| Parameter | Units | 60223843001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 675 | 647 | 4 | 10 | |

SAMPLE DUPLICATE: 1797238

| Parameter | Units | 60223853001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 193 | 193 | 0 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

QC Batch: 439805 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009

SAMPLE DUPLICATE: 1799523

| Parameter | Units | 60223843001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.4 | 7.4 | 0 | 5 | H6 |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

QC Batch: 439910 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60223843010, 60223843011, 60223843012

SAMPLE DUPLICATE: 1799743

| Parameter | Units | 60223843010 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.3 | 7.3 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

QC Batch: 440719 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843010, 60223843011, 60223843012

METHOD BLANK: 1803302 Matrix: Water
 Associated Lab Samples: 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843010, 60223843011, 60223843012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 07/31/16 14:38 | |
| Fluoride | mg/L | <0.027 | 0.20 | 0.027 | 07/31/16 14:38 | |
| Sulfate | mg/L | <0.15 | 1.0 | 0.15 | 07/31/16 14:38 | |

LABORATORY CONTROL SAMPLE: 1803303

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.7 | 95 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.4 | 97 | 90-110 | |
| Sulfate | mg/L | 5 | 4.8 | 95 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1803304 1803305

| Parameter | Units | 60223843001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Fluoride | mg/L | 0.25 | 2.5 | 2.5 | 2.7 | 2.7 | 100 | 99 | 80-120 | 1 | 15 | |

MATRIX SPIKE SAMPLE: 1803306

| Parameter | Units | 60223843002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Fluoride | mg/L | 0.11J | 2.5 | 2.5 | 97 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

QC Batch: 440990 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843011

METHOD BLANK: 1803975 Matrix: Water
 Associated Lab Samples: 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843011

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 08/02/16 20:35 | |
| Sulfate | mg/L | <0.15 | 1.0 | 0.15 | 08/02/16 20:35 | |

LABORATORY CONTROL SAMPLE: 1803976

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.9 | 97 | 90-110 | |
| Sulfate | mg/L | 5 | 4.8 | 95 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1803977 1803978

| Parameter | Units | 60223843001 | | 60223843002 | | MS | | MSD | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|----------------|-----------------|-------------|------------|----------|-----------|-----|--------|--------------|-----|---------|------|
| | | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | | | | | | |
| Chloride | mg/L | 43.6 | 25 | 25 | 69.2 | 69.2 | 102 | 102 | 80-120 | 0 | 15 | | |
| Sulfate | mg/L | 99.8 | 50 | 50 | 149 | 148 | 98 | 96 | 80-120 | 1 | 15 | | |

MATRIX SPIKE SAMPLE: 1803979

| Parameter | Units | 60223843002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 24.3 | 10 | 33.7 | 94 | 80-120 | |
| Sulfate | mg/L | 299 | 250 | 539 | 96 | 80-120 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-1 **Lab ID: 60223843001** Collected: 07/18/16 13:22 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.220 ± 0.336 (0.540) C:NA T:99% | pCi/L | 08/10/16 22:12 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.21 ± 0.505 (0.817) C:67% T:81% | pCi/L | 08/10/16 20:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-2 **Lab ID: 60223843002** Collected: 07/18/16 16:12 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.585 ± 0.496 (0.615) C:NA T:90% | pCi/L | 08/10/16 22:37 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.69 ± 0.580 (0.835) C:66% T:83% | pCi/L | 08/10/16 20:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-3 **Lab ID: 60223843003** Collected: 07/18/16 16:15 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.327 ± 0.394 (0.601) C:NA T:94% | pCi/L | 08/10/16 22:25 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.29 ± 0.494 (0.772) C:70% T:87% | pCi/L | 08/10/16 20:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-4 **Lab ID: 60223843004** Collected: 07/19/16 09:15 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.307 ± 0.522 (0.921) C:NA T:96% | pCi/L | 08/10/16 22:49 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.05 ± 0.457 (0.763) C:76% T:83% | pCi/L | 08/10/16 20:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-5 **Lab ID: 60223843005** Collected: 07/19/16 10:30 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.712 ± 0.564 (0.766) C:NA T:97% | pCi/L | 08/10/16 23:00 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.72 ± 0.518 (0.661) C:75% T:90% | pCi/L | 08/10/16 20:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-6 **Lab ID: 60223843006** Collected: 07/19/16 11:25 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0741 ± 0.338 (0.545) C:NA T:95% | pCi/L | 08/10/16 23:02 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.23 ± 0.491 (0.783) C:72% T:83% | pCi/L | 08/10/16 20:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-7 **Lab ID: 60223843007** Collected: 07/19/16 11:35 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.357 ± 0.431 (0.657) C:NA T:89% | pCi/L | 08/10/16 22:50 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.56 ± 0.562 (0.846) C:66% T:85% | pCi/L | 08/10/16 20:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-8 **Lab ID: 60223843008** Collected: 07/19/16 09:52 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0742 ± 0.339 (0.546) C:NA T:93% | pCi/L | 08/10/16 22:42 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.981 ± 0.458 (0.792) C:75% T:84% | pCi/L | 08/10/16 20:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-BMW-1 **Lab ID: 60223843009** Collected: 07/19/16 12:35 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.210 ± 0.455 (0.839) C:NA T:102% | pCi/L | 08/10/16 23:13 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.820 ± 0.415 (0.729) C:71% T:86% | pCi/L | 08/10/16 20:47 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-BMW-2 **Lab ID: 60223843010** Collected: 07/19/16 11:32 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.875 ± 0.678 (0.956) C:NA T:94% | pCi/L | 08/10/16 23:44 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.924 ± 0.406 (0.670) C:77% T:85% | pCi/L | 08/10/16 20:47 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-DUP-1 **Lab ID: 60223843011** Collected: 07/19/16 00:00 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.376 ± 0.445 (0.699) C:NA T:95% | pCi/L | 08/10/16 23:57 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.959 ± 0.405 (0.642) C:72% T:85% | pCi/L | 08/10/16 20:47 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-FB-1 **Lab ID: 60223843012** Collected: 07/18/16 16:40 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.000 ± 0.462 (0.976) C:NA T:96% | pCi/L | 08/10/16 23:44 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.763 ± 0.360 (0.606) C:75% T:92% | pCi/L | 08/10/16 20:47 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-1 MS **Lab ID: 60223843013** Collected: 07/18/16 13:22 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 99.92%REC ± NA (NA) | pCi/L | 08/10/16 23:43 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 80.8 %REC +/- NA (NA) C:NA T:NA | pCi/L | 08/10/16 20:47 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

Sample: M-MW-1 MSD **Lab ID: 60223843014** Collected: 07/18/16 13:22 Received: 07/20/16 04:10 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 102.9%REC 2.96RPD ± NA (NA) | pCi/L | 08/10/16 23:58 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 74.0 %REC 8.83 RPD +/- NA (NA) C:NA T:NA | pCi/L | 08/10/16 20:47 | 15262-20-1 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| | | | |
|-------------------------|--|-----------------------|------------------|
| QC Batch: | 228467 | Analysis Method: | EPA 903.1 |
| QC Batch Method: | EPA 903.1 | Analysis Description: | 903.1 Radium-226 |
| Associated Lab Samples: | 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843010, 60223843011, 60223843012, 60223843013, 60223843014 | | |

METHOD BLANK: 1119276 Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-226 | 0.000 ± 0.422 (0.914) C:NA T:100% | pCi/L | 08/10/16 22:11 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| | | | |
|-------------------------|--|-----------------------|------------------|
| QC Batch: | 228597 | Analysis Method: | EPA 904.0 |
| QC Batch Method: | EPA 904.0 | Analysis Description: | 904.0 Radium 228 |
| Associated Lab Samples: | 60223843001, 60223843002, 60223843003, 60223843004, 60223843005, 60223843006, 60223843007, 60223843008, 60223843009, 60223843010, 60223843011, 60223843012, 60223843013, 60223843014 | | |

METHOD BLANK: 1119804 Matrix: Water

Associated Lab Samples:

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.267 ± 0.325 (0.689) C:75% T:95% | pCi/L | 08/10/16 15:29 | |

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60223843001 | M-MW-1 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843002 | M-MW-2 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843003 | M-MW-3 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843004 | M-MW-4 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843005 | M-MW-5 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843006 | M-MW-6 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843007 | M-MW-7 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843008 | M-MW-8 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843009 | M-BMW-1 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843010 | M-BMW-2 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843011 | M-DUP-1 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843012 | M-FB-1 | EPA 200.7 | 439445 | EPA 200.7 | 439536 |
| 60223843001 | M-MW-1 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843002 | M-MW-2 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843003 | M-MW-3 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843004 | M-MW-4 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843005 | M-MW-5 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843006 | M-MW-6 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843007 | M-MW-7 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843008 | M-MW-8 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843009 | M-BMW-1 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843010 | M-BMW-2 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843011 | M-DUP-1 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843012 | M-FB-1 | EPA 200.8 | 439521 | EPA 200.8 | 439597 |
| 60223843001 | M-MW-1 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843002 | M-MW-2 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843003 | M-MW-3 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843004 | M-MW-4 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843005 | M-MW-5 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843006 | M-MW-6 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843007 | M-MW-7 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843008 | M-MW-8 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843009 | M-BMW-1 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843010 | M-BMW-2 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843011 | M-DUP-1 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843012 | M-FB-1 | EPA 7470 | 440095 | EPA 7470 | 440117 |
| 60223843001 | M-MW-1 | EPA 903.1 | 228467 | | |
| 60223843002 | M-MW-2 | EPA 903.1 | 228467 | | |
| 60223843003 | M-MW-3 | EPA 903.1 | 228467 | | |
| 60223843004 | M-MW-4 | EPA 903.1 | 228467 | | |
| 60223843005 | M-MW-5 | EPA 903.1 | 228467 | | |
| 60223843006 | M-MW-6 | EPA 903.1 | 228467 | | |
| 60223843007 | M-MW-7 | EPA 903.1 | 228467 | | |
| 60223843008 | M-MW-8 | EPA 903.1 | 228467 | | |
| 60223843009 | M-BMW-1 | EPA 903.1 | 228467 | | |
| 60223843010 | M-BMW-2 | EPA 903.1 | 228467 | | |
| 60223843011 | M-DUP-1 | EPA 903.1 | 228467 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|----------|-------------------|------------------|
| 60223843012 | M-FB-1 | EPA 903.1 | 228467 | | |
| 60223843013 | M-MW-1 MS | EPA 903.1 | 228467 | | |
| 60223843014 | M-MW-1 MSD | EPA 903.1 | 228467 | | |
| 60223843001 | M-MW-1 | EPA 904.0 | 228597 | | |
| 60223843002 | M-MW-2 | EPA 904.0 | 228597 | | |
| 60223843003 | M-MW-3 | EPA 904.0 | 228597 | | |
| 60223843004 | M-MW-4 | EPA 904.0 | 228597 | | |
| 60223843005 | M-MW-5 | EPA 904.0 | 228597 | | |
| 60223843006 | M-MW-6 | EPA 904.0 | 228597 | | |
| 60223843007 | M-MW-7 | EPA 904.0 | 228597 | | |
| 60223843008 | M-MW-8 | EPA 904.0 | 228597 | | |
| 60223843009 | M-BMW-1 | EPA 904.0 | 228597 | | |
| 60223843010 | M-BMW-2 | EPA 904.0 | 228597 | | |
| 60223843011 | M-DUP-1 | EPA 904.0 | 228597 | | |
| 60223843012 | M-FB-1 | EPA 904.0 | 228597 | | |
| 60223843013 | M-MW-1 MS | EPA 904.0 | 228597 | | |
| 60223843014 | M-MW-1 MSD | EPA 904.0 | 228597 | | |
| 60223843001 | M-MW-1 | SM 2540C | 439432 | | |
| 60223843002 | M-MW-2 | SM 2540C | 439432 | | |
| 60223843003 | M-MW-3 | SM 2540C | 439432 | | |
| 60223843004 | M-MW-4 | SM 2540C | 439432 | | |
| 60223843005 | M-MW-5 | SM 2540C | 439432 | | |
| 60223843006 | M-MW-6 | SM 2540C | 439432 | | |
| 60223843007 | M-MW-7 | SM 2540C | 439432 | | |
| 60223843008 | M-MW-8 | SM 2540C | 439432 | | |
| 60223843009 | M-BMW-1 | SM 2540C | 439432 | | |
| 60223843010 | M-BMW-2 | SM 2540C | 439432 | | |
| 60223843011 | M-DUP-1 | SM 2540C | 439432 | | |
| 60223843012 | M-FB-1 | SM 2540C | 439432 | | |
| 60223843001 | M-MW-1 | SM 4500-H+B | 439805 | | |
| 60223843002 | M-MW-2 | SM 4500-H+B | 439805 | | |
| 60223843003 | M-MW-3 | SM 4500-H+B | 439805 | | |
| 60223843004 | M-MW-4 | SM 4500-H+B | 439805 | | |
| 60223843005 | M-MW-5 | SM 4500-H+B | 439805 | | |
| 60223843006 | M-MW-6 | SM 4500-H+B | 439805 | | |
| 60223843007 | M-MW-7 | SM 4500-H+B | 439805 | | |
| 60223843008 | M-MW-8 | SM 4500-H+B | 439805 | | |
| 60223843009 | M-BMW-1 | SM 4500-H+B | 439805 | | |
| 60223843010 | M-BMW-2 | SM 4500-H+B | 439910 | | |
| 60223843011 | M-DUP-1 | SM 4500-H+B | 439910 | | |
| 60223843012 | M-FB-1 | SM 4500-H+B | 439910 | | |
| 60223843001 | M-MW-1 | EPA 300.0 | 440719 | | |
| 60223843001 | M-MW-1 | EPA 300.0 | 440990 | | |
| 60223843002 | M-MW-2 | EPA 300.0 | 440719 | | |
| 60223843002 | M-MW-2 | EPA 300.0 | 440990 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60223843

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60223843003 | M-MW-3 | EPA 300.0 | 440719 | | |
| 60223843003 | M-MW-3 | EPA 300.0 | 440990 | | |
| 60223843004 | M-MW-4 | EPA 300.0 | 440719 | | |
| 60223843004 | M-MW-4 | EPA 300.0 | 440990 | | |
| 60223843005 | M-MW-5 | EPA 300.0 | 440719 | | |
| 60223843005 | M-MW-5 | EPA 300.0 | 440990 | | |
| 60223843006 | M-MW-6 | EPA 300.0 | 440719 | | |
| 60223843006 | M-MW-6 | EPA 300.0 | 440990 | | |
| 60223843007 | M-MW-7 | EPA 300.0 | 440719 | | |
| 60223843007 | M-MW-7 | EPA 300.0 | 440990 | | |
| 60223843008 | M-MW-8 | EPA 300.0 | 440719 | | |
| 60223843008 | M-MW-8 | EPA 300.0 | 440990 | | |
| 60223843009 | M-BMW-1 | EPA 300.0 | 440719 | | |
| 60223843009 | M-BMW-1 | EPA 300.0 | 440990 | | |
| 60223843010 | M-BMW-2 | EPA 300.0 | 440719 | | |
| 60223843011 | M-DUP-1 | EPA 300.0 | 440719 | | |
| 60223843011 | M-DUP-1 | EPA 300.0 | 440990 | | |
| 60223843012 | M-FB-1 | EPA 300.0 | 440719 | | |

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60223843



60223843

Client Name: Golder

Courier: FedEx UPS VIA Clay PEX ECI Pace Other Client

Tracking #: _____ Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: CF +1.1 T-266 / CF -0.1 T-239 Type of Ice: Wet Blue None Samples received on ice, cooling process has begun.

Cooler Temperature: 0.9 / 21.2 / 18.7

Date and initials of person examining contents: pv 7/20/16

| | | |
|--|--|-----------------------------|
| Chain of Custody present: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 1. |
| Chain of Custody filled out: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2. |
| Chain of Custody relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3. |
| Sampler name & signature on COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4. |
| Samples arrived within holding time: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5. |
| Short Hold Time analyses (<72hr): | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 6. <u>PH</u> |
| Rush Turn Around Time requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 7. |
| Sufficient volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8. |
| Correct containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Pace containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 9. |
| Containers intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 10. |
| Unpreserved 5035A soils frozen w/in 48hrs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 11. |
| Filtered volume received for dissolved tests? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 12. |
| Sample labels match COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Includes date/time/ID/analyses Matrix: <u>WT</u> | | 13. |
| All containers needing preservation have been checked. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 14. |
| Exceptions: VOA, Coliform, O&G, WI-DRO (water) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Initial when completed |
| Trip Blank present: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Lot # of added preservative |
| Pace Trip Blank lot # (if purchased): | | 15. |
| Headspace in VOA vials (>6mm): | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 16. |
| Project sampled in USDA Regulated Area: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 17. List State: |
| Additional labels attached to 5035A vials in the field? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 18. |

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Jami Church _____ 7/20/16 _____

Project Manager Review: _____ Date: _____

Chain of Custody

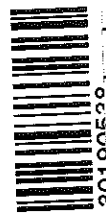


Workorder: 60223843 Subcontract To: Workorder Name: AMEREN MERAMEC ENERGY CENTER Owner Received Date: 7/20/2016 Results Requested By: 8/3/2016

Jamie Church
 Pace Analytical Kansas
 9608 Loiret Blvd.
 Lenexa, KS 66219
 Phone (913)599-5665

Pace Analytical Pittsburgh
 1638 Roseytown Road
 Suites 2,3, & 4
 Greensburg, PA 15601
 Phone (724)850-5600

WO#: 30190538



Radium 226 & 228

Preserved Containers

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | BP1N | LAB USE ONLY |
|------|------------|-------------|-------------------|-------------|--------|------|--------------|
| 1 | M-MW-1 | RQS | 7/18/2016 13:22 | 60223843001 | Water | 2 | 001 |
| 2 | M-MW-2 | PS | 7/18/2016 16:12 | 60223843002 | Water | 2 | 002 |
| 3 | M-MW-3 | PS | 7/18/2016 16:15 | 60223843003 | Water | 2 | 003 |
| 4 | M-MW-4 | PS | 7/19/2016 09:15 | 60223843004 | Water | 2 | 004 |
| 5 | M-MW-5 | PS | 7/19/2016 10:30 | 60223843005 | Water | 2 | 005 |
| 6 | M-MW-6 | PS | 7/19/2016 11:25 | 60223843006 | Water | 2 | 006 |
| 7 | M-MW-7 | PS | 7/19/2016 11:35 | 60223843007 | Water | 2 | 007 |
| 8 | M-MW-8 | PS | 7/19/2016 09:52 | 60223843008 | Water | 2 | 008 |
| 9 | M-BMW-1 | PS | 7/19/2016 12:35 | 60223843009 | Water | 2 | 009 |
| 10 | M-BMW-2 | PS | 7/19/2016 11:32 | 60223843010 | Water | 2 | 010 |
| 11 | M-DUP-1 | PS | 7/19/2016 00:00 | 60223843011 | Water | 2 | 011 |
| 12 | M-FB-1 | PS | 7/18/2016 16:40 | 60223843012 | Water | 2 | 012 |
| 13 | M-MW-1 MS | PS | 7/18/2016 13:22 | 60223843013 | Water | 2 | 013 |
| 14 | M-MW-1 MSD | PS | 7/18/2016 13:22 | 60223843014 | Water | 2 | 014 |

Comments

| Transfers | Released By | Date/Time | Received | Date/Time |
|-----------|--------------------|-----------|---------------|---------------|
| 1 | <i>[Signature]</i> | 7/16/16 | Karen E. Hill | 7/21/16 09:35 |
| 2 | | | | |
| 3 | | | | |

Cooler Temperature on Receipt N/A °C Custody Seal Y or N Received on Ice Y or Y or N Samples Intact Y or Y or N

Sample Condition Upon Receipt Pittsburgh



Client Name: Pace, Kansas

Project # 30190538

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 6703 1046 5936

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used NIA Type of Ice: Wet Blue None

Cooler Temperature Observed Temp NIA °C Correction Factor: NIA °C Final Temp: NIA °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KH 7/2/14

Comments:

| | Yes | No | N/A | |
|--|-----|----|-----|--|
| Chain of Custody Present: | ✓ | | | 1. |
| Chain of Custody Filled Out: | ✓ | | | 2. |
| Chain of Custody Relinquished: | ✓ | | | 3. |
| Sampler Name & Signature on COC: | | ✓ | | 4. |
| Sample Labels match COC: | ✓ | | | 5. |
| -Includes date/time/ID/Analysis Matrix: <u>WT</u> | | | | |
| Samples Arrived within Hold Time: | ✓ | | | 6. |
| Short Hold Time Analysis (<72hr remaining): | | ✓ | | 7. |
| Rush Turn Around Time Requested: | ✓ | | | 8. |
| Sufficient Volume: | ✓ | | | 9. |
| Correct Containers Used: | ✓ | | | 10. |
| -Pace Containers Used: | ✓ | | | |
| Containers Intact: | ✓ | | | 11. |
| Filtered volume received for Dissolved tests | | | ✓ | 12. |
| All containers needing preservation have been checked. | ✓ | | | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ✓ | | | |
| exceptions: VOA, coliform, TOC, O&G, Phenolics | | | | Initial when completed <u>KH</u> Date/time of preservation |
| | | | | Lot # of added preservative |
| Headspace in VOA Vials (>6mm): | | | ✓ | 14. |
| Trip Blank Present: | | | ✓ | 15. |
| Trip Blank Custody Seals Present | | | ✓ | |

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

October 04, 2016

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60227172

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between September 08, 2016 and September 10, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 15-016-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

Kansas Field Laboratory Accreditation: # E-92587

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|------------|--------|----------------|----------------|
| 60227172001 | M-MW-7 | Water | 09/07/16 14:15 | 09/08/16 04:35 |
| 60227172002 | M-BMW-1 | Water | 09/07/16 14:15 | 09/08/16 04:35 |
| 60227172003 | M-BMW-2 | Water | 09/07/16 13:10 | 09/08/16 04:35 |
| 60227172004 | M-MW-1 | Water | 09/08/16 09:18 | 09/10/16 03:30 |
| 60227172005 | M-MW-2 | Water | 09/08/16 08:45 | 09/10/16 03:30 |
| 60227172006 | M-MW-3 | Water | 09/08/16 10:30 | 09/10/16 03:30 |
| 60227172007 | M-MW-4 | Water | 09/08/16 12:40 | 09/10/16 03:30 |
| 60227172008 | M-MW-5 | Water | 09/08/16 12:30 | 09/10/16 03:30 |
| 60227172009 | M-MW-6 | Water | 09/08/16 11:38 | 09/10/16 03:30 |
| 60227172010 | M-MW-8 | Water | 09/08/16 10:45 | 09/10/16 03:30 |
| 60227172011 | M-DUP-1 | Water | 09/08/16 08:00 | 09/10/16 03:30 |
| 60227172012 | M-FB-1 | Water | 09/08/16 10:00 | 09/10/16 03:30 |
| 60227172013 | M-MW-2 MS | Water | 09/08/16 08:45 | 09/10/16 03:30 |
| 60227172014 | M-MW-2 MSD | Water | 09/08/16 08:45 | 09/10/16 03:30 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60227172001 | M-MW-7 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | AB1 | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| 60227172002 | M-BMW-1 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | AB1 | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| 60227172003 | M-BMW-2 | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | AB1 | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60227172004 | M-MW-1 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| 60227172005 | M-MW-2 | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| 60227172005 | M-MW-2 | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60227172006 | M-MW-3 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60227172007 | M-MW-4 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60227172008 | M-MW-5 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60227172009 | M-MW-6 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60227172010 | M-MW-8 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|------------|-------------|----------|-------------------|------------|
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60227172011 | M-DUP-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60227172012 | M-FB-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HAC | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60227172013 | M-MW-2 MS | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60227172014 | M-MW-2 MSD | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-7 **Lab ID: 60227172001** Collected: 09/07/16 14:15 Received: 09/08/16 04:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|-----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 44.8 | ug/L | 10.0 | 0.58 | 1 | 09/08/16 10:55 | 09/08/16 18:05 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/08/16 10:55 | 09/08/16 18:05 | 7440-41-7 | |
| Boron | 20300 | ug/L | 100 | 50.0 | 1 | 09/08/16 10:55 | 09/08/16 18:05 | 7440-42-8 | |
| Calcium | 363000 | ug/L | 100 | 8.1 | 1 | 09/08/16 10:55 | 09/08/16 18:05 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 09/08/16 10:55 | 09/08/16 18:05 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 09/08/16 10:55 | 09/08/16 18:05 | 7439-92-1 | |
| Lithium | 43.6 | ug/L | 10.0 | 4.9 | 1 | 09/08/16 10:55 | 09/08/16 18:05 | 7439-93-2 | |
| Molybdenum | 351 | ug/L | 20.0 | 0.52 | 1 | 09/08/16 10:55 | 09/08/16 18:05 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.40J | ug/L | 1.0 | 0.058 | 1 | 09/08/16 10:55 | 09/09/16 12:00 | 7440-36-0 | |
| Arsenic | 2.4 | ug/L | 1.0 | 0.10 | 1 | 09/08/16 10:55 | 09/09/16 12:00 | 7440-38-2 | |
| Cadmium | 0.24J | ug/L | 0.50 | 0.029 | 1 | 09/08/16 10:55 | 09/09/16 12:00 | 7440-43-9 | B |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 09/08/16 10:55 | 09/09/16 12:00 | 7440-47-3 | |
| Selenium | 10.3 | ug/L | 1.0 | 0.18 | 1 | 09/08/16 10:55 | 09/09/16 12:00 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/08/16 10:55 | 09/09/16 12:00 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/09/16 08:45 | 09/09/16 13:04 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1740 | mg/L | 5.0 | 5.0 | 1 | | 09/12/16 08:58 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.4 | Std. Units | 0.10 | 0.10 | 1 | | 09/12/16 09:15 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 62.6 | mg/L | 5.0 | 2.5 | 5 | | 09/23/16 22:52 | 16887-00-6 | |
| Fluoride | 0.52 | mg/L | 0.20 | 0.027 | 1 | | 09/22/16 01:56 | 16984-48-8 | |
| Sulfate | 1000 | mg/L | 100 | 15.4 | 100 | | 09/23/16 23:07 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-BMW-1 **Lab ID: 60227172002** Collected: 09/07/16 14:15 Received: 09/08/16 04:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 237 | ug/L | 10.0 | 0.58 | 1 | 09/08/16 10:55 | 09/08/16 18:09 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/08/16 10:55 | 09/08/16 18:09 | 7440-41-7 | |
| Boron | 161 | ug/L | 100 | 50.0 | 1 | 09/08/16 10:55 | 09/08/16 18:09 | 7440-42-8 | |
| Calcium | 113000 | ug/L | 100 | 8.1 | 1 | 09/08/16 10:55 | 09/08/16 18:09 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 09/08/16 10:55 | 09/08/16 18:09 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 09/08/16 10:55 | 09/08/16 18:09 | 7439-92-1 | |
| Lithium | 13.4 | ug/L | 10.0 | 4.9 | 1 | 09/08/16 10:55 | 09/08/16 18:09 | 7439-93-2 | |
| Molybdenum | 7.2J | ug/L | 20.0 | 0.52 | 1 | 09/08/16 10:55 | 09/08/16 18:09 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.62J | ug/L | 1.0 | 0.058 | 1 | 09/08/16 10:55 | 09/09/16 12:05 | 7440-36-0 | |
| Arsenic | 0.99J | ug/L | 1.0 | 0.10 | 1 | 09/08/16 10:55 | 09/09/16 12:05 | 7440-38-2 | |
| Cadmium | 0.049J | ug/L | 0.50 | 0.029 | 1 | 09/08/16 10:55 | 09/09/16 12:05 | 7440-43-9 | B |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 09/08/16 10:55 | 09/09/16 12:05 | 7440-47-3 | |
| Selenium | 0.36J | ug/L | 1.0 | 0.18 | 1 | 09/08/16 10:55 | 09/09/16 12:05 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/08/16 10:55 | 09/09/16 12:05 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/09/16 08:45 | 09/09/16 13:07 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 817 | mg/L | 5.0 | 5.0 | 1 | | 09/12/16 08:59 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 09/12/16 09:15 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 248 | mg/L | 20.0 | 10.0 | 20 | | 09/23/16 23:35 | 16887-00-6 | |
| Fluoride | 0.38 | mg/L | 0.20 | 0.027 | 1 | | 09/22/16 02:10 | 16984-48-8 | |
| Sulfate | 63.7 | mg/L | 5.0 | 0.77 | 5 | | 09/23/16 23:21 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-BMW-2 **Lab ID: 60227172003** Collected: 09/07/16 13:10 Received: 09/08/16 04:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 534 | ug/L | 10.0 | 0.58 | 1 | 09/08/16 10:55 | 09/08/16 18:12 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/08/16 10:55 | 09/08/16 18:12 | 7440-41-7 | |
| Boron | 74.4J | ug/L | 100 | 50.0 | 1 | 09/08/16 10:55 | 09/08/16 18:12 | 7440-42-8 | |
| Calcium | 103000 | ug/L | 100 | 8.1 | 1 | 09/08/16 10:55 | 09/08/16 18:12 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 09/08/16 10:55 | 09/08/16 18:12 | 7440-48-4 | |
| Lead | 3.5J | ug/L | 5.0 | 2.5 | 1 | 09/08/16 10:55 | 09/08/16 18:12 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 09/08/16 10:55 | 09/08/16 18:12 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 09/08/16 10:55 | 09/08/16 18:12 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/08/16 10:55 | 09/09/16 12:13 | 7440-36-0 | |
| Arsenic | 1.2 | ug/L | 1.0 | 0.10 | 1 | 09/08/16 10:55 | 09/09/16 12:13 | 7440-38-2 | |
| Cadmium | 0.051J | ug/L | 0.50 | 0.029 | 1 | 09/08/16 10:55 | 09/09/16 12:13 | 7440-43-9 | B |
| Chromium | 0.65J | ug/L | 1.0 | 0.34 | 1 | 09/08/16 10:55 | 09/09/16 12:13 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/08/16 10:55 | 09/09/16 12:13 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/08/16 10:55 | 09/09/16 12:13 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/09/16 08:45 | 09/09/16 13:09 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 446 | mg/L | 5.0 | 5.0 | 1 | | 09/12/16 09:00 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.1 | Std. Units | 0.10 | 0.10 | 1 | | 09/12/16 09:15 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 12.2 | mg/L | 1.0 | 0.50 | 1 | | 09/23/16 23:49 | 16887-00-6 | |
| Fluoride | 0.34 | mg/L | 0.20 | 0.027 | 1 | | 09/23/16 23:49 | 16984-48-8 | |
| Sulfate | 19.5 | mg/L | 1.0 | 0.15 | 1 | | 09/23/16 23:49 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-1 **Lab ID: 60227172004** Collected: 09/08/16 09:18 Received: 09/10/16 03:30 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 378 | ug/L | 10.0 | 0.58 | 1 | 09/13/16 10:25 | 09/13/16 17:29 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/13/16 10:25 | 09/13/16 17:29 | 7440-41-7 | |
| Boron | 57.0J | ug/L | 100 | 50.0 | 1 | 09/13/16 10:25 | 09/13/16 17:29 | 7440-42-8 | |
| Calcium | 139000 | ug/L | 100 | 8.1 | 1 | 09/13/16 10:25 | 09/13/16 17:29 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 09/13/16 10:25 | 09/13/16 17:29 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 09/13/16 10:25 | 09/13/16 17:29 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 09/13/16 10:25 | 09/13/16 17:29 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 09/13/16 10:25 | 09/13/16 17:29 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/13/16 10:25 | 09/20/16 15:49 | 7440-36-0 | |
| Arsenic | 0.62J | ug/L | 1.0 | 0.10 | 1 | 09/13/16 10:25 | 09/20/16 15:49 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 09/13/16 10:25 | 09/20/16 15:49 | 7440-43-9 | |
| Chromium | 0.88J | ug/L | 1.0 | 0.34 | 1 | 09/13/16 10:25 | 09/20/16 15:49 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/13/16 10:25 | 09/20/16 15:49 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/13/16 10:25 | 09/20/16 15:49 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/13/16 08:30 | 09/13/16 12:27 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 623 | mg/L | 5.0 | 5.0 | 1 | | 09/14/16 13:39 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 09/12/16 10:55 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 43.7 | mg/L | 5.0 | 2.5 | 5 | | 10/02/16 16:49 | 16887-00-6 | |
| Fluoride | 0.22 | mg/L | 0.20 | 0.027 | 1 | | 10/01/16 14:46 | 16984-48-8 | |
| Sulfate | 98.8 | mg/L | 10.0 | 1.5 | 10 | | 10/02/16 17:03 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-2 **Lab ID: 60227172005** Collected: 09/08/16 08:45 Received: 09/10/16 03:30 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 515 | ug/L | 10.0 | 0.58 | 1 | 09/13/16 10:25 | 09/13/16 17:33 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/13/16 10:25 | 09/13/16 17:33 | 7440-41-7 | |
| Boron | 4740 | ug/L | 100 | 50.0 | 1 | 09/13/16 10:25 | 09/13/16 17:33 | 7440-42-8 | |
| Calcium | 134000 | ug/L | 100 | 8.1 | 1 | 09/13/16 10:25 | 09/13/16 17:33 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 09/13/16 10:25 | 09/13/16 17:33 | 7440-48-4 | |
| Lead | 2.7J | ug/L | 5.0 | 2.5 | 1 | 09/13/16 10:25 | 09/13/16 17:33 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 09/13/16 10:25 | 09/13/16 17:33 | 7439-93-2 | |
| Molybdenum | 0.63J | ug/L | 20.0 | 0.52 | 1 | 09/13/16 10:25 | 09/13/16 17:33 | 7439-98-7 | B |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/13/16 10:25 | 09/20/16 15:54 | 7440-36-0 | |
| Arsenic | 1.6 | ug/L | 1.0 | 0.10 | 1 | 09/13/16 10:25 | 09/20/16 15:54 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 09/13/16 10:25 | 09/20/16 15:54 | 7440-43-9 | |
| Chromium | 1.3 | ug/L | 1.0 | 0.34 | 1 | 09/13/16 10:25 | 09/20/16 15:54 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/13/16 10:25 | 09/20/16 15:54 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/13/16 10:25 | 09/20/16 15:54 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/13/16 08:30 | 09/13/16 12:30 | 7439-97-6 | M1 |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 802 | mg/L | 5.0 | 5.0 | 1 | | 09/14/16 13:40 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.6 | Std. Units | 0.10 | 0.10 | 1 | | 09/12/16 10:55 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 25.3 | mg/L | 2.0 | 1.0 | 2 | | 10/02/16 17:17 | 16887-00-6 | |
| Fluoride | 0.088J | mg/L | 0.20 | 0.027 | 1 | | 10/01/16 15:00 | 16984-48-8 | |
| Sulfate | 312 | mg/L | 20.0 | 3.1 | 20 | | 10/02/16 17:45 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-3 **Lab ID: 60227172006** Collected: 09/08/16 10:30 Received: 09/10/16 03:30 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 270 | ug/L | 10.0 | 0.58 | 1 | 09/13/16 10:25 | 09/13/16 17:51 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/13/16 10:25 | 09/13/16 17:51 | 7440-41-7 | |
| Boron | 9390 | ug/L | 100 | 50.0 | 1 | 09/13/16 10:25 | 09/13/16 17:51 | 7440-42-8 | |
| Calcium | 169000 | ug/L | 100 | 8.1 | 1 | 09/13/16 10:25 | 09/13/16 17:51 | 7440-70-2 | |
| Cobalt | 1.0J | ug/L | 5.0 | 0.72 | 1 | 09/13/16 10:25 | 09/13/16 17:51 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 09/13/16 10:25 | 09/13/16 17:51 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 09/13/16 10:25 | 09/13/16 17:51 | 7439-93-2 | |
| Molybdenum | 4.3J | ug/L | 20.0 | 0.52 | 1 | 09/13/16 10:25 | 09/13/16 17:51 | 7439-98-7 | B |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/13/16 10:25 | 09/20/16 16:18 | 7440-36-0 | |
| Arsenic | 7.7 | ug/L | 1.0 | 0.10 | 1 | 09/13/16 10:25 | 09/20/16 16:18 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 09/13/16 10:25 | 09/20/16 16:18 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 09/13/16 10:25 | 09/20/16 16:18 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/13/16 10:25 | 09/20/16 16:18 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/13/16 10:25 | 09/20/16 16:18 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/13/16 08:30 | 09/13/16 12:41 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 957 | mg/L | 5.0 | 5.0 | 1 | | 09/14/16 13:41 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.7 | Std. Units | 0.10 | 0.10 | 1 | | 09/12/16 10:55 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 29.2 | mg/L | 5.0 | 2.5 | 5 | | 10/02/16 18:13 | 16887-00-6 | |
| Fluoride | 0.076J | mg/L | 0.20 | 0.027 | 1 | | 10/01/16 15:43 | 16984-48-8 | |
| Sulfate | 344 | mg/L | 20.0 | 3.1 | 20 | | 10/02/16 18:56 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-4 **Lab ID: 60227172007** Collected: 09/08/16 12:40 Received: 09/10/16 03:30 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 229 | ug/L | 10.0 | 0.58 | 1 | 09/13/16 10:25 | 09/13/16 17:55 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/13/16 10:25 | 09/13/16 17:55 | 7440-41-7 | |
| Boron | 8540 | ug/L | 100 | 50.0 | 1 | 09/13/16 10:25 | 09/13/16 17:55 | 7440-42-8 | |
| Calcium | 173000 | ug/L | 100 | 8.1 | 1 | 09/13/16 10:25 | 09/13/16 17:55 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 09/13/16 10:25 | 09/13/16 17:55 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 09/13/16 10:25 | 09/13/16 17:55 | 7439-92-1 | |
| Lithium | 20.3 | ug/L | 10.0 | 4.9 | 1 | 09/13/16 10:25 | 09/13/16 17:55 | 7439-93-2 | |
| Molybdenum | 52.5 | ug/L | 20.0 | 0.52 | 1 | 09/13/16 10:25 | 09/13/16 17:55 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/13/16 10:25 | 09/20/16 16:23 | 7440-36-0 | |
| Arsenic | 13.7 | ug/L | 1.0 | 0.10 | 1 | 09/13/16 10:25 | 09/20/16 16:23 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 09/13/16 10:25 | 09/20/16 16:23 | 7440-43-9 | |
| Chromium | 0.61J | ug/L | 1.0 | 0.34 | 1 | 09/13/16 10:25 | 09/20/16 16:23 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/13/16 10:25 | 09/20/16 16:23 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/13/16 10:25 | 09/20/16 16:23 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/13/16 08:30 | 09/13/16 12:43 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 995 | mg/L | 5.0 | 5.0 | 1 | | 09/14/16 13:41 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 09/13/16 11:25 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 36.0 | mg/L | 5.0 | 2.5 | 5 | | 10/02/16 19:10 | 16887-00-6 | |
| Fluoride | 0.13J | mg/L | 0.20 | 0.027 | 1 | | 10/01/16 15:57 | 16984-48-8 | |
| Sulfate | 378 | mg/L | 50.0 | 7.7 | 50 | | 10/02/16 19:24 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-5 **Lab ID: 60227172008** Collected: 09/08/16 12:30 Received: 09/10/16 03:30 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 301 | ug/L | 10.0 | 0.58 | 1 | 09/13/16 10:25 | 09/13/16 17:59 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/13/16 10:25 | 09/13/16 17:59 | 7440-41-7 | |
| Boron | 7130 | ug/L | 100 | 50.0 | 1 | 09/13/16 10:25 | 09/13/16 17:59 | 7440-42-8 | |
| Calcium | 172000 | ug/L | 100 | 8.1 | 1 | 09/13/16 10:25 | 09/13/16 17:59 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 09/13/16 10:25 | 09/13/16 17:59 | 7440-48-4 | |
| Lead | 3.2J | ug/L | 5.0 | 2.5 | 1 | 09/13/16 10:25 | 09/13/16 17:59 | 7439-92-1 | |
| Lithium | 18.3 | ug/L | 10.0 | 4.9 | 1 | 09/13/16 10:25 | 09/13/16 17:59 | 7439-93-2 | |
| Molybdenum | 83.8 | ug/L | 20.0 | 0.52 | 1 | 09/13/16 10:25 | 09/13/16 17:59 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/13/16 10:25 | 09/20/16 16:27 | 7440-36-0 | |
| Arsenic | 18.7 | ug/L | 1.0 | 0.10 | 1 | 09/13/16 10:25 | 09/20/16 16:27 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 09/13/16 10:25 | 09/20/16 16:27 | 7440-43-9 | |
| Chromium | 0.42J | ug/L | 1.0 | 0.34 | 1 | 09/13/16 10:25 | 09/20/16 16:27 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/13/16 10:25 | 09/20/16 16:27 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/13/16 10:25 | 09/20/16 16:27 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/13/16 08:30 | 09/13/16 12:45 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1050 | mg/L | 5.0 | 5.0 | 1 | | 09/14/16 13:43 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.1 | Std. Units | 0.10 | 0.10 | 1 | | 09/13/16 11:25 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 40.5 | mg/L | 5.0 | 2.5 | 5 | | 10/02/16 19:38 | 16887-00-6 | |
| Fluoride | 0.16J | mg/L | 0.20 | 0.027 | 1 | | 10/01/16 16:11 | 16984-48-8 | |
| Sulfate | 391 | mg/L | 50.0 | 7.7 | 50 | | 10/02/16 19:53 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-6 **Lab ID: 60227172009** Collected: 09/08/16 11:38 Received: 09/10/16 03:30 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 69.3 | ug/L | 10.0 | 0.58 | 1 | 09/13/16 10:25 | 09/13/16 18:03 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/13/16 10:25 | 09/13/16 18:03 | 7440-41-7 | |
| Boron | 14800 | ug/L | 100 | 50.0 | 1 | 09/13/16 10:25 | 09/13/16 18:03 | 7440-42-8 | |
| Calcium | 319000 | ug/L | 100 | 8.1 | 1 | 09/13/16 10:25 | 09/13/16 18:03 | 7440-70-2 | |
| Cobalt | 3.8J | ug/L | 5.0 | 0.72 | 1 | 09/13/16 10:25 | 09/13/16 18:03 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 09/13/16 10:25 | 09/13/16 18:03 | 7439-92-1 | |
| Lithium | 123 | ug/L | 10.0 | 4.9 | 1 | 09/13/16 10:25 | 09/13/16 18:03 | 7439-93-2 | |
| Molybdenum | 120 | ug/L | 20.0 | 0.52 | 1 | 09/13/16 10:25 | 09/13/16 18:03 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/13/16 10:25 | 09/20/16 16:32 | 7440-36-0 | |
| Arsenic | 4.8 | ug/L | 1.0 | 0.10 | 1 | 09/13/16 10:25 | 09/20/16 16:32 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 09/13/16 10:25 | 09/20/16 16:32 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 09/13/16 10:25 | 09/20/16 16:32 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/13/16 10:25 | 09/20/16 16:32 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/13/16 10:25 | 09/20/16 16:32 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/13/16 08:30 | 09/13/16 12:47 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 364 | mg/L | 5.0 | 5.0 | 1 | | 09/14/16 13:44 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 09/13/16 11:25 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 21.9 | mg/L | 2.0 | 1.0 | 2 | | 10/02/16 20:07 | 16887-00-6 | |
| Fluoride | 0.097J | mg/L | 0.20 | 0.027 | 1 | | 10/01/16 16:25 | 16984-48-8 | |
| Sulfate | 547 | mg/L | 50.0 | 7.7 | 50 | | 10/02/16 20:21 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-8 **Lab ID: 60227172010** Collected: 09/08/16 10:45 Received: 09/10/16 03:30 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 234 | ug/L | 10.0 | 0.58 | 1 | 09/13/16 10:25 | 09/13/16 18:07 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/13/16 10:25 | 09/13/16 18:07 | 7440-41-7 | |
| Boron | 8640 | ug/L | 100 | 50.0 | 1 | 09/13/16 10:25 | 09/13/16 18:07 | 7440-42-8 | |
| Calcium | 170000 | ug/L | 100 | 8.1 | 1 | 09/13/16 10:25 | 09/13/16 18:07 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 09/13/16 10:25 | 09/13/16 18:07 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 09/13/16 10:25 | 09/13/16 18:07 | 7439-92-1 | |
| Lithium | 26.1 | ug/L | 10.0 | 4.9 | 1 | 09/13/16 10:25 | 09/13/16 18:07 | 7439-93-2 | |
| Molybdenum | 211 | ug/L | 20.0 | 0.52 | 1 | 09/13/16 10:25 | 09/13/16 18:07 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/13/16 10:25 | 09/20/16 16:36 | 7440-36-0 | |
| Arsenic | 5.6 | ug/L | 1.0 | 0.10 | 1 | 09/13/16 10:25 | 09/20/16 16:36 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 09/13/16 10:25 | 09/20/16 16:36 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 09/13/16 10:25 | 09/20/16 16:36 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/13/16 10:25 | 09/20/16 16:36 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/13/16 10:25 | 09/20/16 16:36 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/13/16 08:30 | 09/13/16 12:50 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 381 | mg/L | 5.0 | 5.0 | 1 | | 09/14/16 13:44 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.0 | Std. Units | 0.10 | 0.10 | 1 | | 09/12/16 10:55 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 25.5 | mg/L | 2.0 | 1.0 | 2 | | 10/02/16 20:35 | 16887-00-6 | |
| Fluoride | 0.20J | mg/L | 0.20 | 0.027 | 1 | | 10/01/16 17:08 | 16984-48-8 | |
| Sulfate | 455 | mg/L | 50.0 | 7.7 | 50 | | 10/02/16 20:49 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-DUP-1 **Lab ID: 60227172011** Collected: 09/08/16 08:00 Received: 09/10/16 03:30 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 255 | ug/L | 10.0 | 0.58 | 1 | 09/13/16 10:25 | 09/13/16 18:10 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/13/16 10:25 | 09/13/16 18:10 | 7440-41-7 | |
| Boron | 9290 | ug/L | 100 | 50.0 | 1 | 09/13/16 10:25 | 09/13/16 18:10 | 7440-42-8 | |
| Calcium | 160000 | ug/L | 100 | 8.1 | 1 | 09/13/16 10:25 | 09/13/16 18:10 | 7440-70-2 | |
| Cobalt | 1.1J | ug/L | 5.0 | 0.72 | 1 | 09/13/16 10:25 | 09/13/16 18:10 | 7440-48-4 | |
| Lead | 3.4J | ug/L | 5.0 | 2.5 | 1 | 09/13/16 10:25 | 09/13/16 18:10 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 09/13/16 10:25 | 09/13/16 18:10 | 7439-93-2 | |
| Molybdenum | 3.8J | ug/L | 20.0 | 0.52 | 1 | 09/13/16 10:25 | 09/13/16 18:10 | 7439-98-7 | B |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/13/16 10:25 | 09/20/16 16:41 | 7440-36-0 | |
| Arsenic | 7.8 | ug/L | 1.0 | 0.10 | 1 | 09/13/16 10:25 | 09/20/16 16:41 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 09/13/16 10:25 | 09/20/16 16:41 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 09/13/16 10:25 | 09/20/16 16:41 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/13/16 10:25 | 09/20/16 16:41 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/13/16 10:25 | 09/20/16 16:41 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/13/16 08:30 | 09/13/16 12:52 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 971 | mg/L | 5.0 | 5.0 | 1 | | 09/14/16 13:44 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.7 | Std. Units | 0.10 | 0.10 | 1 | | 09/12/16 10:55 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 30.6 | mg/L | 2.0 | 1.0 | 2 | | 10/02/16 21:03 | 16887-00-6 | |
| Fluoride | 0.070J | mg/L | 0.20 | 0.027 | 1 | | 10/01/16 17:22 | 16984-48-8 | |
| Sulfate | 362 | mg/L | 50.0 | 7.7 | 50 | | 10/02/16 21:46 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-FB-1 **Lab ID: 60227172012** Collected: 09/08/16 10:00 Received: 09/10/16 03:30 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | <0.58 | ug/L | 10.0 | 0.58 | 1 | 09/13/16 10:25 | 09/13/16 18:14 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 09/13/16 10:25 | 09/13/16 18:14 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 09/13/16 10:25 | 09/13/16 18:14 | 7440-42-8 | |
| Calcium | 31.2J | ug/L | 100 | 8.1 | 1 | 09/13/16 10:25 | 09/13/16 18:14 | 7440-70-2 | B |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 09/13/16 10:25 | 09/13/16 18:14 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 09/13/16 10:25 | 09/13/16 18:14 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 09/13/16 10:25 | 09/13/16 18:14 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 09/13/16 10:25 | 09/13/16 18:14 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 09/13/16 10:25 | 09/20/16 16:45 | 7440-36-0 | |
| Arsenic | <0.10 | ug/L | 1.0 | 0.10 | 1 | 09/13/16 10:25 | 09/20/16 16:45 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 09/13/16 10:25 | 09/20/16 16:45 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 09/13/16 10:25 | 09/20/16 16:45 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 09/13/16 10:25 | 09/20/16 16:45 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 09/13/16 10:25 | 09/20/16 16:45 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 09/13/16 08:30 | 09/13/16 12:54 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 6.0 | mg/L | 5.0 | 5.0 | 1 | | 09/14/16 13:45 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.6 | Std. Units | 0.10 | 0.10 | 1 | | 09/12/16 10:55 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 10/01/16 17:36 | 16887-00-6 | |
| Fluoride | <0.027 | mg/L | 0.20 | 0.027 | 1 | | 10/01/16 17:36 | 16984-48-8 | |
| Sulfate | <0.15 | mg/L | 1.0 | 0.15 | 1 | | 10/01/16 17:36 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 445886

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Associated Lab Samples: 60227172001, 60227172002, 60227172003

METHOD BLANK: 1822798

Matrix: Water

Associated Lab Samples: 60227172001, 60227172002, 60227172003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Mercury | ug/L | <0.039 | 0.20 | 0.039 | 09/09/16 12:27 | |

LABORATORY CONTROL SAMPLE: 1822799

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury | ug/L | 5 | 5.4 | 109 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1822800 1822801

| Parameter | Units | 60227171004 | | 1822800 | | 1822801 | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|----------------|-----------------|-----------|------------|----------|--------------|--------|---------|------|
| | | MS Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | | | | |
| Mercury | ug/L | <0.039 | 5 | 5 | 4.8 | 5.8 | 96 | 117 | 75-125 | 20 | 20 |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 446246 Analysis Method: EPA 7470
 QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
 Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

METHOD BLANK: 1824355 Matrix: Water
 Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Mercury | ug/L | <0.039 | 0.20 | 0.039 | 09/13/16 11:45 | |

LABORATORY CONTROL SAMPLE: 1824356

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury | ug/L | 5 | 5.2 | 104 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824357 1824358

| Parameter | Units | 60227403003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury | ug/L | <0.039 | 5 | 5 | 5.1 | 4.6 | 102 | 91 | 75-125 | 11 | 20 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824359 1824360

| Parameter | Units | 60227172005 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury | ug/L | <0.039 | 5 | 5 | 3.8 | 3.5 | 77 | 70 | 75-125 | 10 | 20 M1 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824485 1824486

| Parameter | Units | 60227402001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury | ug/L | <0.039 | 5 | 5 | 4.9 | 6.0 | 98 | 119 | 75-125 | 19 | 20 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 445742

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 Metals, Total

Associated Lab Samples: 60227172001, 60227172002, 60227172003

METHOD BLANK: 1822268

Matrix: Water

Associated Lab Samples: 60227172001, 60227172002, 60227172003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | <0.58 | 10.0 | 0.58 | 09/08/16 16:59 | |
| Beryllium | ug/L | <0.26 | 1.0 | 0.26 | 09/08/16 16:59 | |
| Boron | ug/L | <50.0 | 100 | 50.0 | 09/08/16 16:59 | |
| Calcium | ug/L | <8.1 | 100 | 8.1 | 09/08/16 16:59 | |
| Cobalt | ug/L | <0.72 | 5.0 | 0.72 | 09/08/16 16:59 | |
| Lead | ug/L | <2.5 | 5.0 | 2.5 | 09/08/16 16:59 | |
| Lithium | ug/L | <4.9 | 10.0 | 4.9 | 09/08/16 16:59 | |
| Molybdenum | ug/L | <0.52 | 20.0 | 0.52 | 09/08/16 16:59 | |

LABORATORY CONTROL SAMPLE: 1822269

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Beryllium | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Boron | ug/L | 1000 | 986 | 99 | 85-115 | |
| Calcium | ug/L | 10000 | 10100 | 101 | 85-115 | |
| Cobalt | ug/L | 1000 | 1040 | 104 | 85-115 | |
| Lead | ug/L | 1000 | 1040 | 104 | 85-115 | |
| Lithium | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Molybdenum | ug/L | 1000 | 1080 | 108 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1822270 1822271

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|------------|-------|--------------------|-------------|-------------|-----------|----------|-----------|--------------|--------|---------|------|
| | | 60227171004 Result | Spike Conc. | Spike Conc. | MS Result | | | | | | |
| Barium | ug/L | 268 | 1000 | 1000 | 1270 | 1280 | 100 | 101 | 70-130 | 1 | 20 |
| Beryllium | ug/L | <0.26 | 1000 | 1000 | 1010 | 1020 | 101 | 102 | 70-130 | 1 | 20 |
| Boron | ug/L | 4350 | 1000 | 1000 | 5330 | 5220 | 98 | 87 | 70-130 | 2 | 20 |
| Calcium | ug/L | 72600 | 10000 | 10000 | 81500 | 80700 | 89 | 81 | 70-130 | 1 | 20 |
| Cobalt | ug/L | <0.72 | 1000 | 1000 | 1030 | 1020 | 103 | 102 | 70-130 | 0 | 20 |
| Lead | ug/L | <2.5 | 1000 | 1000 | 1020 | 1020 | 102 | 102 | 70-130 | 1 | 20 |
| Lithium | ug/L | 44.8 | 1000 | 1000 | 1050 | 1060 | 101 | 102 | 70-130 | 1 | 20 |
| Molybdenum | ug/L | 105 | 1000 | 1000 | 1190 | 1190 | 109 | 108 | 70-130 | 1 | 20 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| MATRIX SPIKE SAMPLE: 1822272 | | 60227171010 | Spike | MS | MS | % Rec | |
|------------------------------|-------|-------------|-------|--------|-------|--------|------------|
| Parameter | Units | Result | Conc. | Result | % Rec | Limits | Qualifiers |
| Barium | ug/L | 394 | 1000 | 1420 | 102 | 70-130 | |
| Beryllium | ug/L | <0.26 | 1000 | 1030 | 103 | 70-130 | |
| Boron | ug/L | 75.5J | 1000 | 1090 | 102 | 70-130 | |
| Calcium | ug/L | 127000 | 10000 | 136000 | 86 | 70-130 | |
| Cobalt | ug/L | <0.72 | 1000 | 1030 | 103 | 70-130 | |
| Lead | ug/L | <2.5 | 1000 | 1030 | 103 | 70-130 | |
| Lithium | ug/L | 5.4J | 1000 | 1040 | 104 | 70-130 | |
| Molybdenum | ug/L | <0.52 | 1000 | 1090 | 109 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 446273 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

METHOD BLANK: 1824423 Matrix: Water
 Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | <0.58 | 10.0 | 0.58 | 09/13/16 16:24 | |
| Beryllium | ug/L | <0.26 | 1.0 | 0.26 | 09/13/16 16:24 | |
| Boron | ug/L | <50.0 | 100 | 50.0 | 09/13/16 16:24 | |
| Calcium | ug/L | 16.1J | 100 | 8.1 | 09/13/16 16:24 | |
| Cobalt | ug/L | <0.72 | 5.0 | 0.72 | 09/13/16 16:24 | |
| Lead | ug/L | <2.5 | 5.0 | 2.5 | 09/13/16 16:24 | |
| Lithium | ug/L | <4.9 | 10.0 | 4.9 | 09/13/16 16:24 | |
| Molybdenum | ug/L | 0.66J | 20.0 | 0.52 | 09/13/16 16:24 | |

LABORATORY CONTROL SAMPLE: 1824424

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 1020 | 102 | 85-115 | |
| Beryllium | ug/L | 1000 | 1020 | 102 | 85-115 | |
| Boron | ug/L | 1000 | 962 | 96 | 85-115 | |
| Calcium | ug/L | 10000 | 10100 | 101 | 85-115 | |
| Cobalt | ug/L | 1000 | 996 | 100 | 85-115 | |
| Lead | ug/L | 1000 | 1000 | 100 | 85-115 | |
| Lithium | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Molybdenum | ug/L | 1000 | 1060 | 106 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824425 1824426

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|------------|-------|--------------------|-------------|-------------|-----------|----------|-----------|--------------|--------|---------|------|
| | | 60227402001 Result | Spike Conc. | Spike Conc. | MS Result | | | | | | |
| Barium | ug/L | 55.4 | 1000 | 1000 | 1080 | 110 | 103 | 105 | 70-130 | 2 | 20 |
| Beryllium | ug/L | <0.26 | 1000 | 1000 | 1030 | 1060 | 103 | 106 | 70-130 | 2 | 20 |
| Boron | ug/L | 6900 | 1000 | 1000 | 7940 | 8000 | 104 | 110 | 70-130 | 1 | 20 |
| Calcium | ug/L | 76400 | 10000 | 10000 | 87500 | 89200 | 111 | 127 | 70-130 | 2 | 20 |
| Cobalt | ug/L | <0.72 | 1000 | 1000 | 983 | 982 | 98 | 98 | 70-130 | 0 | 20 |
| Lead | ug/L | <2.5 | 1000 | 1000 | 982 | 980 | 98 | 98 | 70-130 | 0 | 20 |
| Lithium | ug/L | 14.3 | 1000 | 1000 | 1060 | 1070 | 104 | 106 | 70-130 | 2 | 20 |
| Molybdenum | ug/L | 119 | 1000 | 1000 | 1200 | 1200 | 108 | 108 | 70-130 | 0 | 20 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824427 | | | | | | | | | | | | 1824428 | |
|--|-------|-----------------------|----------------|----------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|---------|--|
| Parameter | Units | 60227403003 Result | MS | MSD | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
| | | | Spike Conc. | Spike Conc. | | | | | | | | | |
| Barium | ug/L | 68.9 | 1000 | 1000 | 1110 | 1100 | 105 | 103 | 70-130 | 1 | 20 | | |
| Beryllium | ug/L | <0.26 | 1000 | 1000 | 1040 | 1040 | 104 | 104 | 70-130 | 1 | 20 | | |
| Boron | ug/L | 5080 | 1000 | 1000 | 6190 | 6100 | 111 | 102 | 70-130 | 2 | 20 | | |
| Calcium | ug/L | 81300 | 10000 | 10000 | 89800 | 90600 | 85 | 93 | 70-130 | 1 | 20 | | |
| Cobalt | ug/L | <0.72 | 1000 | 1000 | 975 | 962 | 98 | 96 | 70-130 | 1 | 20 | | |
| Lead | ug/L | <2.5 | 1000 | 1000 | 981 | 972 | 98 | 97 | 70-130 | 1 | 20 | | |
| Lithium | ug/L | 23.4 | 1000 | 1000 | 1070 | 1060 | 105 | 104 | 70-130 | 1 | 20 | | |
| Molybdenum | ug/L | 120 | 1000 | 1000 | 1200 | 1190 | 108 | 107 | 70-130 | 1 | 20 | | |

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824429 | | | | | | | | | | | | 1824430 | |
|--|-------|-----------------------|----------------|----------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|---------|--|
| Parameter | Units | 60227172005 Result | MS | MSD | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
| | | | Spike Conc. | Spike Conc. | | | | | | | | | |
| Barium | ug/L | 515 | 1000 | 1000 | 1590 | 1550 | 107 | 103 | 70-130 | 2 | 20 | | |
| Beryllium | ug/L | <0.26 | 1000 | 1000 | 1050 | 1020 | 105 | 102 | 70-130 | 2 | 20 | | |
| Boron | ug/L | 4740 | 1000 | 1000 | 5800 | 5710 | 106 | 97 | 70-130 | 2 | 20 | | |
| Calcium | ug/L | 134000 | 10000 | 10000 | 144000 | 142000 | 95 | 75 | 70-130 | 1 | 20 | | |
| Cobalt | ug/L | <0.72 | 1000 | 1000 | 976 | 963 | 98 | 96 | 70-130 | 1 | 20 | | |
| Lead | ug/L | 2.7J | 1000 | 1000 | 989 | 972 | 99 | 97 | 70-130 | 2 | 20 | | |
| Lithium | ug/L | <4.9 | 1000 | 1000 | 1070 | 1040 | 107 | 104 | 70-130 | 2 | 20 | | |
| Molybdenum | ug/L | 0.63J | 1000 | 1000 | 1090 | 1080 | 109 | 108 | 70-130 | 1 | 20 | | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 445743 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Associated Lab Samples: 60227172001, 60227172002, 60227172003

METHOD BLANK: 1822275 Matrix: Water

Associated Lab Samples: 60227172001, 60227172002, 60227172003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.058 | 1.0 | 0.058 | 09/09/16 10:47 | |
| Arsenic | ug/L | <0.10 | 1.0 | 0.10 | 09/09/16 10:47 | |
| Cadmium | ug/L | 0.047J | 0.50 | 0.029 | 09/09/16 10:47 | |
| Chromium | ug/L | <0.34 | 1.0 | 0.34 | 09/09/16 10:47 | |
| Selenium | ug/L | <0.18 | 1.0 | 0.18 | 09/09/16 10:47 | |
| Thallium | ug/L | <0.50 | 1.0 | 0.50 | 09/09/16 10:47 | |

LABORATORY CONTROL SAMPLE: 1822276

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 40.2 | 100 | 85-115 | |
| Arsenic | ug/L | 40 | 40.8 | 102 | 85-115 | |
| Cadmium | ug/L | 40 | 40.0 | 100 | 85-115 | |
| Chromium | ug/L | 40 | 41.1 | 103 | 85-115 | |
| Selenium | ug/L | 40 | 40.8 | 102 | 85-115 | |
| Thallium | ug/L | 40 | 37.8 | 95 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1822277 1822278

| Parameter | Units | 60227171004 | | MSD | | MS | | MSD | | % Rec Limits | Max RPD | Qual |
|-----------|-------|-------------|-------------|-------------|--------|--------|-------|-------|--------|--------------|---------|------|
| | | Result | Spike Conc. | Spike Conc. | Result | Result | % Rec | % Rec | | | | |
| Antimony | ug/L | <0.058 | 40 | 40 | 41.4 | 41.2 | 103 | 103 | 70-130 | 1 | 20 | |
| Arsenic | ug/L | 7.4 | 40 | 40 | 49.1 | 49.7 | 104 | 106 | 70-130 | 1 | 20 | |
| Cadmium | ug/L | 0.048J | 40 | 40 | 39.9 | 39.3 | 100 | 98 | 70-130 | 1 | 20 | |
| Chromium | ug/L | 0.86J | 40 | 40 | 45.7 | 44.5 | 112 | 109 | 70-130 | 3 | 20 | |
| Selenium | ug/L | 0.24J | 40 | 40 | 38.9 | 39.3 | 97 | 98 | 70-130 | 1 | 20 | |
| Thallium | ug/L | <0.50 | 40 | 40 | 39.3 | 39.6 | 98 | 99 | 70-130 | 1 | 20 | |

MATRIX SPIKE SAMPLE: 1822279

| Parameter | Units | 60227172002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | 0.62J | 40 | 39.7 | 98 | 70-130 | |
| Arsenic | ug/L | 0.99J | 40 | 40.6 | 99 | 70-130 | |
| Cadmium | ug/L | 0.049J | 40 | 36.6 | 91 | 70-130 | |
| Chromium | ug/L | <0.34 | 40 | 40.5 | 101 | 70-130 | |
| Selenium | ug/L | 0.36J | 40 | 37.1 | 92 | 70-130 | |
| Thallium | ug/L | <0.50 | 40 | 37.7 | 94 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 446276 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

METHOD BLANK: 1824434 Matrix: Water
 Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.058 | 1.0 | 0.058 | 09/20/16 14:13 | |
| Arsenic | ug/L | <0.10 | 1.0 | 0.10 | 09/20/16 14:13 | |
| Cadmium | ug/L | <0.029 | 0.50 | 0.029 | 09/20/16 14:13 | |
| Chromium | ug/L | <0.34 | 1.0 | 0.34 | 09/20/16 14:13 | |
| Selenium | ug/L | <0.18 | 1.0 | 0.18 | 09/20/16 14:13 | |
| Thallium | ug/L | <0.50 | 1.0 | 0.50 | 09/20/16 14:13 | |

LABORATORY CONTROL SAMPLE: 1824435

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 40.0 | 100 | 85-115 | |
| Arsenic | ug/L | 40 | 41.9 | 105 | 85-115 | |
| Cadmium | ug/L | 40 | 40.4 | 101 | 85-115 | |
| Chromium | ug/L | 40 | 41.7 | 104 | 85-115 | |
| Selenium | ug/L | 40 | 41.7 | 104 | 85-115 | |
| Thallium | ug/L | 40 | 40.2 | 100 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824436 1824437

| Parameter | Units | 60227402001 | | MS | MSD | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|-------|-------------|-------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| | | Result | Conc. | Spike Conc. | Spike Conc. | | | | | | | | |
| Antimony | ug/L | 0.066J | 40 | 40 | 39.8 | 39.9 | 99 | 100 | 70-130 | 0 | 20 | | |
| Arsenic | ug/L | 27.3 | 40 | 40 | 68.9 | 68.7 | 104 | 104 | 70-130 | 0 | 20 | | |
| Cadmium | ug/L | <0.029 | 40 | 40 | 38.4 | 38.6 | 96 | 96 | 70-130 | 0 | 20 | | |
| Chromium | ug/L | <0.34 | 40 | 40 | 40.7 | 40.7 | 101 | 101 | 70-130 | 0 | 20 | | |
| Selenium | ug/L | <0.18 | 40 | 40 | 38.5 | 39.1 | 96 | 97 | 70-130 | 1 | 20 | | |
| Thallium | ug/L | <0.50 | 40 | 40 | 42.1 | 42.0 | 105 | 105 | 70-130 | 0 | 20 | | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824438 1824439

| Parameter | Units | 60227403003 | | MS | MSD | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|-------|-------------|-------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| | | Result | Conc. | Spike Conc. | Spike Conc. | | | | | | | | |
| Antimony | ug/L | 0.084J | 40 | 40 | 39.7 | 39.5 | 99 | 98 | 70-130 | 1 | 20 | | |
| Arsenic | ug/L | 17.7 | 40 | 40 | 58.4 | 59.6 | 102 | 105 | 70-130 | 2 | 20 | | |
| Cadmium | ug/L | <0.029 | 40 | 40 | 38.6 | 38.4 | 96 | 96 | 70-130 | 0 | 20 | | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824438 | | | | | | | | | | | | 1824439 | |
|--|-------|-----------------------|----------------|----------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|---------|--|
| Parameter | Units | 60227403003 Result | MS | MSD | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
| | | | Spike Conc. | Spike Conc. | | | | | | | | | |
| Chromium | ug/L | <0.34 | 40 | 40 | 41.3 | 41.4 | 103 | 103 | 70-130 | 0 | 20 | | |
| Selenium | ug/L | <0.18 | 40 | 40 | 35.0 | 35.6 | 87 | 89 | 70-130 | 2 | 20 | | |
| Thallium | ug/L | <0.50 | 40 | 40 | 41.5 | 41.8 | 104 | 105 | 70-130 | 1 | 20 | | |

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824440 | | | | | | | | | | | | 1824441 | |
|--|-------|-----------------------|----------------|----------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|---------|--|
| Parameter | Units | 60227172005 Result | MS | MSD | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
| | | | Spike Conc. | Spike Conc. | | | | | | | | | |
| Antimony | ug/L | <0.058 | 40 | 40 | 39.0 | 39.0 | 98 | 97 | 70-130 | 0 | 20 | | |
| Arsenic | ug/L | 1.6 | 40 | 40 | 43.6 | 43.8 | 105 | 105 | 70-130 | 1 | 20 | | |
| Cadmium | ug/L | <0.029 | 40 | 40 | 38.2 | 37.9 | 95 | 95 | 70-130 | 1 | 20 | | |
| Chromium | ug/L | 1.3 | 40 | 40 | 41.9 | 42.6 | 102 | 103 | 70-130 | 2 | 20 | | |
| Selenium | ug/L | <0.18 | 40 | 40 | 38.1 | 38.8 | 95 | 97 | 70-130 | 2 | 20 | | |
| Thallium | ug/L | <0.50 | 40 | 40 | 42.5 | 42.6 | 106 | 107 | 70-130 | 0 | 20 | | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 446024

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60227172001, 60227172002, 60227172003

METHOD BLANK: 1823374

Matrix: Water

Associated Lab Samples: 60227172001, 60227172002, 60227172003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 09/12/16 08:42 | |

LABORATORY CONTROL SAMPLE: 1823375

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 988 | 99 | 80-120 | |

SAMPLE DUPLICATE: 1823376

| Parameter | Units | 60227119001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 1310 | 1340 | 2 | 10 | |

SAMPLE DUPLICATE: 1823377

| Parameter | Units | 60227197001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 420 | 422 | 0 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 446523

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007

METHOD BLANK: 1825604

Matrix: Water

Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 09/14/16 13:26 | |

LABORATORY CONTROL SAMPLE: 1825605

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 991 | 99 | 80-120 | |

SAMPLE DUPLICATE: 1825606

| Parameter | Units | 60227223001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 1330 | 1390 | 4 | 10 | |

SAMPLE DUPLICATE: 1825607

| Parameter | Units | 60227292002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 1870 | 1880 | 1 | 10 | |

SAMPLE DUPLICATE: 1825608

| Parameter | Units | 60227172005 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 802 | 839 | 5 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 446526

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

METHOD BLANK: 1825620

Matrix: Water

Associated Lab Samples: 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 09/14/16 13:42 | |

LABORATORY CONTROL SAMPLE: 1825621

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 963 | 96 | 80-120 | |

SAMPLE DUPLICATE: 1825622

| Parameter | Units | 60227172008 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 1050 | 1050 | 0 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 446082 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60227172001, 60227172002, 60227172003

SAMPLE DUPLICATE: 1823928

| Parameter | Units | 60226914001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 9.2 | 9.2 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 446089 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172010, 60227172011, 60227172012

SAMPLE DUPLICATE: 1823938

| Parameter | Units | 60227172005 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 6.6 | 6.6 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 446274 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60227172007, 60227172008, 60227172009

SAMPLE DUPLICATE: 1824431

| Parameter | Units | 60227283001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 8.4 | 8.3 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 447440 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60227172001, 60227172002

METHOD BLANK: 1830341 Matrix: Water
 Associated Lab Samples: 60227172001, 60227172002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Fluoride | mg/L | <0.027 | 0.20 | 0.027 | 09/21/16 21:41 | |

LABORATORY CONTROL SAMPLE: 1830342

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Fluoride | mg/L | 2.5 | 2.5 | 98 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1830343 1830344

| Parameter | Units | 60227171001 | | 60227171004 | | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|----------------|-----------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| | | MS Spike Conc. | MSD Spike Conc. | MS Spike Conc. | MSD Spike Conc. | | | | | | | | |
| Fluoride | mg/L | 0.37 | 2.5 | 2.5 | 3.0 | 3.0 | 104 | 106 | 80-120 | 1 | 15 | | |

MATRIX SPIKE SAMPLE: 1830345

| Parameter | Units | 60227171004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Fluoride | mg/L | 0.73 | 2.5 | 3.1 | 96 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 447719 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60227172001, 60227172002, 60227172003

METHOD BLANK: 1831437 Matrix: Water

Associated Lab Samples: 60227172001, 60227172002, 60227172003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 09/23/16 17:26 | |
| Fluoride | mg/L | <0.027 | 0.20 | 0.027 | 09/23/16 17:26 | |
| Sulfate | mg/L | <0.15 | 1.0 | 0.15 | 09/23/16 17:26 | |

LABORATORY CONTROL SAMPLE: 1831438

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.6 | 93 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.5 | 99 | 90-110 | |
| Sulfate | mg/L | 5 | 5.1 | 102 | 90-110 | |

MATRIX SPIKE SAMPLE: 1831439

| Parameter | Units | 60227171004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 19.7 | 10 | 28.9 | 92 | 80-120 | |
| Fluoride | mg/L | 0.73 | | 6.2 | | | |
| Sulfate | mg/L | 43.9 | 25 | 70.6 | 107 | 80-120 | |

MATRIX SPIKE SAMPLE: 1831440

| Parameter | Units | 60227171005 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 3.6 | 5 | 8.2 | 92 | 80-120 | |
| Fluoride | mg/L | 0.18J | 2.5 | 3.0 | 114 | 80-120 | |
| Sulfate | mg/L | 2.0 | 5 | 7.0 | 101 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 448783 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

METHOD BLANK: 1836684 Matrix: Water
 Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 10/01/16 14:18 | |
| Fluoride | mg/L | <0.027 | 0.20 | 0.027 | 10/01/16 14:18 | |
| Sulfate | mg/L | <0.15 | 1.0 | 0.15 | 10/01/16 14:18 | |

LABORATORY CONTROL SAMPLE: 1836685

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.7 | 95 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.4 | 97 | 90-110 | |
| Sulfate | mg/L | 5 | 4.9 | 99 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1836686 1836687

| Parameter | Units | 60227172005 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Fluoride | mg/L | 0.088J | 2.5 | 2.5 | 2.6 | 2.7 | 99 | 104 | 80-120 | 4 | 15 | |

MATRIX SPIKE SAMPLE: 1836688

| Parameter | Units | 60227580001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 2.3 | 5 | 7.0 | 93 | 80-120 | |
| Fluoride | mg/L | 0.18J | 2.5 | 2.6 | 98 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60227172

QC Batch: 448790 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011

METHOD BLANK: 1836865 Matrix: Water
Associated Lab Samples: 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 10/02/16 11:23 | |
| Sulfate | mg/L | <0.15 | 1.0 | 0.15 | 10/02/16 11:23 | |

LABORATORY CONTROL SAMPLE: 1836866

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.6 | 93 | 90-110 | |
| Sulfate | mg/L | 5 | 5.1 | 102 | 90-110 | |

MATRIX SPIKE SAMPLE: 1836867

| Parameter | Units | 60227403003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 19.6 | 10 | 28.8 | 92 | 80-120 | |
| Sulfate | mg/L | 275 | 100 | 373 | 98 | 80-120 | |

MATRIX SPIKE SAMPLE: 1836869

| Parameter | Units | 60227172005 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 25.3 | 10 | 34.8 | 95 | 80-120 | |

MATRIX SPIKE SAMPLE: 1836870

| Parameter | Units | 60227580001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 2.3 | | 26.2 | | | |
| Sulfate | mg/L | 63.4 | 25 | 85.9 | 90 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1836871 1836872

| Parameter | Units | 60227402001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Chloride | mg/L | 19.1 | | | 113 | 113 | | | | 0 | 15 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-7 **Lab ID: 60227172001** Collected: 09/07/16 14:15 Received: 09/08/16 04:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.301 ± 0.467 (0.809) C:NA T:93% | pCi/L | 09/23/16 19:49 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.926 ± 0.455 (0.782) C:72% T:79% | pCi/L | 09/21/16 16:13 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-BMW-1 **Lab ID: 60227172002** Collected: 09/07/16 14:15 Received: 09/08/16 04:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.239 ± 0.365 (0.587) C:NA T:89% | pCi/L | 09/23/16 19:46 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.762 ± 0.367 (0.606) C:77% T:81% | pCi/L | 09/21/16 16:13 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-BMW-2 **Lab ID: 60227172003** Collected: 09/07/16 13:10 Received: 09/08/16 04:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0776 ± 0.402 (0.835) C:NA T:92% | pCi/L | 09/23/16 19:46 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.38 ± 0.687 (1.18) C:74% T:50% | pCi/L | 09/21/16 16:13 | 15262-20-1 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-1 **Lab ID: 60227172004** Collected: 09/08/16 09:18 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.245 ± 0.341 (0.570) C:NA T:82% | pCi/L | 09/28/16 12:50 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.861 ± 0.483 (0.879) C:71% T:80% | pCi/L | 09/27/16 02:46 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-2 **Lab ID: 60227172005** Collected: 09/08/16 08:45 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.183 ± 0.359 (0.656) C:NA T:81% | pCi/L | 09/28/16 12:51 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.26 ± 0.535 (0.836) C:67% T:78% | pCi/L | 09/26/16 22:07 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-3 **Lab ID: 60227172006** Collected: 09/08/16 10:30 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.230 ± 0.320 (0.535) C:NA T:85% | pCi/L | 09/28/16 19:13 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.19 ± 0.516 (0.863) C:69% T:82% | pCi/L | 09/27/16 02:27 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-4 **Lab ID: 60227172007** Collected: 09/08/16 12:40 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.177 ± 0.307 (0.549) C:NA T:85% | pCi/L | 09/28/16 19:32 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.815 ± 0.455 (0.823) C:71% T:77% | pCi/L | 09/27/16 02:27 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-5 **Lab ID: 60227172008** Collected: 09/08/16 12:30 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.835 ± 0.448 (0.162) C:NA T:83% | pCi/L | 09/28/16 19:15 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.14 ± 0.484 (0.787) C:68% T:80% | pCi/L | 09/27/16 02:28 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-6 **Lab ID: 60227172009** Collected: 09/08/16 11:38 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.315 ± 0.373 (0.586) C:NA T:80% | pCi/L | 09/28/16 19:14 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.906 ± 0.482 (0.856) C:75% T:79% | pCi/L | 09/27/16 02:50 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-8 **Lab ID: 60227172010** Collected: 09/08/16 10:45 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.775 ± 0.539 (0.726) C:NA T:86% | pCi/L | 09/28/16 19:13 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.450 ± 0.453 (0.913) C:69% T:79% | pCi/L | 09/27/16 02:50 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-DUP-1 **Lab ID: 60227172011** Collected: 09/08/16 08:00 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.000 ± 0.373 (0.788) C:NA T:82% | pCi/L | 09/28/16 19:15 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.449 ± 0.432 (0.865) C:70% T:79% | pCi/L | 09/27/16 02:50 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-FB-1 **Lab ID: 60227172012** Collected: 09/08/16 10:00 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0598 ± 0.273 (0.440) C:NA T:84% | pCi/L | 09/28/16 19:55 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.0246 ± 0.483 (1.07) C:64% T:73% | pCi/L | 09/27/16 02:50 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

Sample: M-MW-2 MS **Lab ID: 60227172013** Collected: 09/08/16 08:45 Received: 09/10/16 03:30 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 78.5 %REC ± NA (NA) C:NA T:NA | pCi/L | 09/28/16 19:55 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 11.3 ± 2.30 (0.977) C:68% T:75% | pCi/L | 09/26/16 22:07 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 79.3 %REC 0.92 RPD ± NA (NA) C:NA T:NA | pCi/L | 09/28/16 20:14 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 10.7 ± 4.00 (5.78) C:71% T:11% | pCi/L | 09/26/16 22:07 | 15262-20-1 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| | | | |
|-------------------------|---|-----------------------|------------------|
| QC Batch: | 233283 | Analysis Method: | EPA 903.1 |
| QC Batch Method: | EPA 903.1 | Analysis Description: | 903.1 Radium-226 |
| Associated Lab Samples: | 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012, 60227172013, 60227172014 | | |

| | | | |
|-------------------------|---|---------|-------|
| METHOD BLANK: | 1143382 | Matrix: | Water |
| Associated Lab Samples: | 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012, 60227172013, 60227172014 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|----------------------------------|-------|----------------|------------|
| Radium-226 | 0.241 ± 0.335 (0.559) C:NA T:89% | pCi/L | 09/28/16 12:09 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| | | | |
|-------------------------|---------------------------------------|-----------------------|------------------|
| QC Batch: | 233218 | Analysis Method: | EPA 903.1 |
| QC Batch Method: | EPA 903.1 | Analysis Description: | 903.1 Radium-226 |
| Associated Lab Samples: | 60227172001, 60227172002, 60227172003 | | |

| | | | |
|-------------------------|---------------------------------------|---------|-------|
| METHOD BLANK: | 1143055 | Matrix: | Water |
| Associated Lab Samples: | 60227172001, 60227172002, 60227172003 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-226 | 0.0833 ± 0.380 (0.613) C:NA T:88% | pCi/L | 09/23/16 19:02 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| | | | |
|-------------------------|---|-----------------------|------------------|
| QC Batch: | 233299 | Analysis Method: | EPA 904.0 |
| QC Batch Method: | EPA 904.0 | Analysis Description: | 904.0 Radium 228 |
| Associated Lab Samples: | 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012, 60227172013, 60227172014 | | |

| | | | |
|-------------------------|---|---------|-------|
| METHOD BLANK: | 1143404 | Matrix: | Water |
| Associated Lab Samples: | 60227172004, 60227172005, 60227172006, 60227172007, 60227172008, 60227172009, 60227172010, 60227172011, 60227172012, 60227172013, 60227172014 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.279 ± 0.292 (0.600) C:82% T:85% | pCi/L | 09/26/16 22:06 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

QC Batch: 233225 Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228

Associated Lab Samples: 60227172001, 60227172002, 60227172003

METHOD BLANK: 1143062 Matrix: Water

Associated Lab Samples: 60227172001, 60227172002, 60227172003

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.775 ± 0.420 (0.762) C:82% T:80% | pCi/L | 09/21/16 16:11 | |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60227172001 | M-MW-7 | EPA 200.7 | 445742 | EPA 200.7 | 445771 |
| 60227172002 | M-BMW-1 | EPA 200.7 | 445742 | EPA 200.7 | 445771 |
| 60227172003 | M-BMW-2 | EPA 200.7 | 445742 | EPA 200.7 | 445771 |
| 60227172004 | M-MW-1 | EPA 200.7 | 446273 | EPA 200.7 | 446311 |
| 60227172005 | M-MW-2 | EPA 200.7 | 446273 | EPA 200.7 | 446311 |
| 60227172006 | M-MW-3 | EPA 200.7 | 446273 | EPA 200.7 | 446311 |
| 60227172007 | M-MW-4 | EPA 200.7 | 446273 | EPA 200.7 | 446311 |
| 60227172008 | M-MW-5 | EPA 200.7 | 446273 | EPA 200.7 | 446311 |
| 60227172009 | M-MW-6 | EPA 200.7 | 446273 | EPA 200.7 | 446311 |
| 60227172010 | M-MW-8 | EPA 200.7 | 446273 | EPA 200.7 | 446311 |
| 60227172011 | M-DUP-1 | EPA 200.7 | 446273 | EPA 200.7 | 446311 |
| 60227172012 | M-FB-1 | EPA 200.7 | 446273 | EPA 200.7 | 446311 |
| 60227172001 | M-MW-7 | EPA 200.8 | 445743 | EPA 200.8 | 445773 |
| 60227172002 | M-BMW-1 | EPA 200.8 | 445743 | EPA 200.8 | 445773 |
| 60227172003 | M-BMW-2 | EPA 200.8 | 445743 | EPA 200.8 | 445773 |
| 60227172004 | M-MW-1 | EPA 200.8 | 446276 | EPA 200.8 | 446312 |
| 60227172005 | M-MW-2 | EPA 200.8 | 446276 | EPA 200.8 | 446312 |
| 60227172006 | M-MW-3 | EPA 200.8 | 446276 | EPA 200.8 | 446312 |
| 60227172007 | M-MW-4 | EPA 200.8 | 446276 | EPA 200.8 | 446312 |
| 60227172008 | M-MW-5 | EPA 200.8 | 446276 | EPA 200.8 | 446312 |
| 60227172009 | M-MW-6 | EPA 200.8 | 446276 | EPA 200.8 | 446312 |
| 60227172010 | M-MW-8 | EPA 200.8 | 446276 | EPA 200.8 | 446312 |
| 60227172011 | M-DUP-1 | EPA 200.8 | 446276 | EPA 200.8 | 446312 |
| 60227172012 | M-FB-1 | EPA 200.8 | 446276 | EPA 200.8 | 446312 |
| 60227172001 | M-MW-7 | EPA 7470 | 445886 | EPA 7470 | 445897 |
| 60227172002 | M-BMW-1 | EPA 7470 | 445886 | EPA 7470 | 445897 |
| 60227172003 | M-BMW-2 | EPA 7470 | 445886 | EPA 7470 | 445897 |
| 60227172004 | M-MW-1 | EPA 7470 | 446246 | EPA 7470 | 446282 |
| 60227172005 | M-MW-2 | EPA 7470 | 446246 | EPA 7470 | 446282 |
| 60227172006 | M-MW-3 | EPA 7470 | 446246 | EPA 7470 | 446282 |
| 60227172007 | M-MW-4 | EPA 7470 | 446246 | EPA 7470 | 446282 |
| 60227172008 | M-MW-5 | EPA 7470 | 446246 | EPA 7470 | 446282 |
| 60227172009 | M-MW-6 | EPA 7470 | 446246 | EPA 7470 | 446282 |
| 60227172010 | M-MW-8 | EPA 7470 | 446246 | EPA 7470 | 446282 |
| 60227172011 | M-DUP-1 | EPA 7470 | 446246 | EPA 7470 | 446282 |
| 60227172012 | M-FB-1 | EPA 7470 | 446246 | EPA 7470 | 446282 |
| 60227172001 | M-MW-7 | EPA 903.1 | 233218 | | |
| 60227172002 | M-BMW-1 | EPA 903.1 | 233218 | | |
| 60227172003 | M-BMW-2 | EPA 903.1 | 233218 | | |
| 60227172004 | M-MW-1 | EPA 903.1 | 233283 | | |
| 60227172005 | M-MW-2 | EPA 903.1 | 233283 | | |
| 60227172006 | M-MW-3 | EPA 903.1 | 233283 | | |
| 60227172007 | M-MW-4 | EPA 903.1 | 233283 | | |
| 60227172008 | M-MW-5 | EPA 903.1 | 233283 | | |
| 60227172009 | M-MW-6 | EPA 903.1 | 233283 | | |

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|----------|-------------------|------------------|
| 60227172010 | M-MW-8 | EPA 903.1 | 233283 | | |
| 60227172011 | M-DUP-1 | EPA 903.1 | 233283 | | |
| 60227172012 | M-FB-1 | EPA 903.1 | 233283 | | |
| 60227172013 | M-MW-2 MS | EPA 903.1 | 233283 | | |
| 60227172014 | M-MW-2 MSD | EPA 903.1 | 233283 | | |
| 60227172001 | M-MW-7 | EPA 904.0 | 233225 | | |
| 60227172002 | M-BMW-1 | EPA 904.0 | 233225 | | |
| 60227172003 | M-BMW-2 | EPA 904.0 | 233225 | | |
| 60227172004 | M-MW-1 | EPA 904.0 | 233299 | | |
| 60227172005 | M-MW-2 | EPA 904.0 | 233299 | | |
| 60227172006 | M-MW-3 | EPA 904.0 | 233299 | | |
| 60227172007 | M-MW-4 | EPA 904.0 | 233299 | | |
| 60227172008 | M-MW-5 | EPA 904.0 | 233299 | | |
| 60227172009 | M-MW-6 | EPA 904.0 | 233299 | | |
| 60227172010 | M-MW-8 | EPA 904.0 | 233299 | | |
| 60227172011 | M-DUP-1 | EPA 904.0 | 233299 | | |
| 60227172012 | M-FB-1 | EPA 904.0 | 233299 | | |
| 60227172013 | M-MW-2 MS | EPA 904.0 | 233299 | | |
| 60227172014 | M-MW-2 MSD | EPA 904.0 | 233299 | | |
| 60227172001 | M-MW-7 | SM 2540C | 446024 | | |
| 60227172002 | M-BMW-1 | SM 2540C | 446024 | | |
| 60227172003 | M-BMW-2 | SM 2540C | 446024 | | |
| 60227172004 | M-MW-1 | SM 2540C | 446523 | | |
| 60227172005 | M-MW-2 | SM 2540C | 446523 | | |
| 60227172006 | M-MW-3 | SM 2540C | 446523 | | |
| 60227172007 | M-MW-4 | SM 2540C | 446523 | | |
| 60227172008 | M-MW-5 | SM 2540C | 446526 | | |
| 60227172009 | M-MW-6 | SM 2540C | 446526 | | |
| 60227172010 | M-MW-8 | SM 2540C | 446526 | | |
| 60227172011 | M-DUP-1 | SM 2540C | 446526 | | |
| 60227172012 | M-FB-1 | SM 2540C | 446526 | | |
| 60227172001 | M-MW-7 | SM 4500-H+B | 446082 | | |
| 60227172002 | M-BMW-1 | SM 4500-H+B | 446082 | | |
| 60227172003 | M-BMW-2 | SM 4500-H+B | 446082 | | |
| 60227172004 | M-MW-1 | SM 4500-H+B | 446089 | | |
| 60227172005 | M-MW-2 | SM 4500-H+B | 446089 | | |
| 60227172006 | M-MW-3 | SM 4500-H+B | 446089 | | |
| 60227172007 | M-MW-4 | SM 4500-H+B | 446274 | | |
| 60227172008 | M-MW-5 | SM 4500-H+B | 446274 | | |
| 60227172009 | M-MW-6 | SM 4500-H+B | 446274 | | |
| 60227172010 | M-MW-8 | SM 4500-H+B | 446089 | | |
| 60227172011 | M-DUP-1 | SM 4500-H+B | 446089 | | |
| 60227172012 | M-FB-1 | SM 4500-H+B | 446089 | | |
| 60227172001 | M-MW-7 | EPA 300.0 | 447440 | | |

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Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60227172

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60227172001 | M-MW-7 | EPA 300.0 | 447719 | | |
| 60227172002 | M-BMW-1 | EPA 300.0 | 447440 | | |
| 60227172002 | M-BMW-1 | EPA 300.0 | 447719 | | |
| 60227172003 | M-BMW-2 | EPA 300.0 | 447719 | | |
| 60227172004 | M-MW-1 | EPA 300.0 | 448783 | | |
| 60227172004 | M-MW-1 | EPA 300.0 | 448790 | | |
| 60227172005 | M-MW-2 | EPA 300.0 | 448783 | | |
| 60227172005 | M-MW-2 | EPA 300.0 | 448790 | | |
| 60227172006 | M-MW-3 | EPA 300.0 | 448783 | | |
| 60227172006 | M-MW-3 | EPA 300.0 | 448790 | | |
| 60227172007 | M-MW-4 | EPA 300.0 | 448783 | | |
| 60227172007 | M-MW-4 | EPA 300.0 | 448790 | | |
| 60227172008 | M-MW-5 | EPA 300.0 | 448783 | | |
| 60227172008 | M-MW-5 | EPA 300.0 | 448790 | | |
| 60227172009 | M-MW-6 | EPA 300.0 | 448783 | | |
| 60227172009 | M-MW-6 | EPA 300.0 | 448790 | | |
| 60227172010 | M-MW-8 | EPA 300.0 | 448783 | | |
| 60227172010 | M-MW-8 | EPA 300.0 | 448790 | | |
| 60227172011 | M-DUP-1 | EPA 300.0 | 448783 | | |
| 60227172011 | M-DUP-1 | EPA 300.0 | 448790 | | |
| 60227172012 | M-FB-1 | EPA 300.0 | 448783 | | |

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60227172
Barcode
60227172

Client Name: Golder

Courier: FedEx UPS VIA Clay PEX ECI Pace Xroads Client Other

Tracking #: Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-266 / T-239 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1.0/22.8 Corr. Factor CF +1.1 CF -0.1 Corrected 2.1/23.9

Date and initials of person examining contents: 8/16

Temperature should be above freezing to 6°C

Table with 2 columns: Question/Field and Yes/No/N/A checkboxes. Rows include Chain of Custody, Samples arrived, Short Hold Time, Rush Turn Around Time, Sufficient volume, Correct containers used, Pace containers used, Containers intact, Unpreserved soils, Filtered volume, Sample labels match, Samples contain multiple phases, Containers requiring pH preservation, Cyanide water sample checks, Lead acetate strip, Potassium iodide test strip, Trip Blank present, Headspace in VOA vials, Samples from USDA Regulated Area, Additional labels attached.

Client Notification/ Resolution: Copy COC to Client? Y N Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Jamie Church 9/8/16

Project Manager Review: Date:



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: _____ of _____

Section A
Required Client Information:
 Company: Golder Associates
 Address: 820 South Main Street, Suite 100
 St Charles, MO 63301
 Email To: maddock@golder.com
 Phone: 636-724-9191 Fax: 636-724-9323
 Requested Due Date/TAT: Standard

Section B
Required Project Information:
 Report To: Mark Haddock (maddock@golder.com)
 Copy To: Jeffrey Ingram
 Purchase Order No.:
 Project Name: Ameren Meramec Energy Center
 Project Number: 153-1406.0004A

Section C
Invoice Information:
 Attention:
 Company Name:
 Address:
 Pace Quote Reference:
 Pace Project Manager: Jamie Church
 Pace Profile #: 9285
 Site Location MO
 STATE: MO

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

| ITEM # | Section D Required Client Information | Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOLID S OIL OL VAPOR VP AIR AR DUST DS | COLLECTED | | SAMPLE TYPE (G=GRAB C=COMP) | MATRIX CODE (see valid codes to left) | # OF CONTAINERS | Preservatives H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other | Requested Analysis Filtered (Y/N) | Pace Project No./ Lab I.D. |
|--------|--|---|------------------------------|---------------------------------|-----------------------------|---------------------------------------|-----------------|--|-----------------------------------|----------------------------|
| | | | COMPOSITE START DATE TIME | COMPOSITE END/GRAB DATE TIME | | | | | | |
| 1 | M-MW-1 | | | | WT G | | | | | |
| 2 | M-MW-2 | | | | WT G | | | | | |
| 3 | M-MW-3 | | | | WT G | | | | | |
| 4 | M-MW-4 | | | | WT G | | | | | |
| 5 | M-MW-5 | | | | WT G | | | | | |
| 6 | M-MW-6 | | | | WT G | | | | | |
| 7 | M-MW-7 | | | | WT G | | | | | |
| 8 | M-MW-8 | | | | WT G | | | | | |
| 9 | M-BMW-1 | | | 9/17/16 1405 | WT G | | 4 | | | 18434 18434-0 2B P12 W1 |
| 10 | M-BMW-2 | | | 9/17/16 1415 | WT G | | 4 | | | |
| 11 | M-DUP-1 | | | 1310 | WT G | | 4 | | | |
| 12 | M-FB-1 | | | | WT G | | | | | |

ADDITIONAL COMMENTS
 EPA 200.7: Ba, Be, B, Ca, Co, Pb, Li, Mo + EPA 7470A Hg
 EPA 200.8: Sb, As, Cd, Cr, Se, Tl

RELINQUISHED BY / AFFILIATION
 Mark Haddock Golder 9/17/16 1405
 Jeffrey Ingram 9/17/16 1415
 Jeffrey Ingram 9/17/16 1310

ACCEPTED BY / AFFILIATION
 Jeffrey Ingram 9/17/16 1830
 Jeffrey Ingram 9/18/16 0435
 Jeffrey Ingram 9/18/16 2229

SAMPLE CONDITIONS
 Received on Ice (Y/N) X
 Custody Sealed (Y/N) X
 Samples Intact (Y/N) X

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Jeff Ingram
 SIGNATURE OF SAMPLER: [Signature]
 DATE Signed (MM/DD/YYYY): 09/17/2016



Sample Condition Upon Receipt

WO#: 60227172



2082

Client Name: Solder

Courier: FedEx UPS VIA Clay PEX ECI Pace Xroads Client Other

Tracking #: _____ Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-266 / T-239

Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 2.9 / 12.6 / 14.8 Corr. Factor CF+1.1 / CF-0.1 Corrected 4.0 / 13.7 / 15.9

Date and initials of person examining contents: BB 9/10/16

Temperature should be above freezing to 6°C

Chain of Custody present: Yes No N/A

Chain of Custody relinquished: Yes No N/A

Samples arrived within holding time: Yes No N/A

Short Hold Time analyses (<72hr): Yes No N/A

Rush Turn Around Time requested: Yes No N/A

Sufficient volume: Yes No N/A

Correct containers used: Yes No N/A

Pace containers used: _____ Jami Church

Containers intact: _____

Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs? Yes No N/A

Filtered volume received for dissolved tests? Yes No N/A

Sample labels match COC: Date / time / ID / analyses Yes No N/A

Samples contain multiple phases? Matrix: W Yes No N/A

Containers requiring pH preservation in compliance? Yes No N/A

(HNO₃, H₂SO₄, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide)
(Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)

Cyanide water sample checks: N/A

Lead acetate strip turns dark? (Record only) Yes No

Potassium iodide test strip turns blue/purple? (Preserve) Yes No

Trip Blank present: Yes No N/A

Headspace in VOA vials (>6mm): Yes No N/A

Samples from USDA Regulated Area: State: _____ Yes No N/A

Additional labels attached to 5035A / TX1005 vials in the field? Yes No N/A

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

_____ Jami Church _____ 9/12/16

Project Manager Review: _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

| | | | | | |
|--|--|---|----------------|--|----------------|
| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
| Company: Golder Associates | Report To: Mark Haddock (mhaddock@golder.com) | Company Name: _____ | Address: _____ | Company Name: _____ | Address: _____ |
| Address: 820 South Main Street, Suite 100 | Copy To: Jeffrey Ingram | Company Name: _____ | Address: _____ | Company Name: _____ | Address: _____ |
| St Charles, MO 63301 | Purchase Order No.: _____ | Company Name: _____ | Address: _____ | Company Name: _____ | Address: _____ |
| Email To: mhaddock@golder.com | Project Name: Ameren Meramec Energy Center | Company Name: _____ | Address: _____ | Company Name: _____ | Address: _____ |
| Phone: 636-724-9191 | Project Number: 153-1406.0004A | Company Name: _____ | Address: _____ | Company Name: _____ | Address: _____ |
| Fax: 636-724-9323 | Project Profile #: 9285 | Company Name: _____ | Address: _____ | Company Name: _____ | Address: _____ |
| Requested Due Date/TAT: Standard | Project Profile #: 9285 | Company Name: _____ | Address: _____ | Company Name: _____ | Address: _____ |

| ITEM # | Section D Required Client Information | Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOILSOLID SL OIL OL WP WP AR AR OT OT TS TS | COLLECTED | | SAMPLE TYPE (G=GRAB C=COMP) | MATRIX CODE (see valid codes to left) | # OF CONTAINERS | PRESERVATIVES | | Requested Analysis Filtered (Y/N) | Residual Chlorine (Y/N) | Pace Project No. / Lab I.D. |
|--------|--|---|-----------------|--------------------|-----------------------------|---------------------------------------|-----------------|---------------|------|-----------------------------------|-------------------------|-----------------------------|
| | | | COMPOSITE START | COMPOSITE END/GRAB | | | | DATE | TIME | | | |
| 1 | M-MW-1 | | 9/18/14 | 9/18/14 | G | WT | 4 | 1 | 3 | | | 2002712 |
| 2 | M-MW-2 | | | 0845 | | WT | 12 | 3 | 4 | | | BPIN BP3W BP3V 04 |
| 3 | M-MW-3 | | | 1030 | | WT | 4 | 1 | 3 | | | BPIN BP3W BP3V 05 |
| 4 | M-MW-4 | | | 1240 | | WT | 4 | 1 | 3 | | | BPIN BP3W BP3V 06 |
| 5 | M-MW-5 | | | 1230 | | WT | 4 | 1 | 3 | | | |
| 6 | M-MW-6 | | | 1130 | | WT | 4 | 1 | 3 | | | |
| 7 | M-MW-7 | | | | | WT | | | | | | |
| 8 | M-MW-8 | | 9/18/14 | 1045 | | WT | 4 | 1 | 3 | | | 010 |
| 9 | M-BMW-1 | | | | | WT | | | | | | |
| 10 | M-BMW-2 | | | | | WT | | | | | | |
| 11 | M-DUP-1 | | 9/18/14 | | | WT | 4 | 1 | 3 | | | 011 |
| 12 | M-FB-1 | | | 1000 | | WT | 4 | 1 | 3 | | | 012 |

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|-------------------------------|---------|------|---------------------------|---------|------|-------------------|
| Jeff Ingram (golder) | 9/18/14 | 1415 | Jeff Ingram | 9/18/14 | 0330 | 4.0 Y 4 Y 4 Y 4 Y |
| | | | | | | 137 N 4 Y 4 Y |
| | | | | | | 159 N 4 Y 4 Y |

| | | | |
|------------|-----------------------|--------------|----------------------|
| Temp in °C | Received on Ice (Y/N) | Cooler (Y/N) | Samples Intact (Y/N) |
| | | | |

| | |
|---|--|
| SAMPLER NAME AND SIGNATURE | |
| PRINT Name of SAMPLER: Jeff Ingram | DATE Signed (MM/DD/YY): 9/18/14 |
| SIGNATURE of SAMPLER: <i>[Signature]</i> | |

December 14, 2016

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60232174

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between November 11, 2016 and November 12, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 15-016-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

Kansas Field Laboratory Accreditation: # E-92587

Missouri Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|------------|--------|----------------|----------------|
| 60232174001 | M-MW-1 | Water | 11/10/16 11:54 | 11/12/16 03:35 |
| 60232174002 | M-MW-2 | Water | 11/10/16 13:18 | 11/12/16 03:35 |
| 60232174003 | M-MW-3 | Water | 11/10/16 14:11 | 11/12/16 03:35 |
| 60232174004 | M-MW-4 | Water | 11/10/16 15:20 | 11/12/16 03:35 |
| 60232174005 | M-MW-5 | Water | 11/10/16 16:00 | 11/12/16 03:35 |
| 60232174006 | M-MW-6 | Water | 11/10/16 15:30 | 11/12/16 03:35 |
| 60232174007 | M-MW-7 | Water | 11/10/16 14:55 | 11/12/16 03:35 |
| 60232174008 | M-MW-8 | Water | 11/10/16 14:17 | 11/12/16 03:35 |
| 60232174009 | M-BMW-1 | Water | 11/10/16 13:15 | 11/12/16 03:35 |
| 60232174010 | M-BMW-2 | Water | 11/10/16 10:38 | 11/12/16 03:35 |
| 60232174011 | M-DUP-1 | Water | 11/10/16 08:00 | 11/12/16 03:35 |
| 60232174012 | M-FB-1 | Water | 11/10/16 13:20 | 11/12/16 03:35 |
| 60232174013 | M-MW-3 MS | Water | 11/10/16 14:11 | 11/11/16 03:35 |
| 60232174014 | M-MW-3 MSD | Water | 11/10/16 14:11 | 11/11/16 03:35 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60232174001 | M-MW-1 | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| 60232174002 | M-MW-2 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| 60232174003 | M-MW-3 | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60232174004 | M-MW-4 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| 60232174005 | M-MW-5 | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | SM 4500-H+B | JMC1 | 1 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| EPA 7470 | ZBM | 1 | PASI-K | | |
| EPA 903.1 | ACM | 1 | PASI-PA | | |
| EPA 904.0 | JLW | 1 | PASI-PA | | |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60232174006 | M-MW-6 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | JMC1 | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60232174007 | M-MW-7 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | JMC1 | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60232174008 | M-MW-8 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | JMC1 | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60232174009 | M-BMW-1 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | JMC1 | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60232174010 | M-BMW-2 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|--------------------|-------------------|-------------|----------|-------------------|------------|
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60232174011 | M-DUP-1 | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60232174012 | M-FB-1 | EPA 200.7 | NDJ | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | ZBM | 1 | PASI-K |
| | | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | AGO | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60232174013 | M-MW-3 MS | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60232174014 | M-MW-3 MSD | EPA 903.1 | ACM | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-1 **Lab ID: 60232174001** Collected: 11/10/16 11:54 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 364 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:26 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:26 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:26 | 7440-42-8 | |
| Calcium | 131000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:26 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:26 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:26 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:26 | 7439-93-2 | |
| Molybdenum | 0.62J | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:26 | 7439-98-7 | B |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 13:32 | 7440-36-0 | |
| Arsenic | 0.46J | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 13:32 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 13:32 | 7440-43-9 | |
| Chromium | 0.77J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 13:32 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 13:32 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 13:32 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 12:37 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 609 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:46 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.1 | Std. Units | 0.10 | 0.10 | 1 | | 11/22/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 42.2 | mg/L | 10.0 | 5.0 | 10 | | 12/04/16 16:56 | 16887-00-6 | |
| Fluoride | 0.24 | mg/L | 0.20 | 0.027 | 1 | | 12/03/16 21:10 | 16984-48-8 | |
| Sulfate | 99.1 | mg/L | 10.0 | 1.5 | 10 | | 12/04/16 16:56 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-2 **Lab ID: 60232174002** Collected: 11/10/16 13:18 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 491 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:28 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:28 | 7440-41-7 | |
| Boron | 3800 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:28 | 7440-42-8 | |
| Calcium | 130000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:28 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:28 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:28 | 7439-92-1 | |
| Lithium | 6.0J | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:28 | 7439-93-2 | |
| Molybdenum | 0.81J | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:28 | 7439-98-7 | B |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 13:36 | 7440-36-0 | |
| Arsenic | 1.3 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 13:36 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 13:36 | 7440-43-9 | |
| Chromium | 0.70J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 13:36 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 13:36 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 13:36 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 12:39 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 756 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:47 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.6 | Std. Units | 0.10 | 0.10 | 1 | | 11/22/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 23.5 | mg/L | 2.0 | 1.0 | 2 | | 12/04/16 17:44 | 16887-00-6 | |
| Fluoride | 0.11J | mg/L | 0.20 | 0.027 | 1 | | 12/03/16 22:19 | 16984-48-8 | |
| Sulfate | 290 | mg/L | 20.0 | 3.1 | 20 | | 12/04/16 17:59 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-3 **Lab ID: 60232174003** Collected: 11/10/16 14:11 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 244 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:30 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:30 | 7440-41-7 | |
| Boron | 8410 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:30 | 7440-42-8 | |
| Calcium | 161000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:30 | 7440-70-2 | |
| Cobalt | 1.5J | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:30 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:30 | 7439-92-1 | |
| Lithium | 5.6J | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:30 | 7439-93-2 | |
| Molybdenum | 6.4J | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:30 | 7439-98-7 | B |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 13:40 | 7440-36-0 | |
| Arsenic | 7.8 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 13:40 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 13:40 | 7440-43-9 | |
| Chromium | 0.52J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 13:40 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 13:40 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 13:40 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 12:41 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 854 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:48 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 11/22/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 23.9 | mg/L | 2.0 | 1.0 | 2 | | 12/04/16 18:15 | 16887-00-6 | |
| Fluoride | 0.091J | mg/L | 0.20 | 0.027 | 1 | | 12/03/16 22:33 | 16984-48-8 | |
| Sulfate | 348 | mg/L | 50.0 | 7.7 | 50 | | 12/04/16 19:19 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-4 **Lab ID: 60232174004** Collected: 11/10/16 15:20 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 213 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:37 | 7440-39-3 | |
| Beryllium | 0.56J | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:37 | 7440-41-7 | B |
| Boron | 8580 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:37 | 7440-42-8 | M1 |
| Calcium | 174000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:37 | 7440-70-2 | M1 |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:37 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:37 | 7439-92-1 | |
| Lithium | 26.3 | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:37 | 7439-93-2 | |
| Molybdenum | 54.4 | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:37 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 14:02 | 7440-36-0 | |
| Arsenic | 14.5 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 14:02 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 14:02 | 7440-43-9 | |
| Chromium | 0.56J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 14:02 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 14:02 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 14:02 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 12:52 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 908 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:50 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 11/19/16 08:50 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 36.3 | mg/L | 5.0 | 2.5 | 5 | | 12/04/16 19:51 | 16887-00-6 | |
| Fluoride | 0.16J | mg/L | 0.20 | 0.027 | 1 | | 12/03/16 23:01 | 16984-48-8 | |
| Sulfate | 402 | mg/L | 50.0 | 7.7 | 50 | | 12/04/16 20:07 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-5 **Lab ID: 60232174005** Collected: 11/10/16 16:00 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 305 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:41 | 7440-39-3 | |
| Beryllium | 0.59J | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:41 | 7440-41-7 | B |
| Boron | 7970 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:41 | 7440-42-8 | |
| Calcium | 184000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:41 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:41 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:41 | 7439-92-1 | |
| Lithium | 25.3 | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:41 | 7439-93-2 | |
| Molybdenum | 90.4 | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:41 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 14:06 | 7440-36-0 | |
| Arsenic | 19.9 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 14:06 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 14:06 | 7440-43-9 | |
| Chromium | 0.37J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 14:06 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 14:06 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 14:06 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 12:54 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1010 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:50 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.0 | Std. Units | 0.10 | 0.10 | 1 | | 11/19/16 08:52 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 38.7 | mg/L | 5.0 | 2.5 | 5 | | 12/04/16 20:23 | 16887-00-6 | |
| Fluoride | 0.25 | mg/L | 0.20 | 0.027 | 1 | | 12/03/16 23:15 | 16984-48-8 | |
| Sulfate | 438 | mg/L | 50.0 | 7.7 | 50 | | 12/04/16 20:39 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-6 **Lab ID: 60232174006** Collected: 11/10/16 15:30 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 66.8 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:48 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:48 | 7440-41-7 | |
| Boron | 13800 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:48 | 7440-42-8 | |
| Calcium | 331000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:48 | 7440-70-2 | |
| Cobalt | 6.1 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:48 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:48 | 7439-92-1 | |
| Lithium | 130 | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:48 | 7439-93-2 | |
| Molybdenum | 135 | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:48 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.066J | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/29/16 09:56 | 7440-36-0 | |
| Arsenic | 3.0 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/29/16 09:56 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/29/16 09:56 | 7440-43-9 | |
| Chromium | 0.54J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/29/16 09:56 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/29/16 09:56 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/29/16 09:56 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 12:57 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1290 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:51 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 11/19/16 08:53 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 18.1 | mg/L | 2.0 | 1.0 | 2 | | 12/04/16 20:54 | 16887-00-6 | |
| Fluoride | 0.38 | mg/L | 0.20 | 0.027 | 1 | | 12/03/16 23:29 | 16984-48-8 | |
| Sulfate | 610 | mg/L | 50.0 | 7.7 | 50 | | 12/04/16 21:10 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-7 **Lab ID: 60232174007** Collected: 11/10/16 14:55 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|-----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 43.3 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:50 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:50 | 7440-41-7 | |
| Boron | 21400 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:50 | 7440-42-8 | |
| Calcium | 383000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:50 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:50 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:50 | 7439-92-1 | |
| Lithium | 58.3 | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:50 | 7439-93-2 | |
| Molybdenum | 331 | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:50 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.39J | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/29/16 10:00 | 7440-36-0 | |
| Arsenic | 2.4 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/29/16 10:00 | 7440-38-2 | |
| Cadmium | 0.22J | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/29/16 10:00 | 7440-43-9 | |
| Chromium | 0.57J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/29/16 10:00 | 7440-47-3 | |
| Selenium | 12.9 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/29/16 10:00 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/29/16 10:00 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 12:59 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1690 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:52 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.1 | Std. Units | 0.10 | 0.10 | 1 | | 11/19/16 08:55 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 81.6 | mg/L | 10.0 | 5.0 | 10 | | 12/04/16 21:26 | 16887-00-6 | |
| Fluoride | 0.60 | mg/L | 0.20 | 0.027 | 1 | | 12/03/16 23:43 | 16984-48-8 | |
| Sulfate | 756 | mg/L | 100 | 15.4 | 100 | | 12/04/16 22:14 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-8 **Lab ID: 60232174008** Collected: 11/10/16 14:17 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 211 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:52 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:52 | 7440-41-7 | |
| Boron | 8890 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:52 | 7440-42-8 | |
| Calcium | 171000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:52 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:52 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:52 | 7439-92-1 | |
| Lithium | 30.8 | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:52 | 7439-93-2 | |
| Molybdenum | 212 | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:52 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 14:15 | 7440-36-0 | |
| Arsenic | 5.9 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 14:15 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 14:15 | 7440-43-9 | |
| Chromium | 0.67J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 14:15 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 14:15 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 14:15 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 13:01 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 881 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:53 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.1 | Std. Units | 0.10 | 0.10 | 1 | | 11/19/16 08:56 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 24.0 | mg/L | 2.0 | 1.0 | 2 | | 12/04/16 22:30 | 16887-00-6 | |
| Fluoride | 0.21 | mg/L | 0.20 | 0.027 | 1 | | 12/03/16 23:57 | 16984-48-8 | |
| Sulfate | 478 | mg/L | 50.0 | 7.7 | 50 | | 12/04/16 22:46 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: **M-BMW-1** Lab ID: **60232174009** Collected: 11/10/16 13:15 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 230 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:55 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:55 | 7440-41-7 | |
| Boron | 172 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:55 | 7440-42-8 | |
| Calcium | 109000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:55 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:55 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:55 | 7439-92-1 | |
| Lithium | 14.2 | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:55 | 7439-93-2 | |
| Molybdenum | 6.5J | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:55 | 7439-98-7 | B |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.64J | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 14:19 | 7440-36-0 | |
| Arsenic | 1.1 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 14:19 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 14:19 | 7440-43-9 | |
| Chromium | 0.46J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 14:19 | 7440-47-3 | |
| Selenium | 0.29J | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 14:19 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 14:19 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 13:03 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 751 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:53 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.4 | Std. Units | 0.10 | 0.10 | 1 | | 11/22/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 205 | mg/L | 20.0 | 10.0 | 20 | | 12/04/16 23:18 | 16887-00-6 | |
| Fluoride | 0.44 | mg/L | 0.20 | 0.027 | 1 | | 12/04/16 00:11 | 16984-48-8 | |
| Sulfate | 58.0 | mg/L | 5.0 | 0.77 | 5 | | 12/04/16 23:02 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-BMW-2 **Lab ID: 60232174010** Collected: 11/10/16 10:38 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 528 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:57 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:57 | 7440-41-7 | |
| Boron | 89.1J | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:57 | 7440-42-8 | |
| Calcium | 101000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:57 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:57 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:57 | 7439-92-1 | |
| Lithium | 6.9J | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:57 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:57 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 14:23 | 7440-36-0 | |
| Arsenic | 1.6 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 14:23 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 14:23 | 7440-43-9 | |
| Chromium | 0.66J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 14:23 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 14:23 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 14:23 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 13:06 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 439 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:54 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.1 | Std. Units | 0.10 | 0.10 | 1 | | 11/22/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 12.3 | mg/L | 1.0 | 0.50 | 1 | | 12/04/16 00:25 | 16887-00-6 | |
| Fluoride | 0.28 | mg/L | 0.20 | 0.027 | 1 | | 12/04/16 00:25 | 16984-48-8 | |
| Sulfate | 18.7 | mg/L | 1.0 | 0.15 | 1 | | 12/04/16 00:25 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-DUP-1 **Lab ID: 60232174011** Collected: 11/10/16 08:00 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 306 | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 17:59 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 17:59 | 7440-41-7 | |
| Boron | 8050 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 17:59 | 7440-42-8 | |
| Calcium | 187000 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 17:59 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 17:59 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 17:59 | 7439-92-1 | |
| Lithium | 24.6 | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 17:59 | 7439-93-2 | |
| Molybdenum | 88.8 | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 17:59 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 14:41 | 7440-36-0 | |
| Arsenic | 20.6 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 14:41 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 14:41 | 7440-43-9 | |
| Chromium | 0.50J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 14:41 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 14:41 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 14:41 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 13:08 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 988 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:54 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.1 | Std. Units | 0.10 | 0.10 | 1 | | 11/22/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 38.9 | mg/L | 5.0 | 2.5 | 5 | | 12/04/16 23:34 | 16887-00-6 | |
| Fluoride | 0.19J | mg/L | 0.20 | 0.027 | 1 | | 12/04/16 01:06 | 16984-48-8 | |
| Sulfate | 435 | mg/L | 50.0 | 7.7 | 50 | | 12/04/16 23:49 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-FB-1 **Lab ID: 60232174012** Collected: 11/10/16 13:20 Received: 11/12/16 03:35 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 0.69J | ug/L | 5.0 | 0.58 | 1 | 11/15/16 08:30 | 11/15/16 18:01 | 7440-39-3 | B |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 11/15/16 08:30 | 11/15/16 18:01 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 11/15/16 08:30 | 11/15/16 18:01 | 7440-42-8 | |
| Calcium | 117 | ug/L | 100 | 8.1 | 1 | 11/15/16 08:30 | 11/15/16 18:01 | 7440-70-2 | B |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 11/15/16 08:30 | 11/15/16 18:01 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 11/15/16 08:30 | 11/15/16 18:01 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 11/15/16 08:30 | 11/15/16 18:01 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 11/15/16 08:30 | 11/15/16 18:01 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 11/15/16 08:30 | 11/28/16 14:36 | 7440-36-0 | |
| Arsenic | <0.10 | ug/L | 1.0 | 0.10 | 1 | 11/15/16 08:30 | 11/28/16 14:36 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 11/15/16 08:30 | 11/28/16 14:36 | 7440-43-9 | |
| Chromium | 0.48J | ug/L | 1.0 | 0.34 | 1 | 11/15/16 08:30 | 11/28/16 14:36 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 11/15/16 08:30 | 11/28/16 14:36 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 11/15/16 08:30 | 11/28/16 14:36 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.039 | ug/L | 0.20 | 0.039 | 1 | 11/23/16 08:35 | 11/23/16 13:10 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | <5.0 | mg/L | 5.0 | 5.0 | 1 | | 11/17/16 15:55 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.3 | Std. Units | 0.10 | 0.10 | 1 | | 11/22/16 09:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 12/04/16 01:20 | 16887-00-6 | |
| Fluoride | <0.027 | mg/L | 0.20 | 0.027 | 1 | | 12/04/16 01:20 | 16984-48-8 | |
| Sulfate | <0.15 | mg/L | 1.0 | 0.15 | 1 | | 12/04/16 01:20 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

QC Batch: 456115

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012

METHOD BLANK: 1867557

Matrix: Water

Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Mercury | ug/L | <0.039 | 0.20 | 0.039 | 11/23/16 12:32 | |

LABORATORY CONTROL SAMPLE: 1867558

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury | ug/L | 5 | 5.0 | 101 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1867559 1867560

| Parameter | Units | 60232174003 Result | MS | | MSD | | MS | | MSD | | % Rec Limits | Max RPD | Qual |
|-----------|-------|--------------------|-------------|-------------|--------|--------|-------|-------|--------|---|--------------|---------|------|
| | | | Spike Conc. | Spike Conc. | Result | Result | % Rec | % Rec | | | | | |
| Mercury | ug/L | <0.039 | 5 | 5 | 4.8 | 4.5 | 96 | 90 | 75-125 | 6 | 20 | | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

QC Batch: 454893 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012

METHOD BLANK: 1862815 Matrix: Water
 Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | 0.87J | 5.0 | 0.58 | 11/15/16 17:03 | |
| Beryllium | ug/L | 0.56J | 1.0 | 0.26 | 11/15/16 17:03 | |
| Boron | ug/L | <50.0 | 100 | 50.0 | 11/15/16 17:03 | |
| Calcium | ug/L | 12.6J | 100 | 8.1 | 11/15/16 17:03 | |
| Cobalt | ug/L | <0.72 | 5.0 | 0.72 | 11/15/16 17:03 | |
| Lead | ug/L | <2.5 | 5.0 | 2.5 | 11/15/16 17:03 | |
| Lithium | ug/L | <4.9 | 10.0 | 4.9 | 11/15/16 17:03 | |
| Molybdenum | ug/L | 1.0J | 20.0 | 0.52 | 11/15/16 17:03 | |

LABORATORY CONTROL SAMPLE: 1862816

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 989 | 99 | 85-115 | |
| Beryllium | ug/L | 1000 | 989 | 99 | 85-115 | |
| Boron | ug/L | 1000 | 954 | 95 | 85-115 | |
| Calcium | ug/L | 10000 | 9980 | 100 | 85-115 | |
| Cobalt | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Lead | ug/L | 1000 | 1020 | 102 | 85-115 | |
| Lithium | ug/L | 1000 | 985 | 99 | 85-115 | |
| Molybdenum | ug/L | 1000 | 1040 | 104 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1862817 1862818

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|------------|-------|--------------------|-------------|-------------|-----------|----------|-----------|--------------|--------|---------|------|
| | | 60232174003 Result | Spike Conc. | Spike Conc. | MS Result | | | | | | |
| Barium | ug/L | 244 | 1000 | 1000 | 1240 | 1240 | 100 | 100 | 70-130 | 0 | 20 |
| Beryllium | ug/L | <0.26 | 1000 | 1000 | 984 | 981 | 98 | 98 | 70-130 | 0 | 20 |
| Boron | ug/L | 8410 | 1000 | 1000 | 9490 | 9440 | 108 | 102 | 70-130 | 1 | 20 |
| Calcium | ug/L | 161000 | 10000 | 10000 | 172000 | 171000 | 107 | 100 | 70-130 | 0 | 20 |
| Cobalt | ug/L | 1.5J | 1000 | 1000 | 984 | 979 | 98 | 98 | 70-130 | 1 | 20 |
| Lead | ug/L | <2.5 | 1000 | 1000 | 984 | 980 | 98 | 98 | 70-130 | 0 | 20 |
| Lithium | ug/L | 5.6J | 1000 | 1000 | 1020 | 1020 | 102 | 102 | 70-130 | 0 | 20 |
| Molybdenum | ug/L | 6.4J | 1000 | 1000 | 1060 | 1060 | 106 | 105 | 70-130 | 1 | 20 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| MATRIX SPIKE SAMPLE: | | 1862819 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60232174004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Barium | ug/L | 213 | 1000 | 1200 | 99 | 70-130 | |
| Beryllium | ug/L | 0.56J | 1000 | 977 | 98 | 70-130 | |
| Boron | ug/L | 8580 | 1000 | 9230 | 65 | 70-130 | M1 |
| Calcium | ug/L | 174000 | 10000 | 178000 | 34 | 70-130 | M1 |
| Cobalt | ug/L | <0.72 | 1000 | 977 | 98 | 70-130 | |
| Lead | ug/L | <2.5 | 1000 | 978 | 98 | 70-130 | |
| Lithium | ug/L | 26.3 | 1000 | 1040 | 101 | 70-130 | |
| Molybdenum | ug/L | 54.4 | 1000 | 1100 | 105 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

QC Batch: 454894 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012

METHOD BLANK: 1862820 Matrix: Water
 Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.058 | 1.0 | 0.058 | 11/28/16 13:02 | |
| Arsenic | ug/L | <0.10 | 1.0 | 0.10 | 11/28/16 13:02 | |
| Cadmium | ug/L | <0.029 | 0.50 | 0.029 | 11/28/16 13:02 | |
| Chromium | ug/L | <0.34 | 1.0 | 0.34 | 11/28/16 13:02 | |
| Selenium | ug/L | <0.18 | 1.0 | 0.18 | 11/28/16 13:02 | |
| Thallium | ug/L | <0.50 | 1.0 | 0.50 | 11/28/16 13:02 | |

LABORATORY CONTROL SAMPLE: 1862821

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 39.2 | 98 | 85-115 | |
| Arsenic | ug/L | 40 | 40.0 | 100 | 85-115 | |
| Cadmium | ug/L | 40 | 40.1 | 100 | 85-115 | |
| Chromium | ug/L | 40 | 40.9 | 102 | 85-115 | |
| Selenium | ug/L | 40 | 40.2 | 101 | 85-115 | |
| Thallium | ug/L | 40 | 38.4 | 96 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1862822 1862823

| Parameter | Units | 60232174003 Result | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|-------------|-----------|------------|------|----------|-----------|--------------|-----|---------|------|
| | | | Spike Conc. | MS Result | MSD Result | | | | | | | |
| Antimony | ug/L | <0.058 | 40 | 40 | 40.6 | 39.9 | 102 | 100 | 70-130 | 2 | 20 | |
| Arsenic | ug/L | 7.8 | 40 | 40 | 48.8 | 48.0 | 103 | 101 | 70-130 | 2 | 20 | |
| Cadmium | ug/L | <0.029 | 40 | 40 | 38.8 | 38.1 | 97 | 95 | 70-130 | 2 | 20 | |
| Chromium | ug/L | 0.52J | 40 | 40 | 40.3 | 40.3 | 100 | 100 | 70-130 | 0 | 20 | |
| Selenium | ug/L | <0.18 | 40 | 40 | 38.4 | 38.3 | 96 | 96 | 70-130 | 0 | 20 | |
| Thallium | ug/L | <0.50 | 40 | 40 | 37.5 | 36.6 | 94 | 91 | 70-130 | 2 | 20 | |

MATRIX SPIKE SAMPLE: 1862824

| Parameter | Units | 60232174005 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | <0.058 | 40 | 40.2 | 100 | 70-130 | |
| Arsenic | ug/L | 19.9 | 40 | 61.4 | 104 | 70-130 | |
| Cadmium | ug/L | <0.029 | 40 | 38.0 | 95 | 70-130 | |
| Chromium | ug/L | 0.37J | 40 | 39.9 | 99 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| MATRIX SPIKE SAMPLE: | | 1862824 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60232174005 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Selenium | ug/L | <0.18 | 40 | 38.6 | 97 | 70-130 | |
| Thallium | ug/L | <0.50 | 40 | 36.6 | 91 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

QC Batch: 455487

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012

METHOD BLANK: 1864979

Matrix: Water

Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 11/17/16 15:39 | |

LABORATORY CONTROL SAMPLE: 1864980

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 975 | 97 | 80-120 | |

SAMPLE DUPLICATE: 1864981

| Parameter | Units | 60232096001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 5100 | 4480 | 13 | 10 | D6 |

SAMPLE DUPLICATE: 1864982

| Parameter | Units | 60232174003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 854 | 846 | 1 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

QC Batch: 454731 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174009, 60232174010, 60232174011, 60232174012

SAMPLE DUPLICATE: 1862391

| Parameter | Units | 60232174003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 6.8 | 6.9 | 1 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

QC Batch: 455737 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60232174004, 60232174005, 60232174006, 60232174007, 60232174008

SAMPLE DUPLICATE: 1866223

| Parameter | Units | 60231804003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.1 | 7.2 | 1 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| | | | |
|-------------------------|--|-----------------------|-----------------|
| QC Batch: | 457500 | Analysis Method: | EPA 300.0 |
| QC Batch Method: | EPA 300.0 | Analysis Description: | 300.0 IC Anions |
| Associated Lab Samples: | 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1873090 | Matrix: | Water |
| Associated Lab Samples: | 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 12/03/16 20:42 | |
| Fluoride | mg/L | <0.027 | 0.20 | 0.027 | 12/03/16 20:42 | |
| Sulfate | mg/L | <0.15 | 1.0 | 0.15 | 12/03/16 20:42 | |

LABORATORY CONTROL SAMPLE: 1873091

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.9 | 98 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.5 | 102 | 90-110 | |
| Sulfate | mg/L | 5 | 5.0 | 100 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1873092 1873093

| Parameter | Units | 60232174001 | | 1873093 | | MS % Rec | MSD % Rec | % Rec Limits | Max RPD | Qual |
|-----------|-------|----------------|-----------------|-----------|------------|----------|-----------|--------------|---------|------|
| | | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | | | | | |
| Fluoride | mg/L | 0.24 | 2.5 | 2.5 | 3.2 | 3.2 | 117 | 116 | 80-120 | 0 15 |

MATRIX SPIKE SAMPLE: 1873094

| Parameter | Units | 60232174003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Fluoride | mg/L | 0.091J | 2.5 | 3.0 | 117 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

QC Batch: 457515 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174011

METHOD BLANK: 1873341 Matrix: Water
 Associated Lab Samples: 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174011

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 12/04/16 16:24 | |
| Sulfate | mg/L | <0.15 | 1.0 | 0.15 | 12/04/16 16:24 | |

LABORATORY CONTROL SAMPLE: 1873342

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.7 | 94 | 90-110 | |
| Sulfate | mg/L | 5 | 4.6 | 92 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1873343 1873344

| Parameter | Units | 60232174001 | | 60232174003 | | MS | | MSD | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|----------------|-----------------|-----------|------------|-------|-------|--------|--------------|-----|---------|------|
| | | Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | % Rec | % Rec | | | | | |
| Chloride | mg/L | 42.2 | 50 | 50 | 97.2 | 97.5 | 110 | 111 | 80-120 | 0 | 15 | | |
| Sulfate | mg/L | 99.1 | 50 | 50 | 157 | 157 | 115 | 116 | 80-120 | 0 | 15 | | |

MATRIX SPIKE SAMPLE: 1873345

| Parameter | Units | 60232174003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 23.9 | 10 | 35.6 | 117 | 80-120 | |
| Sulfate | mg/L | 348 | 250 | 625 | 111 | 80-120 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-1 **Lab ID: 60232174001** Collected: 11/10/16 11:54 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.265 ± 0.368 (0.615) C:NA T:91% | pCi/L | 12/13/16 10:09 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.01 ± 0.523 (0.927) C:62% T:82% | pCi/L | 12/13/16 15:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-2 **Lab ID: 60232174002** Collected: 11/10/16 13:18 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.196 ± 0.299 (0.481) C:NA T:88% | pCi/L | 12/13/16 10:09 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.49 ± 0.528 (0.751) C:67% T:87% | pCi/L | 12/13/16 15:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-3 **Lab ID: 60232174003** Collected: 11/10/16 14:11 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.187 ± 0.474 (0.879) C:NA T:95% | pCi/L | 12/13/16 10:09 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.813 ± 0.428 (0.761) C:68% T:90% | pCi/L | 12/13/16 15:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-4 **Lab ID: 60232174004** Collected: 11/10/16 15:20 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.389 ± 0.510 (0.849) C:NA T:86% | pCi/L | 12/13/16 10:09 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.611 ± 0.386 (0.724) C:66% T:92% | pCi/L | 12/13/16 15:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-5 **Lab ID: 60232174005** Collected: 11/10/16 16:00 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.561 ± 0.508 (0.749) C:NA T:92% | pCi/L | 12/13/16 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.826 ± 0.442 (0.782) C:65% T:85% | pCi/L | 12/13/16 15:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-6 **Lab ID: 60232174006** Collected: 11/10/16 15:30 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.000 ± 0.275 (0.616) C:NA T:99% | pCi/L | 12/13/16 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.00 ± 0.395 (0.581) C:70% T:89% | pCi/L | 12/13/16 15:32 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-7 **Lab ID: 60232174007** Collected: 11/10/16 14:55 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.198 ± 0.389 (0.710) C:NA T:95% | pCi/L | 12/13/16 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.684 ± 0.373 (0.648) C:64% T:89% | pCi/L | 12/13/16 15:32 | 15262-20-1 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-8 **Lab ID: 60232174008** Collected: 11/10/16 14:17 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.313 ± 0.288 (0.170) C:NA T:92% | pCi/L | 12/13/16 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.17 ± 0.442 (0.643) C:69% T:89% | pCi/L | 12/13/16 15:32 | 15262-20-1 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-BMW-1 **Lab ID: 60232174009** Collected: 11/10/16 13:15 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.452 ± 0.366 (0.204) C:NA T:82% | pCi/L | 12/13/16 10:42 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.967 ± 0.464 (0.783) C:66% T:83% | pCi/L | 12/13/16 15:32 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-BMW-2 **Lab ID: 60232174010** Collected: 11/10/16 10:38 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.259 ± 0.361 (0.602) C:NA T:86% | pCi/L | 12/13/16 10:44 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.302 ± 0.309 (0.632) C:66% T:85% | pCi/L | 12/13/16 15:32 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-DUP-1 **Lab ID: 60232174011** Collected: 11/10/16 08:00 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.380 ± 0.395 (0.588) C:NA T:90% | pCi/L | 12/13/16 10:44 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.18 ± 0.475 (0.728) C:66% T:87% | pCi/L | 12/13/16 15:32 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-FB-1 **Lab ID: 60232174012** Collected: 11/10/16 13:20 Received: 11/12/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | -0.069 ± 0.449 (0.974) C:NA T:87% | pCi/L | 12/13/16 10:43 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.847 ± 0.414 (0.708) C:67% T:91% | pCi/L | 12/13/16 15:32 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-3 MS **Lab ID: 60232174013** Collected: 11/10/16 14:11 Received: 11/11/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 93.9%REC ± NA (NA) | pCi/L | 12/13/16 10:42 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 78.88 %REC ± NA (NA) C:NA T:NA | pCi/L | 12/13/16 15:32 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

Sample: M-MW-3 MSD **Lab ID: 60232174014** Collected: 11/10/16 14:11 Received: 11/11/16 03:35 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 95.2%REC 1.27RPD ± NA (NA) | pCi/L | 12/13/16 10:53 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 89.60 %REC 12.74 RPD ± NA (NA) C:NA T:NA | pCi/L | 12/13/16 15:32 | 15262-20-1 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| | | | |
|-------------------------|--|-----------------------|------------------|
| QC Batch: | 242294 | Analysis Method: | EPA 904.0 |
| QC Batch Method: | EPA 904.0 | Analysis Description: | 904.0 Radium 228 |
| Associated Lab Samples: | 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012, 60232174013, 60232174014 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1191074 | Matrix: | Water |
| Associated Lab Samples: | 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012, 60232174013, 60232174014 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.711 ± 0.419 (0.747) C:61% T:78% | pCi/L | 12/13/16 15:32 | |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| | | | |
|-------------------------|--|-----------------------|------------------|
| QC Batch: | 242293 | Analysis Method: | EPA 903.1 |
| QC Batch Method: | EPA 903.1 | Analysis Description: | 903.1 Radium-226 |
| Associated Lab Samples: | 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012, 60232174013, 60232174014 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1191073 | Matrix: | Water |
| Associated Lab Samples: | 60232174001, 60232174002, 60232174003, 60232174004, 60232174005, 60232174006, 60232174007, 60232174008, 60232174009, 60232174010, 60232174011, 60232174012, 60232174013, 60232174014 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-226 | 0.350 ± 0.459 (0.764) C:NA T:101% | pCi/L | 12/13/16 10:09 | |

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QUALIFIERS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60232174001 | M-MW-1 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174002 | M-MW-2 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174003 | M-MW-3 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174004 | M-MW-4 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174005 | M-MW-5 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174006 | M-MW-6 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174007 | M-MW-7 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174008 | M-MW-8 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174009 | M-BMW-1 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174010 | M-BMW-2 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174011 | M-DUP-1 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174012 | M-FB-1 | EPA 200.7 | 454893 | EPA 200.7 | 455015 |
| 60232174001 | M-MW-1 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174002 | M-MW-2 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174003 | M-MW-3 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174004 | M-MW-4 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174005 | M-MW-5 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174006 | M-MW-6 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174007 | M-MW-7 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174008 | M-MW-8 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174009 | M-BMW-1 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174010 | M-BMW-2 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174011 | M-DUP-1 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174012 | M-FB-1 | EPA 200.8 | 454894 | EPA 200.8 | 455017 |
| 60232174001 | M-MW-1 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174002 | M-MW-2 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174003 | M-MW-3 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174004 | M-MW-4 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174005 | M-MW-5 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174006 | M-MW-6 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174007 | M-MW-7 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174008 | M-MW-8 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174009 | M-BMW-1 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174010 | M-BMW-2 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174011 | M-DUP-1 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174012 | M-FB-1 | EPA 7470 | 456115 | EPA 7470 | 456253 |
| 60232174001 | M-MW-1 | EPA 903.1 | 242293 | | |
| 60232174002 | M-MW-2 | EPA 903.1 | 242293 | | |
| 60232174003 | M-MW-3 | EPA 903.1 | 242293 | | |
| 60232174004 | M-MW-4 | EPA 903.1 | 242293 | | |
| 60232174005 | M-MW-5 | EPA 903.1 | 242293 | | |
| 60232174006 | M-MW-6 | EPA 903.1 | 242293 | | |
| 60232174007 | M-MW-7 | EPA 903.1 | 242293 | | |
| 60232174008 | M-MW-8 | EPA 903.1 | 242293 | | |
| 60232174009 | M-BMW-1 | EPA 903.1 | 242293 | | |
| 60232174010 | M-BMW-2 | EPA 903.1 | 242293 | | |
| 60232174011 | M-DUP-1 | EPA 903.1 | 242293 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|----------|-------------------|------------------|
| 60232174012 | M-FB-1 | EPA 903.1 | 242293 | | |
| 60232174013 | M-MW-3 MS | EPA 903.1 | 242293 | | |
| 60232174014 | M-MW-3 MSD | EPA 903.1 | 242293 | | |
| 60232174001 | M-MW-1 | EPA 904.0 | 242294 | | |
| 60232174002 | M-MW-2 | EPA 904.0 | 242294 | | |
| 60232174003 | M-MW-3 | EPA 904.0 | 242294 | | |
| 60232174004 | M-MW-4 | EPA 904.0 | 242294 | | |
| 60232174005 | M-MW-5 | EPA 904.0 | 242294 | | |
| 60232174006 | M-MW-6 | EPA 904.0 | 242294 | | |
| 60232174007 | M-MW-7 | EPA 904.0 | 242294 | | |
| 60232174008 | M-MW-8 | EPA 904.0 | 242294 | | |
| 60232174009 | M-BMW-1 | EPA 904.0 | 242294 | | |
| 60232174010 | M-BMW-2 | EPA 904.0 | 242294 | | |
| 60232174011 | M-DUP-1 | EPA 904.0 | 242294 | | |
| 60232174012 | M-FB-1 | EPA 904.0 | 242294 | | |
| 60232174013 | M-MW-3 MS | EPA 904.0 | 242294 | | |
| 60232174014 | M-MW-3 MSD | EPA 904.0 | 242294 | | |
| 60232174001 | M-MW-1 | SM 2540C | 455487 | | |
| 60232174002 | M-MW-2 | SM 2540C | 455487 | | |
| 60232174003 | M-MW-3 | SM 2540C | 455487 | | |
| 60232174004 | M-MW-4 | SM 2540C | 455487 | | |
| 60232174005 | M-MW-5 | SM 2540C | 455487 | | |
| 60232174006 | M-MW-6 | SM 2540C | 455487 | | |
| 60232174007 | M-MW-7 | SM 2540C | 455487 | | |
| 60232174008 | M-MW-8 | SM 2540C | 455487 | | |
| 60232174009 | M-BMW-1 | SM 2540C | 455487 | | |
| 60232174010 | M-BMW-2 | SM 2540C | 455487 | | |
| 60232174011 | M-DUP-1 | SM 2540C | 455487 | | |
| 60232174012 | M-FB-1 | SM 2540C | 455487 | | |
| 60232174001 | M-MW-1 | SM 4500-H+B | 454731 | | |
| 60232174002 | M-MW-2 | SM 4500-H+B | 454731 | | |
| 60232174003 | M-MW-3 | SM 4500-H+B | 454731 | | |
| 60232174004 | M-MW-4 | SM 4500-H+B | 455737 | | |
| 60232174005 | M-MW-5 | SM 4500-H+B | 455737 | | |
| 60232174006 | M-MW-6 | SM 4500-H+B | 455737 | | |
| 60232174007 | M-MW-7 | SM 4500-H+B | 455737 | | |
| 60232174008 | M-MW-8 | SM 4500-H+B | 455737 | | |
| 60232174009 | M-BMW-1 | SM 4500-H+B | 454731 | | |
| 60232174010 | M-BMW-2 | SM 4500-H+B | 454731 | | |
| 60232174011 | M-DUP-1 | SM 4500-H+B | 454731 | | |
| 60232174012 | M-FB-1 | SM 4500-H+B | 454731 | | |
| 60232174001 | M-MW-1 | EPA 300.0 | 457500 | | |
| 60232174001 | M-MW-1 | EPA 300.0 | 457515 | | |
| 60232174002 | M-MW-2 | EPA 300.0 | 457500 | | |

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60232174

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60232174002 | M-MW-2 | EPA 300.0 | 457515 | | |
| 60232174003 | M-MW-3 | EPA 300.0 | 457500 | | |
| 60232174003 | M-MW-3 | EPA 300.0 | 457515 | | |
| 60232174004 | M-MW-4 | EPA 300.0 | 457500 | | |
| 60232174004 | M-MW-4 | EPA 300.0 | 457515 | | |
| 60232174005 | M-MW-5 | EPA 300.0 | 457500 | | |
| 60232174005 | M-MW-5 | EPA 300.0 | 457515 | | |
| 60232174006 | M-MW-6 | EPA 300.0 | 457500 | | |
| 60232174006 | M-MW-6 | EPA 300.0 | 457515 | | |
| 60232174007 | M-MW-7 | EPA 300.0 | 457500 | | |
| 60232174007 | M-MW-7 | EPA 300.0 | 457515 | | |
| 60232174008 | M-MW-8 | EPA 300.0 | 457500 | | |
| 60232174008 | M-MW-8 | EPA 300.0 | 457515 | | |
| 60232174009 | M-BMW-1 | EPA 300.0 | 457500 | | |
| 60232174009 | M-BMW-1 | EPA 300.0 | 457515 | | |
| 60232174010 | M-BMW-2 | EPA 300.0 | 457500 | | |
| 60232174011 | M-DUP-1 | EPA 300.0 | 457500 | | |
| 60232174011 | M-DUP-1 | EPA 300.0 | 457515 | | |
| 60232174012 | M-FB-1 | EPA 300.0 | 457500 | | |

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60232174



Client Name: Golden

Courier: FedEx UPS VIA Clay PEX ECI Pace Xroads Client Other

Tracking #: _____ Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-266 T-239 Type of Ice: Wet Blue None → radium samples

Cooler Temperature (°C): As-read 2.4/16.3/18.1 Corr. Factor CF +0.7 CF -0.5 Corrected 3.1/17.0/18.9

Date and initials of person examining contents: RB 11/12/16

Temperature should be above freezing to 6°C

| | |
|--|---|
| Chain of Custody present: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Chain of Custody relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Samples arrived within holding time: | <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A |
| Short Hold Time analyses (<72hr): | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <i>PM</i> |
| Rush Turn Around Time requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A |
| Sufficient volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Correct containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Pace containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Containers intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| Filtered volume received for dissolved tests? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| Sample labels match COC: Date / time / ID / analyses | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Samples contain multiple phases? Matrix: <i>WJ</i> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A |
| Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Cyanide water sample checks: <input type="checkbox"/> N/A | |
| Lead acetate strip turns dark? (Record only) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Potassium iodide test strip turns blue/purple? (Preserve) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Trip Blank present: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A |
| Headspace in VOA vials (>6mm): | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| Samples from USDA Regulated Area: State: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| Additional labels attached to 5035A / TX1005 vials in the field? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jean Chok Date: 11/14/16

February 01, 2017

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60235624

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on January 07, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Richard Mannz for
Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 15-016-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

Kansas Field Laboratory Accreditation: # E-92587

Missouri Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|------------|--------|----------------|----------------|
| 60235624001 | M-MW-1 | Water | 01/06/17 15:05 | 01/07/17 03:40 |
| 60235624002 | M-MW-2 | Water | 01/06/17 11:24 | 01/07/17 03:40 |
| 60235624003 | M-MW-3 | Water | 01/06/17 11:25 | 01/07/17 03:40 |
| 60235624004 | M-MW-4 | Water | 01/06/17 12:25 | 01/07/17 03:40 |
| 60235624005 | M-MW-5 | Water | 01/06/17 12:26 | 01/07/17 03:40 |
| 60235624006 | M-MW-6 | Water | 01/06/17 13:45 | 01/07/17 03:40 |
| 60235624007 | M-MW-7 | Water | 01/06/17 13:40 | 01/07/17 03:40 |
| 60235624008 | M-MW-8 | Water | 01/06/17 15:20 | 01/07/17 03:40 |
| 60235624009 | M-BMW-1 | Water | 01/06/17 10:20 | 01/07/17 03:40 |
| 60235624010 | M-BMW-2 | Water | 01/06/17 09:10 | 01/07/17 03:40 |
| 60235624011 | M-DUP-1 | Water | 01/06/17 08:00 | 01/07/17 03:40 |
| 60235624012 | M-FB-1 | Water | 01/06/17 13:37 | 01/07/17 03:40 |
| 60235624013 | M-MW-1 MS | Water | 01/06/17 15:05 | 01/07/17 03:40 |
| 60235624014 | M-MW-1 MSD | Water | 01/06/17 15:05 | 01/07/17 03:40 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60235624001 | M-MW-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| 60235624002 | M-MW-2 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| 60235624003 | M-MW-3 | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60235624004 | M-MW-4 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| 60235624005 | M-MW-5 | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| EPA 7470 | TDS | 1 | PASI-K | | |
| EPA 903.1 | WRR | 1 | PASI-PA | | |
| EPA 904.0 | JLW | 1 | PASI-PA | | |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60235624006 | M-MW-6 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60235624007 | M-MW-7 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60235624008 | M-MW-8 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60235624009 | M-BMW-1 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60235624010 | M-BMW-2 | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|--------------------|-------------------|-------------|----------|-------------------|------------|
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60235624011 | M-DUP-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60235624012 | M-FB-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | JSS | 1 | PASI-K |
| | | SM 4500-H+B | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60235624013 | M-MW-1 MS | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60235624014 | M-MW-1 MSD | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-1 **Lab ID: 60235624001** Collected: 01/06/17 15:05 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 357 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:27 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:27 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:27 | 7440-42-8 | |
| Calcium | 122000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:27 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:27 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:27 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:27 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:27 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 16:21 | 7440-36-0 | |
| Arsenic | 0.38J | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 16:21 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 16:21 | 7440-43-9 | |
| Chromium | 0.62J | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 16:21 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 16:21 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 16:21 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | 0.070J | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:14 | 7439-97-6 | B |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 608 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 13:55 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 43.9 | mg/L | 5.0 | 2.5 | 5 | | 01/22/17 15:51 | 16887-00-6 | |
| Fluoride | 0.25 | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 16:32 | 16984-48-8 | |
| Sulfate | 104 | mg/L | 10.0 | 1.5 | 10 | | 01/22/17 16:18 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-2 **Lab ID: 60235624002** Collected: 01/06/17 11:24 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 456 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:33 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:33 | 7440-41-7 | |
| Boron | 5880 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:33 | 7440-42-8 | |
| Calcium | 118000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:33 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:33 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:33 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:33 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:33 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 16:34 | 7440-36-0 | |
| Arsenic | 1.5 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 16:34 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 16:34 | 7440-43-9 | |
| Chromium | 0.56J | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 16:34 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 16:34 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 16:34 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:18 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 750 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 13:56 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 26.8 | mg/L | 2.0 | 1.0 | 2 | | 01/22/17 17:14 | 16887-00-6 | |
| Fluoride | 0.093J | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 17:42 | 16984-48-8 | |
| Sulfate | 352 | mg/L | 50.0 | 7.7 | 50 | | 01/22/17 17:28 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-3 **Lab ID: 60235624003** Collected: 01/06/17 11:25 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 201 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:35 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:35 | 7440-41-7 | |
| Boron | 6750 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:35 | 7440-42-8 | |
| Calcium | 136000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:35 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:35 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:35 | 7439-92-1 | |
| Lithium | 5.1J | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:35 | 7439-93-2 | |
| Molybdenum | 3.1J | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:35 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 16:38 | 7440-36-0 | |
| Arsenic | 6.6 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 16:38 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 16:38 | 7440-43-9 | |
| Chromium | 0.37J | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 16:38 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 16:38 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 16:38 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:20 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 729 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 13:56 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 28.2 | mg/L | 2.0 | 1.0 | 2 | | 01/22/17 17:42 | 16887-00-6 | |
| Fluoride | 0.079J | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 17:55 | 16984-48-8 | |
| Sulfate | 110 | mg/L | 20.0 | 3.1 | 20 | | 01/22/17 17:56 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-4 **Lab ID: 60235624004** Collected: 01/06/17 12:25 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 214 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:38 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:38 | 7440-41-7 | |
| Boron | 8660 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:38 | 7440-42-8 | |
| Calcium | 165000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:38 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:38 | 7440-48-4 | |
| Lead | 2.7J | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:38 | 7439-92-1 | |
| Lithium | 22.4 | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:38 | 7439-93-2 | |
| Molybdenum | 50.4 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:38 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 16:43 | 7440-36-0 | |
| Arsenic | 13.3 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 16:43 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 16:43 | 7440-43-9 | |
| Chromium | 0.47J | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 16:43 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 16:43 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 16:43 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:21 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 925 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 13:57 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 39.9 | mg/L | 5.0 | 2.5 | 5 | | 01/22/17 18:10 | 16887-00-6 | |
| Fluoride | 0.12J | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 18:09 | 16984-48-8 | |
| Sulfate | 403 | mg/L | 50.0 | 7.7 | 50 | | 01/22/17 18:24 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-5 **Lab ID: 60235624005** Collected: 01/06/17 12:26 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 304 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:40 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:40 | 7440-41-7 | |
| Boron | 8970 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:40 | 7440-42-8 | |
| Calcium | 185000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:40 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:40 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:40 | 7439-92-1 | |
| Lithium | 22.9 | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:40 | 7439-93-2 | |
| Molybdenum | 96.5 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:40 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 16:47 | 7440-36-0 | |
| Arsenic | 20.6 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 16:47 | 7440-38-2 | |
| Cadmium | 0.052J | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 16:47 | 7440-43-9 | |
| Chromium | 0.45J | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 16:47 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 16:47 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 16:47 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:23 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1000 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 13:58 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.3 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 39.8 | mg/L | 5.0 | 2.5 | 5 | | 01/22/17 18:37 | 16887-00-6 | |
| Fluoride | 0.17J | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 18:23 | 16984-48-8 | |
| Sulfate | 446 | mg/L | 50.0 | 7.7 | 50 | | 01/22/17 18:51 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-6 **Lab ID: 60235624006** Collected: 01/06/17 13:45 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 66.5 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:46 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:46 | 7440-41-7 | |
| Boron | 9800 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:46 | 7440-42-8 | |
| Calcium | 381000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:46 | 7440-70-2 | |
| Cobalt | 6.5 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:46 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:46 | 7439-92-1 | |
| Lithium | 138 | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:46 | 7439-93-2 | |
| Molybdenum | 163 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:46 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 16:51 | 7440-36-0 | |
| Arsenic | 2.5 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 16:51 | 7440-38-2 | |
| Cadmium | 0.050J | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 16:51 | 7440-43-9 | |
| Chromium | 0.45J | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 16:51 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 16:51 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 16:51 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:24 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1500 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 13:59 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 10.6 | mg/L | 1.0 | 0.50 | 1 | | 01/21/17 18:37 | 16887-00-6 | |
| Fluoride | 0.10J | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 18:37 | 16984-48-8 | |
| Sulfate | 672 | mg/L | 50.0 | 7.7 | 50 | | 01/22/17 19:05 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-7 **Lab ID: 60235624007** Collected: 01/06/17 13:40 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|-----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 51.5 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:49 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:49 | 7440-41-7 | |
| Boron | 30300 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:49 | 7440-42-8 | |
| Calcium | 424000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:49 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:49 | 7440-48-4 | |
| Lead | 2.7J | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:49 | 7439-92-1 | |
| Lithium | 71.1 | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:49 | 7439-93-2 | |
| Molybdenum | 297 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:49 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.42J | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 17:05 | 7440-36-0 | B |
| Arsenic | 2.4 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 17:05 | 7440-38-2 | |
| Cadmium | 0.33J | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 17:05 | 7440-43-9 | |
| Chromium | 0.42J | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 17:05 | 7440-47-3 | |
| Selenium | 16.6 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 17:05 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 17:05 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:29 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 2060 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 14:00 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.5 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 89.5 | mg/L | 10.0 | 5.0 | 10 | | 01/22/17 19:19 | 16887-00-6 | |
| Fluoride | 0.64 | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 18:51 | 16984-48-8 | |
| Sulfate | 999 | mg/L | 100 | 15.4 | 100 | | 01/22/17 20:01 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-8 **Lab ID: 60235624008** Collected: 01/06/17 15:20 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 226 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:51 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:51 | 7440-41-7 | |
| Boron | 8910 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:51 | 7440-42-8 | |
| Calcium | 168000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:51 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:51 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:51 | 7439-92-1 | |
| Lithium | 32.2 | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:51 | 7439-93-2 | |
| Molybdenum | 207 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:51 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 17:09 | 7440-36-0 | |
| Arsenic | 5.2 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 17:09 | 7440-38-2 | |
| Cadmium | 0.052J | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 17:09 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 17:09 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 17:09 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 17:09 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:30 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 886 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 14:00 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.4 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 25.2 | mg/L | 2.0 | 1.0 | 2 | | 01/22/17 20:15 | 16887-00-6 | |
| Fluoride | 0.34 | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 19:05 | 16984-48-8 | |
| Sulfate | 448 | mg/L | 50.0 | 7.7 | 50 | | 01/22/17 20:29 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-BMW-1 **Lab ID: 60235624009** Collected: 01/06/17 10:20 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 241 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:53 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:53 | 7440-41-7 | |
| Boron | 189 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:53 | 7440-42-8 | |
| Calcium | 107000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:53 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:53 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:53 | 7439-92-1 | |
| Lithium | 14.6 | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:53 | 7439-93-2 | |
| Molybdenum | 5.4J | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:53 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.52J | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 17:13 | 7440-36-0 | B |
| Arsenic | 0.89J | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 17:13 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 17:13 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 17:13 | 7440-47-3 | |
| Selenium | 0.19J | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 17:13 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 17:13 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:32 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 752 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 14:01 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.5 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 167 | mg/L | 10.0 | 5.0 | 10 | | 01/22/17 20:43 | 16887-00-6 | |
| Fluoride | 0.44 | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 19:19 | 16984-48-8 | |
| Sulfate | 112 | mg/L | 10.0 | 1.5 | 10 | | 01/22/17 20:43 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-BMW-2 **Lab ID: 60235624010** Collected: 01/06/17 09:10 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 553 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:55 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:55 | 7440-41-7 | |
| Boron | 82.1J | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:55 | 7440-42-8 | |
| Calcium | 101000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:55 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:55 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:55 | 7439-92-1 | |
| Lithium | 7.5J | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:55 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:55 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 17:17 | 7440-36-0 | |
| Arsenic | 1.8 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 17:17 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 17:17 | 7440-43-9 | |
| Chromium | 0.68J | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 17:17 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 17:17 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 17:17 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:33 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 427 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 14:01 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 12.5 | mg/L | 1.0 | 0.50 | 1 | | 01/21/17 20:01 | 16887-00-6 | |
| Fluoride | 0.26 | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 20:01 | 16984-48-8 | |
| Sulfate | 17.5 | mg/L | 1.0 | 0.15 | 1 | | 01/21/17 20:01 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-DUP-1 **Lab ID: 60235624011** Collected: 01/06/17 08:00 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 488 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 17:58 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 17:58 | 7440-41-7 | |
| Boron | 6150 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 17:58 | 7440-42-8 | |
| Calcium | 126000 | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 17:58 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 17:58 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 17:58 | 7439-92-1 | |
| Lithium | 5.9J | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 17:58 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 17:58 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 17:22 | 7440-36-0 | |
| Arsenic | 1.5 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 17:22 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 17:22 | 7440-43-9 | |
| Chromium | 0.57J | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 17:22 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 17:22 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 17:22 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:34 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 749 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 14:03 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 27.0 | mg/L | 2.0 | 1.0 | 2 | | 01/22/17 21:10 | 16887-00-6 | |
| Fluoride | 0.079J | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 20:15 | 16984-48-8 | |
| Sulfate | 353 | mg/L | 50.0 | 7.7 | 50 | | 01/22/17 21:24 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-FB-1 **Lab ID: 60235624012** Collected: 01/06/17 13:37 Received: 01/07/17 03:40 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | <0.58 | ug/L | 5.0 | 0.58 | 1 | 01/10/17 13:15 | 01/12/17 18:00 | 7440-39-3 | |
| Beryllium | <0.26 | ug/L | 1.0 | 0.26 | 1 | 01/10/17 13:15 | 01/12/17 18:00 | 7440-41-7 | |
| Boron | <50.0 | ug/L | 100 | 50.0 | 1 | 01/10/17 13:15 | 01/12/17 18:00 | 7440-42-8 | |
| Calcium | 17.6J | ug/L | 100 | 8.1 | 1 | 01/10/17 13:15 | 01/12/17 18:00 | 7440-70-2 | |
| Cobalt | <0.72 | ug/L | 5.0 | 0.72 | 1 | 01/10/17 13:15 | 01/12/17 18:00 | 7440-48-4 | |
| Lead | <2.5 | ug/L | 5.0 | 2.5 | 1 | 01/10/17 13:15 | 01/12/17 18:00 | 7439-92-1 | |
| Lithium | <4.9 | ug/L | 10.0 | 4.9 | 1 | 01/10/17 13:15 | 01/12/17 18:00 | 7439-93-2 | |
| Molybdenum | <0.52 | ug/L | 20.0 | 0.52 | 1 | 01/10/17 13:15 | 01/12/17 18:00 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.058 | ug/L | 1.0 | 0.058 | 1 | 01/10/17 13:15 | 01/11/17 17:26 | 7440-36-0 | |
| Arsenic | <0.10 | ug/L | 1.0 | 0.10 | 1 | 01/10/17 13:15 | 01/11/17 17:26 | 7440-38-2 | |
| Cadmium | <0.029 | ug/L | 0.50 | 0.029 | 1 | 01/10/17 13:15 | 01/11/17 17:26 | 7440-43-9 | |
| Chromium | <0.34 | ug/L | 1.0 | 0.34 | 1 | 01/10/17 13:15 | 01/11/17 17:26 | 7440-47-3 | |
| Selenium | <0.18 | ug/L | 1.0 | 0.18 | 1 | 01/10/17 13:15 | 01/11/17 17:26 | 7782-49-2 | |
| Thallium | <0.50 | ug/L | 1.0 | 0.50 | 1 | 01/10/17 13:15 | 01/11/17 17:26 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.055 | ug/L | 0.20 | 0.055 | 1 | 01/17/17 15:50 | 01/18/17 09:36 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | <5.0 | mg/L | 5.0 | 5.0 | 1 | | 01/11/17 14:03 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.7 | Std. Units | 0.10 | 0.10 | 1 | | 01/10/17 00:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 01/21/17 20:28 | 16887-00-6 | |
| Fluoride | <0.027 | mg/L | 0.20 | 0.027 | 1 | | 01/21/17 20:28 | 16984-48-8 | |
| Sulfate | <0.15 | mg/L | 1.0 | 0.15 | 1 | | 01/21/17 20:28 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

QC Batch: 462292

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Associated Lab Samples: 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012

METHOD BLANK: 1892597

Matrix: Water

Associated Lab Samples: 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Mercury | ug/L | 0.11J | 0.20 | 0.055 | 01/18/17 09:11 | |

LABORATORY CONTROL SAMPLE: 1892598

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury | ug/L | 5 | 5.2 | 105 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1892599 1892600

| Parameter | Units | 60235624001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury | ug/L | 0.070J | 5 | 5 | 4.7 | 4.9 | 93 | 97 | 75-125 | 4 | 20 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1892601 1892602

| Parameter | Units | 60235625001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury | ug/L | <0.055 | 5 | 5 | 5.1 | 5.1 | 102 | 101 | 75-125 | 1 | 20 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

QC Batch: 461572 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Associated Lab Samples: 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012

METHOD BLANK: 1889317 Matrix: Water
 Associated Lab Samples: 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | <0.58 | 5.0 | 0.58 | 01/12/17 17:25 | |
| Beryllium | ug/L | <0.26 | 1.0 | 0.26 | 01/12/17 17:25 | |
| Boron | ug/L | <50.0 | 100 | 50.0 | 01/12/17 17:25 | |
| Calcium | ug/L | <8.1 | 100 | 8.1 | 01/12/17 17:25 | |
| Cobalt | ug/L | <0.72 | 5.0 | 0.72 | 01/12/17 17:25 | |
| Lead | ug/L | <2.5 | 5.0 | 2.5 | 01/12/17 17:25 | |
| Lithium | ug/L | <4.9 | 10.0 | 4.9 | 01/12/17 17:25 | |
| Molybdenum | ug/L | <0.52 | 20.0 | 0.52 | 01/12/17 17:25 | |

LABORATORY CONTROL SAMPLE: 1889318

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 1000 | 100 | 85-115 | |
| Beryllium | ug/L | 1000 | 996 | 100 | 85-115 | |
| Boron | ug/L | 1000 | 954 | 95 | 85-115 | |
| Calcium | ug/L | 10000 | 9650 | 96 | 85-115 | |
| Cobalt | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Lead | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Lithium | ug/L | 1000 | 1020 | 102 | 85-115 | |
| Molybdenum | ug/L | 1000 | 994 | 99 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1889319 1889320

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
|------------|-------|--------------------|-------------|-------------|-----------|----------|-----------|--------------|--------|---------|------|------------|
| | | 60235624001 Result | Spike Conc. | Spike Conc. | MS Result | | | | | | | MSD Result |
| Barium | ug/L | 357 | 1000 | 1000 | 1340 | 1340 | 99 | 98 | 70-130 | 1 | 20 | |
| Beryllium | ug/L | <0.26 | 1000 | 1000 | 973 | 964 | 97 | 96 | 70-130 | 1 | 20 | |
| Boron | ug/L | <50.0 | 1000 | 1000 | 1030 | 1020 | 99 | 98 | 70-130 | 1 | 20 | |
| Calcium | ug/L | 122000 | 10000 | 10000 | 129000 | 129000 | 71 | 78 | 70-130 | 1 | 20 | |
| Cobalt | ug/L | <0.72 | 1000 | 1000 | 991 | 978 | 99 | 98 | 70-130 | 1 | 20 | |
| Lead | ug/L | <2.5 | 1000 | 1000 | 992 | 971 | 99 | 97 | 70-130 | 2 | 20 | |
| Lithium | ug/L | <4.9 | 1000 | 1000 | 1030 | 1020 | 103 | 102 | 70-130 | 1 | 20 | |
| Molybdenum | ug/L | <0.52 | 1000 | 1000 | 1030 | 1020 | 103 | 101 | 70-130 | 1 | 20 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| Parameter | Units | MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1889321 | | 1889322 | | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | Max RPD | RPD | Qual |
|------------|-------|--|----------------------|-----------------------|--------------|--------------|---------------|-------------|--------------|-----------------|------------|-----|------|
| | | 60235625001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | | | | | | | | |
| Barium | ug/L | 146 | 1000 | 1000 | 1210 | 1220 | 106 | 107 | 70-130 | 1 | 20 | | |
| Beryllium | ug/L | <0.26 | 1000 | 1000 | 1050 | 1060 | 105 | 106 | 70-130 | 1 | 20 | | |
| Boron | ug/L | 538 | 1000 | 1000 | 1520 | 1550 | 98 | 101 | 70-130 | 2 | 20 | | |
| Calcium | ug/L | 81300 | 10000 | 10000 | 89300 | 92200 | 80 | 109 | 70-130 | 3 | 20 | | |
| Cobalt | ug/L | <0.72 | 1000 | 1000 | 1010 | 1020 | 101 | 102 | 70-130 | 1 | 20 | | |
| Lead | ug/L | <2.5 | 1000 | 1000 | 1010 | 1020 | 101 | 101 | 70-130 | 1 | 20 | | |
| Lithium | ug/L | 13.5 | 1000 | 1000 | 1110 | 1120 | 110 | 111 | 70-130 | 1 | 20 | | |
| Molybdenum | ug/L | 40.9 | 1000 | 1000 | 1090 | 1100 | 105 | 105 | 70-130 | 1 | 20 | | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| | | | |
|-------------------------|--|-----------------------|-----------|
| QC Batch: | 461613 | Analysis Method: | EPA 200.8 |
| QC Batch Method: | EPA 200.8 | Analysis Description: | 200.8 MET |
| Associated Lab Samples: | 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1889506 | Matrix: | Water |
| Associated Lab Samples: | 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | 0.083J | 1.0 | 0.055 | 01/11/17 16:12 | |
| Arsenic | ug/L | <0.25 | 1.0 | 0.25 | 01/11/17 16:12 | |
| Cadmium | ug/L | <0.082 | 0.50 | 0.082 | 01/11/17 16:12 | |
| Chromium | ug/L | 0.18J | 1.0 | 0.16 | 01/11/17 16:12 | |
| Selenium | ug/L | <0.12 | 1.0 | 0.12 | 01/11/17 16:12 | |
| Thallium | ug/L | <0.052 | 1.0 | 0.052 | 01/11/17 16:12 | |

LABORATORY CONTROL SAMPLE: 1889507

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 40.3 | 101 | 85-115 | |
| Arsenic | ug/L | 40 | 38.7 | 97 | 85-115 | |
| Cadmium | ug/L | 40 | 40.5 | 101 | 85-115 | |
| Chromium | ug/L | 40 | 40.4 | 101 | 85-115 | |
| Selenium | ug/L | 40 | 40.2 | 101 | 85-115 | |
| Thallium | ug/L | 40 | 39.5 | 99 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1889508 1889509

| Parameter | Units | 60235624001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | Max | | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|-----|------|
| | | | | | | | | | | RPD | RPD | |
| Antimony | ug/L | <0.058 | 40 | 40 | 40.5 | 40.0 | 101 | 100 | 70-130 | 1 | 20 | |
| Arsenic | ug/L | 0.38J | 40 | 40 | 39.0 | 38.1 | 97 | 94 | 70-130 | 2 | 20 | |
| Cadmium | ug/L | <0.029 | 40 | 40 | 39.7 | 38.9 | 99 | 97 | 70-130 | 2 | 20 | |
| Chromium | ug/L | 0.62J | 40 | 40 | 39.2 | 39.0 | 97 | 96 | 70-130 | 0 | 20 | |
| Selenium | ug/L | <0.18 | 40 | 40 | 37.3 | 36.2 | 93 | 90 | 70-130 | 3 | 20 | |
| Thallium | ug/L | <0.50 | 40 | 40 | 41.0 | 40.9 | 102 | 102 | 70-130 | 0 | 20 | |

MATRIX SPIKE SAMPLE: 1889510

| Parameter | Units | 60235625001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | <0.058 | 40 | 40.6 | 101 | 70-130 | |
| Arsenic | ug/L | 0.98J | 40 | 39.3 | 96 | 70-130 | |
| Cadmium | ug/L | <0.029 | 40 | 39.6 | 99 | 70-130 | |
| Chromium | ug/L | 0.71J | 40 | 39.2 | 96 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| MATRIX SPIKE SAMPLE: | | 1889510 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60235625001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Selenium | ug/L | <0.18 | 40 | 37.6 | 94 | 70-130 | |
| Thallium | ug/L | <0.50 | 40 | 40.3 | 101 | 70-130 | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

QC Batch: 461736

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012

METHOD BLANK: 1889986

Matrix: Water

Associated Lab Samples: 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 01/11/17 13:53 | |

LABORATORY CONTROL SAMPLE: 1889987

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 988 | 99 | 80-120 | |

SAMPLE DUPLICATE: 1889988

| Parameter | Units | 60235624001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 608 | 584 | 4 | 10 | |

SAMPLE DUPLICATE: 1889989

| Parameter | Units | 60235624010 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 427 | 424 | 1 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

QC Batch: 461465 Analysis Method: SM 4500-H+B
 QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
 Associated Lab Samples: 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007,
 60235624008, 60235624009, 60235624010, 60235624011, 60235624012

SAMPLE DUPLICATE: 1888952

| Parameter | Units | 60235624001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.2 | 7.2 | 1 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| | | | |
|-------------------------|--|-----------------------|-----------------|
| QC Batch: | 462746 | Analysis Method: | EPA 300.0 |
| QC Batch Method: | EPA 300.0 | Analysis Description: | 300.0 IC Anions |
| Associated Lab Samples: | 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1894700 | Matrix: | Water |
| Associated Lab Samples: | 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 01/21/17 16:04 | |
| Fluoride | mg/L | <0.027 | 0.20 | 0.027 | 01/21/17 16:04 | |
| Sulfate | mg/L | <0.15 | 1.0 | 0.15 | 01/21/17 16:04 | |

LABORATORY CONTROL SAMPLE: 1894701

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 5.0 | 101 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.7 | 107 | 90-110 | |
| Sulfate | mg/L | 5 | 5.1 | 101 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1894702 1894703

| Parameter | Units | 60235624001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Fluoride | mg/L | 0.25 | 2.5 | 2.5 | 3.0 | 3.0 | 110 | 112 | 80-120 | 1 | 15 | |

MATRIX SPIKE SAMPLE: 1894704

| Parameter | Units | 60235625001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Fluoride | mg/L | 0.27 | 2.5 | 3.1 | 114 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60235624

QC Batch: 462784 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624011

METHOD BLANK: 1895026 Matrix: Water
Associated Lab Samples: 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624011

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 01/22/17 10:23 | |
| Sulfate | mg/L | <0.15 | 1.0 | 0.15 | 01/22/17 10:23 | |

LABORATORY CONTROL SAMPLE: 1895027

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 5.1 | 102 | 90-110 | |
| Sulfate | mg/L | 5 | 5.1 | 102 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1895028 1895029

| Parameter | Units | 60235457003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Sulfate | mg/L | 55.7 | 25 | 25 | 82.7 | 84.0 | 108 | 113 | 80-120 | 2 | 15 | |

MATRIX SPIKE SAMPLE: 1895030

| Parameter | Units | 60235624001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 43.9 | 25 | 71.6 | 111 | 80-120 | |
| Sulfate | mg/L | 104 | 50 | 160 | 111 | 80-120 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-1 **Lab ID: 60235624001** Collected: 01/06/17 15:05 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.299 ± 0.416 (0.694) C:NA T:93% | pCi/L | 01/28/17 20:51 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.440 ± 0.454 (0.943) C:65% T:92% | pCi/L | 01/31/17 13:14 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-2 **Lab ID: 60235624002** Collected: 01/06/17 11:24 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.249 ± 0.431 (0.771) C:NA T:88% | pCi/L | 01/28/17 21:23 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.277 ± 0.431 (0.934) C:70% T:84% | pCi/L | 01/31/17 13:14 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-3 **Lab ID: 60235624003** Collected: 01/06/17 11:25 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.555 ± 0.435 (0.510) C:NA T:98% | pCi/L | 01/28/17 21:23 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.878 ± 0.445 (0.784) C:71% T:89% | pCi/L | 01/31/17 12:32 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-4 **Lab ID: 60235624004** Collected: 01/06/17 12:25 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.161 ± 0.386 (0.747) C:NA T:92% | pCi/L | 01/28/17 21:35 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.863 ± 0.443 (0.780) C:72% T:88% | pCi/L | 01/31/17 12:32 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-5 **Lab ID: 60235624005** Collected: 01/06/17 12:26 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.444 ± 0.545 (0.888) C:NA T:91% | pCi/L | 01/28/17 21:23 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 2.05 ± 0.777 (1.20) C:64% T:71% | pCi/L | 01/31/17 12:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-6 **Lab ID: 60235624006** Collected: 01/06/17 13:45 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | -0.078 ± 0.355 (0.837) C:NA T:91% | pCi/L | 01/28/17 21:23 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.569 ± 0.449 (0.892) C:71% T:86% | pCi/L | 01/31/17 13:14 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-7 **Lab ID: 60235624007** Collected: 01/06/17 13:40 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.000 ± 0.356 (0.724) C:NA T:93% | pCi/L | 01/28/17 21:23 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.858 ± 0.461 (0.836) C:74% T:86% | pCi/L | 01/31/17 12:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-8 **Lab ID: 60235624008** Collected: 01/06/17 15:20 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.146 ± 0.334 (0.539) C:NA T:96% | pCi/L | 01/28/17 21:55 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.268 ± 0.506 (1.11) C:69% T:80% | pCi/L | 01/31/17 12:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-BMW-1 **Lab ID: 60235624009** Collected: 01/06/17 10:20 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.000 ± 0.344 (0.700) C:NA T:91% | pCi/L | 01/28/17 21:55 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.16 ± 0.555 (0.950) C:68% T:78% | pCi/L | 01/31/17 12:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-BMW-2 **Lab ID: 60235624010** Collected: 01/06/17 09:10 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.588 ± 0.551 (0.781) C:NA T:89% | pCi/L | 01/28/17 21:55 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.30 ± 0.492 (0.734) C:75% T:88% | pCi/L | 01/31/17 12:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-DUP-1 **Lab ID: 60235624011** Collected: 01/06/17 08:00 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.292 ± 0.454 (0.787) C:NA T:96% | pCi/L | 01/28/17 21:55 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.576 ± 0.403 (0.765) C:67% T:82% | pCi/L | 01/31/17 12:33 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-FB-1 **Lab ID: 60235624012** Collected: 01/06/17 13:37 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | -0.147 ± 0.335 (0.790) C:NA T:91% | pCi/L | 01/28/17 21:55 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.422 ± 0.348 (0.691) C:74% T:87% | pCi/L | 01/31/17 12:34 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-1 MS **Lab ID: 60235624013** Collected: 01/06/17 15:05 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 80.9%REC ± NA (NA) | pCi/L | 02/01/17 12:40 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 103.83 %REC ± NA (NA) C:NA T:NA | pCi/L | 01/31/17 12:34 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

Sample: M-MW-1 MSD **Lab ID: 60235624014** Collected: 01/06/17 15:05 Received: 01/07/17 03:40 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 95.3%REC 16.26RPD ± NA (NA) | pCi/L | 02/01/17 12:40 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 95.19 %REC 8.69 RPD ± NA (NA) C:NA T:NA | pCi/L | 01/31/17 12:34 | 15262-20-1 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| | | | |
|-------------------------|--|-----------------------|------------------|
| QC Batch: | 246439 | Analysis Method: | EPA 904.0 |
| QC Batch Method: | EPA 904.0 | Analysis Description: | 904.0 Radium 228 |
| Associated Lab Samples: | 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012, 60235624013, 60235624014 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1211785 | Matrix: | Water |
| Associated Lab Samples: | 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012, 60235624013, 60235624014 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.117 ± 0.308 (0.692) C:65% T:91% | pCi/L | 01/31/17 12:34 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| | | | |
|-------------------------|--|-----------------------|------------------|
| QC Batch: | 246438 | Analysis Method: | EPA 903.1 |
| QC Batch Method: | EPA 903.1 | Analysis Description: | 903.1 Radium-226 |
| Associated Lab Samples: | 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012, 60235624013, 60235624014 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1211784 | Matrix: | Water |
| Associated Lab Samples: | 60235624001, 60235624002, 60235624003, 60235624004, 60235624005, 60235624006, 60235624007, 60235624008, 60235624009, 60235624010, 60235624011, 60235624012, 60235624013, 60235624014 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|----------------------------------|-------|----------------|------------|
| Radium-226 | 0.000 ± 0.410 (0.661) C:NA T:80% | pCi/L | 01/28/17 20:51 | |

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QUALIFIERS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60235624001 | M-MW-1 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624002 | M-MW-2 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624003 | M-MW-3 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624004 | M-MW-4 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624005 | M-MW-5 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624006 | M-MW-6 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624007 | M-MW-7 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624008 | M-MW-8 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624009 | M-BMW-1 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624010 | M-BMW-2 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624011 | M-DUP-1 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624012 | M-FB-1 | EPA 200.7 | 461572 | EPA 200.7 | 461636 |
| 60235624001 | M-MW-1 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624002 | M-MW-2 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624003 | M-MW-3 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624004 | M-MW-4 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624005 | M-MW-5 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624006 | M-MW-6 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624007 | M-MW-7 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624008 | M-MW-8 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624009 | M-BMW-1 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624010 | M-BMW-2 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624011 | M-DUP-1 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624012 | M-FB-1 | EPA 200.8 | 461613 | EPA 200.8 | 461637 |
| 60235624001 | M-MW-1 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624002 | M-MW-2 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624003 | M-MW-3 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624004 | M-MW-4 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624005 | M-MW-5 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624006 | M-MW-6 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624007 | M-MW-7 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624008 | M-MW-8 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624009 | M-BMW-1 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624010 | M-BMW-2 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624011 | M-DUP-1 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624012 | M-FB-1 | EPA 7470 | 462292 | EPA 7470 | 462306 |
| 60235624001 | M-MW-1 | EPA 903.1 | 246438 | | |
| 60235624002 | M-MW-2 | EPA 903.1 | 246438 | | |
| 60235624003 | M-MW-3 | EPA 903.1 | 246438 | | |
| 60235624004 | M-MW-4 | EPA 903.1 | 246438 | | |
| 60235624005 | M-MW-5 | EPA 903.1 | 246438 | | |
| 60235624006 | M-MW-6 | EPA 903.1 | 246438 | | |
| 60235624007 | M-MW-7 | EPA 903.1 | 246438 | | |
| 60235624008 | M-MW-8 | EPA 903.1 | 246438 | | |
| 60235624009 | M-BMW-1 | EPA 903.1 | 246438 | | |
| 60235624010 | M-BMW-2 | EPA 903.1 | 246438 | | |
| 60235624011 | M-DUP-1 | EPA 903.1 | 246438 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|----------|-------------------|------------------|
| 60235624012 | M-FB-1 | EPA 903.1 | 246438 | | |
| 60235624013 | M-MW-1 MS | EPA 903.1 | 246438 | | |
| 60235624014 | M-MW-1 MSD | EPA 903.1 | 246438 | | |
| 60235624001 | M-MW-1 | EPA 904.0 | 246439 | | |
| 60235624002 | M-MW-2 | EPA 904.0 | 246439 | | |
| 60235624003 | M-MW-3 | EPA 904.0 | 246439 | | |
| 60235624004 | M-MW-4 | EPA 904.0 | 246439 | | |
| 60235624005 | M-MW-5 | EPA 904.0 | 246439 | | |
| 60235624006 | M-MW-6 | EPA 904.0 | 246439 | | |
| 60235624007 | M-MW-7 | EPA 904.0 | 246439 | | |
| 60235624008 | M-MW-8 | EPA 904.0 | 246439 | | |
| 60235624009 | M-BMW-1 | EPA 904.0 | 246439 | | |
| 60235624010 | M-BMW-2 | EPA 904.0 | 246439 | | |
| 60235624011 | M-DUP-1 | EPA 904.0 | 246439 | | |
| 60235624012 | M-FB-1 | EPA 904.0 | 246439 | | |
| 60235624013 | M-MW-1 MS | EPA 904.0 | 246439 | | |
| 60235624014 | M-MW-1 MSD | EPA 904.0 | 246439 | | |
| 60235624001 | M-MW-1 | SM 2540C | 461736 | | |
| 60235624002 | M-MW-2 | SM 2540C | 461736 | | |
| 60235624003 | M-MW-3 | SM 2540C | 461736 | | |
| 60235624004 | M-MW-4 | SM 2540C | 461736 | | |
| 60235624005 | M-MW-5 | SM 2540C | 461736 | | |
| 60235624006 | M-MW-6 | SM 2540C | 461736 | | |
| 60235624007 | M-MW-7 | SM 2540C | 461736 | | |
| 60235624008 | M-MW-8 | SM 2540C | 461736 | | |
| 60235624009 | M-BMW-1 | SM 2540C | 461736 | | |
| 60235624010 | M-BMW-2 | SM 2540C | 461736 | | |
| 60235624011 | M-DUP-1 | SM 2540C | 461736 | | |
| 60235624012 | M-FB-1 | SM 2540C | 461736 | | |
| 60235624001 | M-MW-1 | SM 4500-H+B | 461465 | | |
| 60235624002 | M-MW-2 | SM 4500-H+B | 461465 | | |
| 60235624003 | M-MW-3 | SM 4500-H+B | 461465 | | |
| 60235624004 | M-MW-4 | SM 4500-H+B | 461465 | | |
| 60235624005 | M-MW-5 | SM 4500-H+B | 461465 | | |
| 60235624006 | M-MW-6 | SM 4500-H+B | 461465 | | |
| 60235624007 | M-MW-7 | SM 4500-H+B | 461465 | | |
| 60235624008 | M-MW-8 | SM 4500-H+B | 461465 | | |
| 60235624009 | M-BMW-1 | SM 4500-H+B | 461465 | | |
| 60235624010 | M-BMW-2 | SM 4500-H+B | 461465 | | |
| 60235624011 | M-DUP-1 | SM 4500-H+B | 461465 | | |
| 60235624012 | M-FB-1 | SM 4500-H+B | 461465 | | |
| 60235624001 | M-MW-1 | EPA 300.0 | 462746 | | |
| 60235624001 | M-MW-1 | EPA 300.0 | 462784 | | |
| 60235624002 | M-MW-2 | EPA 300.0 | 462746 | | |
| 60235624002 | M-MW-2 | EPA 300.0 | 462784 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60235624

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60235624003 | M-MW-3 | EPA 300.0 | 462746 | | |
| 60235624003 | M-MW-3 | EPA 300.0 | 462784 | | |
| 60235624004 | M-MW-4 | EPA 300.0 | 462746 | | |
| 60235624004 | M-MW-4 | EPA 300.0 | 462784 | | |
| 60235624005 | M-MW-5 | EPA 300.0 | 462746 | | |
| 60235624005 | M-MW-5 | EPA 300.0 | 462784 | | |
| 60235624006 | M-MW-6 | EPA 300.0 | 462746 | | |
| 60235624006 | M-MW-6 | EPA 300.0 | 462784 | | |
| 60235624007 | M-MW-7 | EPA 300.0 | 462746 | | |
| 60235624007 | M-MW-7 | EPA 300.0 | 462784 | | |
| 60235624008 | M-MW-8 | EPA 300.0 | 462746 | | |
| 60235624008 | M-MW-8 | EPA 300.0 | 462784 | | |
| 60235624009 | M-BMW-1 | EPA 300.0 | 462746 | | |
| 60235624009 | M-BMW-1 | EPA 300.0 | 462784 | | |
| 60235624010 | M-BMW-2 | EPA 300.0 | 462746 | | |
| 60235624011 | M-DUP-1 | EPA 300.0 | 462746 | | |
| 60235624011 | M-DUP-1 | EPA 300.0 | 462784 | | |
| 60235624012 | M-FB-1 | EPA 300.0 | 462746 | | |

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Sample Condition Upon Receipt

WO#: 60235624
60235624

Client Name: Golden

Courier: FedEx UPS VIA Clay PEX ECI Pace Xroads Client Other

Tracking #: _____ Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-266 / T-239 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 10.6 9.9 Corr. Factor CF +0.3 CF +0.9 Corrected 4.9 10.6
Temperature should be above freezing to 6°C 4.2 11.3

Date and initials of person examining contents: 1/7/17

| | | |
|--|--|-----------|
| Chain of Custody present: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Chain of Custody relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Samples arrived within holding time: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Short Hold Time analyses (<72hr): | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | <u>pt</u> |
| Rush Turn Around Time requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | |
| Sufficient volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Correct containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Pace containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Containers intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Filtered volume received for dissolved tests? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Sample labels match COC: Date / time / ID / analyses | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Samples contain multiple phases? Matrix: <u>WT</u> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | |
| Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Cyanide water sample checks: <input checked="" type="checkbox"/> N/A | | |
| Lead acetate strip turns dark? (Record only) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Potassium iodide test strip turns blue/purple? (Preserve) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Trip Blank present: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | |
| Headspace in VOA vials (>6mm): | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Samples from USDA Regulated Area: State: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Additional labels attached to 5035A / TX1005 vials in the field? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jamie Chock _____ 1/9/17
Date: _____

March 31, 2017

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60239186

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on March 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 15-016-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

Kansas Field Laboratory Accreditation: # E-92587

Missouri Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|------------|--------|----------------|----------------|
| 60239186001 | M-MW-1 | Water | 03/07/17 14:18 | 03/08/17 04:00 |
| 60239186002 | M-MW-2 | Water | 03/07/17 08:55 | 03/08/17 04:00 |
| 60239186003 | M-MW-3 | Water | 03/07/17 10:35 | 03/08/17 04:00 |
| 60239186004 | M-MW-4 | Water | 03/07/17 11:25 | 03/08/17 04:00 |
| 60239186005 | M-MW-5 | Water | 03/07/17 11:33 | 03/08/17 04:00 |
| 60239186006 | M-MW-6 | Water | 03/07/17 13:05 | 03/08/17 04:00 |
| 60239186007 | M-MW-7 | Water | 03/07/17 13:30 | 03/08/17 04:00 |
| 60239186008 | M-MW-8 | Water | 03/07/17 12:34 | 03/08/17 04:00 |
| 60239186009 | M-BMW-1 | Water | 03/07/17 11:33 | 03/08/17 04:00 |
| 60239186010 | M-BMW-2 | Water | 03/07/17 10:26 | 03/08/17 04:00 |
| 60239186011 | M-DUP-1 | Water | 03/07/17 08:00 | 03/08/17 04:00 |
| 60239186012 | M-FB-1 | Water | 03/07/17 13:16 | 03/08/17 04:00 |
| 60239186013 | M-MW-2 MS | Water | 03/07/17 08:55 | 03/08/17 04:00 |
| 60239186014 | M-MW-2 MSD | Water | 03/07/17 08:55 | 03/08/17 04:00 |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60239186001 | M-MW-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| 60239186002 | M-MW-2 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| 60239186003 | M-MW-3 | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60239186004 | M-MW-4 | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| 60239186005 | M-MW-5 | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| EPA 7470 | NDJ | 1 | PASI-K | | |
| EPA 903.1 | WRR | 1 | PASI-PA | | |
| EPA 904.0 | JLW | 1 | PASI-PA | | |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60239186006 | M-MW-6 | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| 60239186007 | M-MW-7 | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| 60239186008 | M-MW-8 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60239186009 | M-BMW-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| 60239186010 | M-BMW-2 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|------------|-------------|----------|-------------------|------------|
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60239186011 | M-DUP-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60239186012 | M-FB-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | NDJ | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60239186013 | M-MW-2 MS | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60239186014 | M-MW-2 MSD | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-1 **Lab ID: 60239186001** Collected: 03/07/17 14:18 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 372 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 16:56 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 16:56 | 7440-41-7 | |
| Boron | 49.9J | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 16:56 | 7440-42-8 | |
| Calcium | 129000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 16:56 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 16:56 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 16:56 | 7439-92-1 | |
| Lithium | <2.9 | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 16:56 | 7439-93-2 | |
| Molybdenum | <1.3 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 16:56 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/14/17 12:45 | 7440-36-0 | |
| Arsenic | 0.67J | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/14/17 12:45 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/14/17 12:45 | 7440-43-9 | |
| Chromium | 0.63J | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/14/17 12:45 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/14/17 12:45 | 7782-49-2 | |
| Thallium | 0.064J | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/14/17 12:45 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 11:43 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 632 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:40 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.1 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:42 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 39.6 | mg/L | 5.0 | 2.5 | 5 | | 03/11/17 09:05 | 16887-00-6 | M1 |
| Fluoride | 0.25 | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 14:47 | 16984-48-8 | |
| Sulfate | 104 | mg/L | 10.0 | 5.0 | 10 | | 03/11/17 09:45 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-2 **Lab ID: 60239186002** Collected: 03/07/17 08:55 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 466 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:00 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:00 | 7440-41-7 | |
| Boron | 6600 | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:00 | 7440-42-8 | |
| Calcium | 124000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:00 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:00 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:00 | 7439-92-1 | |
| Lithium | 5.2J | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:00 | 7439-93-2 | |
| Molybdenum | <1.3 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:00 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/14/17 12:49 | 7440-36-0 | |
| Arsenic | 1.8 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/14/17 12:49 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/14/17 12:49 | 7440-43-9 | |
| Chromium | 1.7 | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/14/17 12:49 | 7440-47-3 | |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/14/17 12:49 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/14/17 12:49 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 11:45 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 850 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:40 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.3 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:07 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 25.2 | mg/L | 2.0 | 1.0 | 2 | | 03/11/17 10:50 | 16887-00-6 | |
| Fluoride | 0.11J | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 15:26 | 16984-48-8 | |
| Sulfate | 399 | mg/L | 50.0 | 25.0 | 50 | | 03/11/17 11:17 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-3 **Lab ID: 60239186003** Collected: 03/07/17 10:35 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 217 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:11 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:11 | 7440-41-7 | |
| Boron | 6800 | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:11 | 7440-42-8 | |
| Calcium | 145000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:11 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:11 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:11 | 7439-92-1 | |
| Lithium | 8.1J | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:11 | 7439-93-2 | |
| Molybdenum | 5.0J | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:11 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/14/17 13:02 | 7440-36-0 | |
| Arsenic | 7.9 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/14/17 13:02 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/14/17 13:02 | 7440-43-9 | |
| Chromium | 0.36J | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/14/17 13:02 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/14/17 13:02 | 7782-49-2 | |
| Thallium | 0.053J | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/14/17 13:02 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 11:52 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 832 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:41 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.7 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:16 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 30.1 | mg/L | 2.0 | 1.0 | 2 | | 03/11/17 11:43 | 16887-00-6 | |
| Fluoride | 0.13J | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 15:52 | 16984-48-8 | |
| Sulfate | 315 | mg/L | 50.0 | 25.0 | 50 | | 03/11/17 11:56 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-4 **Lab ID: 60239186004** Collected: 03/07/17 11:25 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 228 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:14 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:14 | 7440-41-7 | |
| Boron | 8890 | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:14 | 7440-42-8 | |
| Calcium | 175000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:14 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:14 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:14 | 7439-92-1 | |
| Lithium | 23.5 | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:14 | 7439-93-2 | |
| Molybdenum | 53.8 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:14 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/14/17 13:06 | 7440-36-0 | |
| Arsenic | 14.6 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/14/17 13:06 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/14/17 13:06 | 7440-43-9 | |
| Chromium | 0.39J | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/14/17 13:06 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/14/17 13:06 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/14/17 13:06 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 11:58 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 976 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:42 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:17 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 37.6 | mg/L | 5.0 | 2.5 | 5 | | 03/11/17 12:10 | 16887-00-6 | |
| Fluoride | 0.18J | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 16:05 | 16984-48-8 | |
| Sulfate | 404 | mg/L | 50.0 | 25.0 | 50 | | 03/11/17 12:23 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-5 **Lab ID: 60239186005** Collected: 03/07/17 11:33 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 312 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:18 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:18 | 7440-41-7 | |
| Boron | 9240 | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:18 | 7440-42-8 | |
| Calcium | 186000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:18 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:18 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:18 | 7439-92-1 | |
| Lithium | 23.1 | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:18 | 7439-93-2 | |
| Molybdenum | 93.7 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:18 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/14/17 13:10 | 7440-36-0 | |
| Arsenic | 21.9 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/14/17 13:10 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/14/17 13:10 | 7440-43-9 | |
| Chromium | 0.49J | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/14/17 13:10 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/14/17 13:10 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/14/17 13:10 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 12:00 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1060 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:42 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:21 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 37.6 | mg/L | 5.0 | 2.5 | 5 | | 03/11/17 12:36 | 16887-00-6 | |
| Fluoride | 0.21 | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 16:19 | 16984-48-8 | |
| Sulfate | 425 | mg/L | 50.0 | 25.0 | 50 | | 03/11/17 13:16 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-6 **Lab ID: 60239186006** Collected: 03/07/17 13:05 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 66.3 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:22 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:22 | 7440-41-7 | |
| Boron | 11100 | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:22 | 7440-42-8 | |
| Calcium | 378000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:22 | 7440-70-2 | |
| Cobalt | 5.7 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:22 | 7440-48-4 | |
| Lead | 2.7J | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:22 | 7439-92-1 | |
| Lithium | 140 | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:22 | 7439-93-2 | |
| Molybdenum | 157 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:22 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.030J | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/14/17 13:15 | 7440-36-0 | |
| Arsenic | 4.0 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/14/17 13:15 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/14/17 13:15 | 7440-43-9 | |
| Chromium | 0.77J | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/14/17 13:15 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/14/17 13:15 | 7782-49-2 | |
| Thallium | 0.038J | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/14/17 13:15 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 12:03 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1510 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:42 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:31 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 12.1 | mg/L | 1.0 | 0.50 | 1 | | 03/10/17 16:58 | 16887-00-6 | |
| Fluoride | 0.16J | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 16:58 | 16984-48-8 | |
| Sulfate | 656 | mg/L | 50.0 | 25.0 | 50 | | 03/11/17 13:29 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-7 **Lab ID: 60239186007** Collected: 03/07/17 13:30 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|-----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 56.0 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:33 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:33 | 7440-41-7 | |
| Boron | 25500 | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:33 | 7440-42-8 | |
| Calcium | 458000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:33 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:33 | 7440-48-4 | |
| Lead | 2.8J | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:33 | 7439-92-1 | |
| Lithium | 74.2 | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:33 | 7439-93-2 | |
| Molybdenum | 314 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:33 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.44J | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/13/17 21:49 | 7440-36-0 | |
| Arsenic | 2.5 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/13/17 21:49 | 7440-38-2 | |
| Cadmium | 0.20J | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/13/17 21:49 | 7440-43-9 | |
| Chromium | 0.18J | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/13/17 21:49 | 7440-47-3 | B |
| Selenium | 7.7 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/13/17 21:49 | 7782-49-2 | |
| Thallium | 0.11J | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/13/17 21:49 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 12:05 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 2220 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:43 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:41 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 76.4 | mg/L | 10.0 | 5.0 | 10 | | 03/11/17 13:42 | 16887-00-6 | |
| Fluoride | 0.30 | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 17:11 | 16984-48-8 | |
| Sulfate | 1250 | mg/L | 100 | 50.0 | 100 | | 03/11/17 13:55 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-8 **Lab ID: 60239186008** Collected: 03/07/17 12:34 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 240 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:37 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:37 | 7440-41-7 | |
| Boron | 9390 | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:37 | 7440-42-8 | |
| Calcium | 176000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:37 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:37 | 7440-48-4 | |
| Lead | 5.2 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:37 | 7439-92-1 | |
| Lithium | 33.0 | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:37 | 7439-93-2 | |
| Molybdenum | 213 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:37 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.37J | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/13/17 21:54 | 7440-36-0 | |
| Arsenic | 6.1 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/13/17 21:54 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/13/17 21:54 | 7440-43-9 | |
| Chromium | 1.2 | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/13/17 21:54 | 7440-47-3 | |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/13/17 21:54 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/13/17 21:54 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 12:07 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 908 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:43 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.0 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:24 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 23.0 | mg/L | 2.0 | 1.0 | 2 | | 03/11/17 14:08 | 16887-00-6 | |
| Fluoride | 0.22 | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 17:25 | 16984-48-8 | |
| Sulfate | 456 | mg/L | 50.0 | 25.0 | 50 | | 03/11/17 14:22 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-BMW-1 **Lab ID: 60239186009** Collected: 03/07/17 11:33 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 221 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:40 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:40 | 7440-41-7 | |
| Boron | 304 | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:40 | 7440-42-8 | |
| Calcium | 96900 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:40 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:40 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:40 | 7439-92-1 | |
| Lithium | 14.9 | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:40 | 7439-93-2 | |
| Molybdenum | 6.7J | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:40 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.60J | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/13/17 21:58 | 7440-36-0 | |
| Arsenic | 2.1 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/13/17 21:58 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/13/17 21:58 | 7440-43-9 | |
| Chromium | 1.8 | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/13/17 21:58 | 7440-47-3 | |
| Selenium | 0.18J | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/13/17 21:58 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/13/17 21:58 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 12:09 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 728 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:44 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:23 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 124 | mg/L | 10.0 | 5.0 | 10 | | 03/11/17 14:35 | 16887-00-6 | |
| Fluoride | 0.39 | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 17:38 | 16984-48-8 | |
| Sulfate | 127 | mg/L | 10.0 | 5.0 | 10 | | 03/11/17 14:35 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-BMW-2 **Lab ID: 60239186010** Collected: 03/07/17 10:26 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 566 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:44 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:44 | 7440-41-7 | |
| Boron | 79.5J | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:44 | 7440-42-8 | |
| Calcium | 102000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:44 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:44 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:44 | 7439-92-1 | |
| Lithium | 7.4J | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:44 | 7439-93-2 | |
| Molybdenum | <1.3 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:44 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/13/17 22:02 | 7440-36-0 | |
| Arsenic | 1.5 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/13/17 22:02 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/13/17 22:02 | 7440-43-9 | |
| Chromium | 1.2 | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/13/17 22:02 | 7440-47-3 | |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/13/17 22:02 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/13/17 22:02 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 12:11 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 454 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:44 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:15 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 11.8 | mg/L | 1.0 | 0.50 | 1 | | 03/10/17 17:51 | 16887-00-6 | |
| Fluoride | 0.28 | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 17:51 | 16984-48-8 | |
| Sulfate | 16.1 | mg/L | 1.0 | 0.50 | 1 | | 03/10/17 17:51 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-DUP-1 **Lab ID: 60239186011** Collected: 03/07/17 08:00 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 316 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:51 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:51 | 7440-41-7 | |
| Boron | 9370 | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:51 | 7440-42-8 | |
| Calcium | 188000 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:51 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:51 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:51 | 7439-92-1 | |
| Lithium | 22.6 | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:51 | 7439-93-2 | |
| Molybdenum | 95.9 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:51 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/13/17 22:07 | 7440-36-0 | |
| Arsenic | 22.3 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/13/17 22:07 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/13/17 22:07 | 7440-43-9 | |
| Chromium | 1.7 | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/13/17 22:07 | 7440-47-3 | |
| Selenium | 0.14J | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/13/17 22:07 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/13/17 22:07 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 12:14 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1060 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:45 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:06 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 37.0 | mg/L | 5.0 | 2.5 | 5 | | 03/11/17 14:48 | 16887-00-6 | |
| Fluoride | 0.19J | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 18:04 | 16984-48-8 | |
| Sulfate | 423 | mg/L | 50.0 | 25.0 | 50 | | 03/11/17 15:01 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-FB-1 **Lab ID: 60239186012** Collected: 03/07/17 13:16 Received: 03/08/17 04:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | <0.91 | ug/L | 5.0 | 0.91 | 1 | 03/10/17 11:50 | 03/13/17 17:55 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 03/10/17 11:50 | 03/13/17 17:55 | 7440-41-7 | |
| Boron | 23.0J | ug/L | 100 | 3.5 | 1 | 03/10/17 11:50 | 03/13/17 17:55 | 7440-42-8 | |
| Calcium | <36.0 | ug/L | 100 | 36.0 | 1 | 03/10/17 11:50 | 03/13/17 17:55 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 03/10/17 11:50 | 03/13/17 17:55 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 03/10/17 11:50 | 03/13/17 17:55 | 7439-92-1 | |
| Lithium | <2.9 | ug/L | 10.0 | 2.9 | 1 | 03/10/17 11:50 | 03/13/17 17:55 | 7439-93-2 | |
| Molybdenum | <1.3 | ug/L | 20.0 | 1.3 | 1 | 03/10/17 11:50 | 03/13/17 17:55 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 03/10/17 11:50 | 03/13/17 21:41 | 7440-36-0 | |
| Arsenic | <0.052 | ug/L | 1.0 | 0.052 | 1 | 03/10/17 11:50 | 03/13/17 21:41 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 03/10/17 11:50 | 03/13/17 21:41 | 7440-43-9 | |
| Chromium | 0.33J | ug/L | 1.0 | 0.054 | 1 | 03/10/17 11:50 | 03/13/17 21:41 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 03/10/17 11:50 | 03/13/17 21:41 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 03/10/17 11:50 | 03/13/17 21:41 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 03/08/17 14:00 | 03/09/17 12:16 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 8.0 | mg/L | 5.0 | 5.0 | 1 | | 03/08/17 14:46 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.6 | Std. Units | 0.10 | 0.10 | 1 | | 03/13/17 10:34 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 03/10/17 18:17 | 16887-00-6 | |
| Fluoride | <0.10 | mg/L | 0.20 | 0.10 | 1 | | 03/10/17 18:17 | 16984-48-8 | |
| Sulfate | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 03/10/17 18:17 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

QC Batch: 467985 Analysis Method: EPA 7470
 QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
 Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

METHOD BLANK: 1915402 Matrix: Water
 Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Mercury | ug/L | <0.046 | 0.20 | 0.046 | 03/09/17 11:38 | |

LABORATORY CONTROL SAMPLE: 1915403

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury | ug/L | 5 | 4.9 | 98 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1915404 1915405

| Parameter | Units | 60239186002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury | ug/L | <0.046 | 5 | 5 | 4.4 | 4.4 | 89 | 87 | 75-125 | 2 | 20 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

QC Batch: 468260 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

METHOD BLANK: 1916661 Matrix: Water
 Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | <0.91 | 5.0 | 0.91 | 03/13/17 16:49 | |
| Beryllium | ug/L | <0.16 | 1.0 | 0.16 | 03/13/17 16:49 | |
| Boron | ug/L | <3.5 | 100 | 3.5 | 03/13/17 16:49 | |
| Calcium | ug/L | <36.0 | 100 | 36.0 | 03/13/17 16:49 | |
| Cobalt | ug/L | <0.73 | 5.0 | 0.73 | 03/13/17 16:49 | |
| Lead | ug/L | <2.4 | 5.0 | 2.4 | 03/13/17 16:49 | |
| Lithium | ug/L | <2.9 | 10.0 | 2.9 | 03/13/17 16:49 | |
| Molybdenum | ug/L | <1.3 | 20.0 | 1.3 | 03/13/17 16:49 | |

LABORATORY CONTROL SAMPLE: 1916662

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 1020 | 102 | 85-115 | |
| Beryllium | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Boron | ug/L | 1000 | 991 | 99 | 85-115 | |
| Calcium | ug/L | 10000 | 9830 | 98 | 85-115 | |
| Cobalt | ug/L | 1000 | 976 | 98 | 85-115 | |
| Lead | ug/L | 1000 | 995 | 99 | 85-115 | |
| Lithium | ug/L | 1000 | 1030 | 103 | 85-115 | |
| Molybdenum | ug/L | 1000 | 1030 | 103 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1916663 1916664

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|------------|-------|--------------------|-------------|-------------|-----------|----------|-----------|--------------|--------|---------|------|
| | | 60239186002 Result | Spike Conc. | Spike Conc. | MS Result | | | | | | |
| Barium | ug/L | 466 | 1000 | 1000 | 1500 | 1460 | 104 | 100 | 70-130 | 3 | 20 |
| Beryllium | ug/L | <0.16 | 1000 | 1000 | 997 | 986 | 100 | 99 | 70-130 | 1 | 20 |
| Boron | ug/L | 6600 | 1000 | 1000 | 7630 | 7590 | 103 | 100 | 70-130 | 0 | 20 |
| Calcium | ug/L | 124000 | 10000 | 10000 | 135000 | 132000 | 103 | 79 | 70-130 | 2 | 20 |
| Cobalt | ug/L | <0.73 | 1000 | 1000 | 945 | 936 | 95 | 94 | 70-130 | 1 | 20 |
| Lead | ug/L | <2.4 | 1000 | 1000 | 952 | 945 | 95 | 94 | 70-130 | 1 | 20 |
| Lithium | ug/L | 5.2J | 1000 | 1000 | 1050 | 1030 | 104 | 102 | 70-130 | 2 | 20 |
| Molybdenum | ug/L | <1.3 | 1000 | 1000 | 1040 | 1040 | 104 | 103 | 70-130 | 0 | 20 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| MATRIX SPIKE SAMPLE: | | 1916665 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60239186010 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Barium | ug/L | 566 | 1000 | 1630 | 107 | 70-130 | |
| Beryllium | ug/L | <0.16 | 1000 | 1020 | 102 | 70-130 | |
| Boron | ug/L | 79.5J | 1000 | 1090 | 101 | 70-130 | |
| Calcium | ug/L | 102000 | 10000 | 113000 | 112 | 70-130 | |
| Cobalt | ug/L | <0.73 | 1000 | 948 | 95 | 70-130 | |
| Lead | ug/L | <2.4 | 1000 | 964 | 96 | 70-130 | |
| Lithium | ug/L | 7.4J | 1000 | 1070 | 106 | 70-130 | |
| Molybdenum | ug/L | <1.3 | 1000 | 1040 | 104 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

QC Batch: 468261 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

METHOD BLANK: 1916671 Matrix: Water
 Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.026 | 1.0 | 0.026 | 03/14/17 12:36 | |
| Arsenic | ug/L | <0.052 | 1.0 | 0.052 | 03/14/17 12:36 | |
| Cadmium | ug/L | <0.018 | 0.50 | 0.018 | 03/14/17 12:36 | |
| Chromium | ug/L | 0.11J | 1.0 | 0.054 | 03/14/17 12:36 | |
| Selenium | ug/L | <0.086 | 1.0 | 0.086 | 03/14/17 12:36 | |
| Thallium | ug/L | <0.036 | 1.0 | 0.036 | 03/14/17 12:36 | |

LABORATORY CONTROL SAMPLE: 1916672

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 39.8 | 100 | 85-115 | |
| Arsenic | ug/L | 40 | 40.6 | 101 | 85-115 | |
| Cadmium | ug/L | 40 | 40.3 | 101 | 85-115 | |
| Chromium | ug/L | 40 | 40.8 | 102 | 85-115 | |
| Selenium | ug/L | 40 | 39.6 | 99 | 85-115 | |
| Thallium | ug/L | 40 | 40.8 | 102 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1916673 1916674

| Parameter | Units | 60239186002 Result | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|-------------|-----------|------------|------|----------|-----------|--------------|-----|---------|------|
| | | | Spike Conc. | MS Result | MSD Result | | | | | | | |
| Antimony | ug/L | <0.026 | 40 | 40 | 39.8 | 40.4 | 99 | 101 | 70-130 | 2 | 20 | |
| Arsenic | ug/L | 1.8 | 40 | 40 | 42.6 | 43.1 | 102 | 103 | 70-130 | 1 | 20 | |
| Cadmium | ug/L | <0.018 | 40 | 40 | 39.1 | 39.0 | 98 | 97 | 70-130 | 0 | 20 | |
| Chromium | ug/L | 1.7 | 40 | 40 | 41.3 | 40.9 | 99 | 98 | 70-130 | 1 | 20 | |
| Selenium | ug/L | <0.086 | 40 | 40 | 39.9 | 39.2 | 100 | 98 | 70-130 | 2 | 20 | |
| Thallium | ug/L | <0.036 | 40 | 40 | 41.2 | 41.7 | 103 | 104 | 70-130 | 1 | 20 | |

MATRIX SPIKE SAMPLE: 1916676

| Parameter | Units | 60239186006 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | 0.030J | 40 | 40.7 | 102 | 70-130 | |
| Arsenic | ug/L | 4.0 | 40 | 45.6 | 104 | 70-130 | |
| Cadmium | ug/L | <0.018 | 40 | 38.4 | 96 | 70-130 | |
| Chromium | ug/L | 0.77J | 40 | 41.0 | 101 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| MATRIX SPIKE SAMPLE: | | 1916676 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60239186006 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Selenium | ug/L | <0.086 | 40 | 39.5 | 99 | 70-130 | |
| Thallium | ug/L | 0.038J | 40 | 38.4 | 96 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

QC Batch: 467974

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

METHOD BLANK: 1915356

Matrix: Water

Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 03/08/17 14:38 | |

LABORATORY CONTROL SAMPLE: 1915357

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 981 | 98 | 80-120 | |

SAMPLE DUPLICATE: 1915358

| Parameter | Units | 60239186002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 850 | 842 | 1 | 10 | |

SAMPLE DUPLICATE: 1915359

| Parameter | Units | 60239186008 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 908 | 916 | 1 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60239186

QC Batch: 468398 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186008, 60239186009,
60239186010, 60239186011

SAMPLE DUPLICATE: 1917822

| Parameter | Units | 60239078005 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.0 | 7.0 | 0 | 5 | H6 |

SAMPLE DUPLICATE: 1917823

| Parameter | Units | 60239186002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 6.3 | 6.3 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

QC Batch: 468401 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60239186001, 60239186007, 60239186012

SAMPLE DUPLICATE: 1917824

| Parameter | Units | 60239186012 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.6 | 6.9 | 9 | 5 | D6,H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60239186

QC Batch: 468211 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

METHOD BLANK: 1916475 Matrix: Water
Associated Lab Samples: 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 03/10/17 14:03 | |
| Fluoride | mg/L | <0.10 | 0.20 | 0.10 | 03/10/17 14:03 | |
| Sulfate | mg/L | <0.50 | 1.0 | 0.50 | 03/10/17 14:03 | |

LABORATORY CONTROL SAMPLE: 1916476

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 5.0 | 100 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.7 | 108 | 90-110 | |
| Sulfate | mg/L | 5 | 5.2 | 104 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1916477 1916478

| Parameter | Units | 60239186001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Fluoride | mg/L | 0.25 | 2.5 | 2.5 | 3.0 | 3.1 | 108 | 113 | 80-120 | 4 | 15 | |

MATRIX SPIKE SAMPLE: 1916479

| Parameter | Units | 60239186002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Fluoride | mg/L | 0.11J | 2.5 | 3.0 | 114 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| | | | |
|-------------------------|--|-----------------------|-----------------|
| QC Batch: | 468364 | Analysis Method: | EPA 300.0 |
| QC Batch Method: | EPA 300.0 | Analysis Description: | 300.0 IC Anions |
| Associated Lab Samples: | 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186011 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1917452 | Matrix: | Water |
| Associated Lab Samples: | 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186011 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 03/11/17 06:54 | |
| Sulfate | mg/L | <0.50 | 1.0 | 0.50 | 03/11/17 06:54 | |

| LABORATORY CONTROL SAMPLE: 1917453 | | | | | | |
|------------------------------------|-------|-------------|------------|-----------|--------------|------------|
| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
| Chloride | mg/L | 5 | 5.1 | 103 | 90-110 | |
| Sulfate | mg/L | 5 | 5.2 | 104 | 90-110 | |

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1917454 | | | | | | | | | | | | 1917455 | |
|--|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|---------|--|
| Parameter | Units | 60239186001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
| Chloride | mg/L | 39.6 | 25 | 25 | 72.5 | 70.0 | 132 | 122 | 80-120 | 4 | 15 | M1 | |
| Sulfate | mg/L | 104 | 50 | 50 | 158 | 158 | 108 | 109 | 80-120 | 0 | 15 | | |

| MATRIX SPIKE SAMPLE: 1917456 | | | | | | | | | | | |
|------------------------------|-------|--------------------|-------------|-----------|----------|--------------|------------|--|--|--|--|
| Parameter | Units | 60239186002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers | | | | |
| Chloride | mg/L | | 25.2 | 10 | 36.4 | 112 | 80-120 | | | | |
| Sulfate | mg/L | | 399 | 250 | 651 | 101 | 80-120 | | | | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-1 **Lab ID: 60239186001** Collected: 03/07/17 14:18 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.247 ± 0.297 (0.454) C:NA T:91% | pCi/L | 03/28/17 22:51 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.389 ± 0.415 (0.863) C:64% T:83% | pCi/L | 03/28/17 15:57 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-2 **Lab ID: 60239186002** Collected: 03/07/17 08:55 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.256 ± 0.356 (0.594) C:NA T:89% | pCi/L | 03/28/17 23:19 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.714 ± 0.455 (0.862) C:64% T:87% | pCi/L | 03/28/17 15:57 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-3 **Lab ID: 60239186003** Collected: 03/07/17 10:35 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.475 ± 0.442 (0.582) C:NA T:93% | pCi/L | 03/27/17 23:51 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.212 ± 0.367 (0.801) C:72% T:83% | pCi/L | 03/28/17 15:57 | 15262-20-1 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-4 **Lab ID: 60239186004** Collected: 03/07/17 11:25 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.749 ± 0.634 (0.959) C:NA T:92% | pCi/L | 03/29/17 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.616 ± 0.437 (0.841) C:66% T:81% | pCi/L | 03/28/17 15:57 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-5 **Lab ID: 60239186005** Collected: 03/07/17 11:33 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0621 ± 0.404 (0.814) C:NA T:84% | pCi/L | 03/29/17 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.689 ± 0.560 (1.14) C:70% T:84% | pCi/L | 03/28/17 15:54 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-6 **Lab ID: 60239186006** Collected: 03/07/17 13:05 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.000 ± 0.256 (0.522) C:NA T:96% | pCi/L | 03/29/17 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.500 ± 0.444 (0.906) C:69% T:84% | pCi/L | 03/28/17 15:54 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-7 **Lab ID: 60239186007** Collected: 03/07/17 13:30 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.279 ± 0.257 (0.151) C:NA T:94% | pCi/L | 03/29/17 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.0941 ± 0.522 (1.18) C:69% T:88% | pCi/L | 03/28/17 15:54 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-8 **Lab ID: 60239186008** Collected: 03/07/17 12:34 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | -0.118 ± 0.366 (0.832) C:NA T:92% | pCi/L | 03/29/17 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | -0.121 ± 0.484 (1.13) C:66% T:86% | pCi/L | 03/28/17 15:54 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-BMW-1 **Lab ID: 60239186009** Collected: 03/07/17 11:33 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.295 ± 0.348 (0.547) C:NA T:89% | pCi/L | 03/29/17 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | -0.118 ± 0.439 (1.04) C:69% T:80% | pCi/L | 03/28/17 15:54 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-BMW-2 **Lab ID: 60239186010** Collected: 03/07/17 10:26 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.000 ± 0.243 (0.392) C:NA T:100% | pCi/L | 03/29/17 10:28 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.764 ± 0.509 (0.958) C:65% T:84% | pCi/L | 03/28/17 18:02 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-DUP-1 **Lab ID: 60239186011** Collected: 03/07/17 08:00 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.117 ± 0.324 (0.629) C:NA T:93% | pCi/L | 03/29/17 10:46 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.42 ± 0.578 (0.848) C:66% T:82% | pCi/L | 03/28/17 18:02 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-FB-1 **Lab ID: 60239186012** Collected: 03/07/17 13:16 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0568 ± 0.295 (0.612) C:NA T:92% | pCi/L | 03/29/17 10:48 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.04 ± 0.528 (0.895) C:68% T:80% | pCi/L | 03/28/17 18:02 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-2 MS **Lab ID: 60239186013** Collected: 03/07/17 08:55 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 74.77%REC ± NA (NA) | pCi/L | 03/28/17 23:31 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 146.53 %REC ± NA (NA) C:NA T:NA | pCi/L | 03/28/17 15:36 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

Sample: M-MW-2 MSD **Lab ID: 60239186014** Collected: 03/07/17 08:55 Received: 03/08/17 04:00 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 78.33%REC 4.65RPD ± NA (NA) | pCi/L | 03/28/17 23:31 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 144.34 %REC 1.51 RPD ± NA (NA) C:NA T:NA | pCi/L | 03/28/17 15:36 | 15262-20-1 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| | |
|-------------------------------------|--|
| QC Batch: 252785 | Analysis Method: EPA 903.1 |
| QC Batch Method: EPA 903.1 | Analysis Description: 903.1 Radium-226 |
| Associated Lab Samples: 60239186003 | |

METHOD BLANK: 1243661 Matrix: Water

Associated Lab Samples: 60239186003

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|----------------------------------|-------|----------------|------------|
| Radium-226 | 0.152 ± 0.347 (0.558) C:NA T:95% | pCi/L | 03/27/17 23:23 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| | | | |
|-------------------------|---|-----------------------|------------------|
| QC Batch: | 252744 | Analysis Method: | EPA 903.1 |
| QC Batch Method: | EPA 903.1 | Analysis Description: | 903.1 Radium-226 |
| Associated Lab Samples: | 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012 | | |

| | | | |
|-------------------------|---|---------|-------|
| METHOD BLANK: | 1243400 | Matrix: | Water |
| Associated Lab Samples: | 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|----------------------------------|-------|----------------|------------|
| Radium-226 | 0.180 ± 0.312 (0.558) C:NA T:90% | pCi/L | 03/29/17 10:28 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

QC Batch: 252743 Analysis Method: EPA 903.1
 QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
 Associated Lab Samples: 60239186001, 60239186002, 60239186013, 60239186014

METHOD BLANK: 1243399 Matrix: Water
 Associated Lab Samples: 60239186001, 60239186002, 60239186013, 60239186014

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|----------------------------------|-------|----------------|------------|
| Radium-226 | 0.000 ± 0.274 (0.442) C:NA T:92% | pCi/L | 03/28/17 22:21 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| | | | |
|-------------------------|--|-----------------------|------------------|
| QC Batch: | 252794 | Analysis Method: | EPA 904.0 |
| QC Batch Method: | EPA 904.0 | Analysis Description: | 904.0 Radium 228 |
| Associated Lab Samples: | 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012, 60239186013, 60239186014 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1243679 | Matrix: | Water |
| Associated Lab Samples: | 60239186001, 60239186002, 60239186003, 60239186004, 60239186005, 60239186006, 60239186007, 60239186008, 60239186009, 60239186010, 60239186011, 60239186012, 60239186013, 60239186014 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.624 ± 0.441 (0.842) C:62% T:78% | pCi/L | 03/28/17 15:57 | |

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QUALIFIERS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60239186001 | M-MW-1 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186002 | M-MW-2 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186003 | M-MW-3 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186004 | M-MW-4 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186005 | M-MW-5 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186006 | M-MW-6 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186007 | M-MW-7 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186008 | M-MW-8 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186009 | M-BMW-1 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186010 | M-BMW-2 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186011 | M-DUP-1 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186012 | M-FB-1 | EPA 200.7 | 468260 | EPA 200.7 | 468305 |
| 60239186001 | M-MW-1 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186002 | M-MW-2 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186003 | M-MW-3 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186004 | M-MW-4 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186005 | M-MW-5 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186006 | M-MW-6 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186007 | M-MW-7 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186008 | M-MW-8 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186009 | M-BMW-1 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186010 | M-BMW-2 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186011 | M-DUP-1 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186012 | M-FB-1 | EPA 200.8 | 468261 | EPA 200.8 | 468306 |
| 60239186001 | M-MW-1 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186002 | M-MW-2 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186003 | M-MW-3 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186004 | M-MW-4 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186005 | M-MW-5 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186006 | M-MW-6 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186007 | M-MW-7 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186008 | M-MW-8 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186009 | M-BMW-1 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186010 | M-BMW-2 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186011 | M-DUP-1 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186012 | M-FB-1 | EPA 7470 | 467985 | EPA 7470 | 468022 |
| 60239186001 | M-MW-1 | EPA 903.1 | 252743 | | |
| 60239186002 | M-MW-2 | EPA 903.1 | 252743 | | |
| 60239186003 | M-MW-3 | EPA 903.1 | 252785 | | |
| 60239186004 | M-MW-4 | EPA 903.1 | 252744 | | |
| 60239186005 | M-MW-5 | EPA 903.1 | 252744 | | |
| 60239186006 | M-MW-6 | EPA 903.1 | 252744 | | |
| 60239186007 | M-MW-7 | EPA 903.1 | 252744 | | |
| 60239186008 | M-MW-8 | EPA 903.1 | 252744 | | |
| 60239186009 | M-BMW-1 | EPA 903.1 | 252744 | | |
| 60239186010 | M-BMW-2 | EPA 903.1 | 252744 | | |

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|----------|-------------------|------------------|
| 60239186011 | M-DUP-1 | EPA 903.1 | 252744 | | |
| 60239186012 | M-FB-1 | EPA 903.1 | 252744 | | |
| 60239186013 | M-MW-2 MS | EPA 903.1 | 252743 | | |
| 60239186014 | M-MW-2 MSD | EPA 903.1 | 252743 | | |
| 60239186001 | M-MW-1 | EPA 904.0 | 252794 | | |
| 60239186002 | M-MW-2 | EPA 904.0 | 252794 | | |
| 60239186003 | M-MW-3 | EPA 904.0 | 252794 | | |
| 60239186004 | M-MW-4 | EPA 904.0 | 252794 | | |
| 60239186005 | M-MW-5 | EPA 904.0 | 252794 | | |
| 60239186006 | M-MW-6 | EPA 904.0 | 252794 | | |
| 60239186007 | M-MW-7 | EPA 904.0 | 252794 | | |
| 60239186008 | M-MW-8 | EPA 904.0 | 252794 | | |
| 60239186009 | M-BMW-1 | EPA 904.0 | 252794 | | |
| 60239186010 | M-BMW-2 | EPA 904.0 | 252794 | | |
| 60239186011 | M-DUP-1 | EPA 904.0 | 252794 | | |
| 60239186012 | M-FB-1 | EPA 904.0 | 252794 | | |
| 60239186013 | M-MW-2 MS | EPA 904.0 | 252794 | | |
| 60239186014 | M-MW-2 MSD | EPA 904.0 | 252794 | | |
| 60239186001 | M-MW-1 | SM 2540C | 467974 | | |
| 60239186002 | M-MW-2 | SM 2540C | 467974 | | |
| 60239186003 | M-MW-3 | SM 2540C | 467974 | | |
| 60239186004 | M-MW-4 | SM 2540C | 467974 | | |
| 60239186005 | M-MW-5 | SM 2540C | 467974 | | |
| 60239186006 | M-MW-6 | SM 2540C | 467974 | | |
| 60239186007 | M-MW-7 | SM 2540C | 467974 | | |
| 60239186008 | M-MW-8 | SM 2540C | 467974 | | |
| 60239186009 | M-BMW-1 | SM 2540C | 467974 | | |
| 60239186010 | M-BMW-2 | SM 2540C | 467974 | | |
| 60239186011 | M-DUP-1 | SM 2540C | 467974 | | |
| 60239186012 | M-FB-1 | SM 2540C | 467974 | | |
| 60239186001 | M-MW-1 | SM 4500-H+B | 468401 | | |
| 60239186002 | M-MW-2 | SM 4500-H+B | 468398 | | |
| 60239186003 | M-MW-3 | SM 4500-H+B | 468398 | | |
| 60239186004 | M-MW-4 | SM 4500-H+B | 468398 | | |
| 60239186005 | M-MW-5 | SM 4500-H+B | 468398 | | |
| 60239186006 | M-MW-6 | SM 4500-H+B | 468398 | | |
| 60239186007 | M-MW-7 | SM 4500-H+B | 468401 | | |
| 60239186008 | M-MW-8 | SM 4500-H+B | 468398 | | |
| 60239186009 | M-BMW-1 | SM 4500-H+B | 468398 | | |
| 60239186010 | M-BMW-2 | SM 4500-H+B | 468398 | | |
| 60239186011 | M-DUP-1 | SM 4500-H+B | 468398 | | |
| 60239186012 | M-FB-1 | SM 4500-H+B | 468401 | | |
| 60239186001 | M-MW-1 | EPA 300.0 | 468211 | | |
| 60239186001 | M-MW-1 | EPA 300.0 | 468364 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60239186

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60239186002 | M-MW-2 | EPA 300.0 | 468211 | | |
| 60239186002 | M-MW-2 | EPA 300.0 | 468364 | | |
| 60239186003 | M-MW-3 | EPA 300.0 | 468211 | | |
| 60239186003 | M-MW-3 | EPA 300.0 | 468364 | | |
| 60239186004 | M-MW-4 | EPA 300.0 | 468211 | | |
| 60239186004 | M-MW-4 | EPA 300.0 | 468364 | | |
| 60239186005 | M-MW-5 | EPA 300.0 | 468211 | | |
| 60239186005 | M-MW-5 | EPA 300.0 | 468364 | | |
| 60239186006 | M-MW-6 | EPA 300.0 | 468211 | | |
| 60239186006 | M-MW-6 | EPA 300.0 | 468364 | | |
| 60239186007 | M-MW-7 | EPA 300.0 | 468211 | | |
| 60239186007 | M-MW-7 | EPA 300.0 | 468364 | | |
| 60239186008 | M-MW-8 | EPA 300.0 | 468211 | | |
| 60239186008 | M-MW-8 | EPA 300.0 | 468364 | | |
| 60239186009 | M-BMW-1 | EPA 300.0 | 468211 | | |
| 60239186009 | M-BMW-1 | EPA 300.0 | 468364 | | |
| 60239186010 | M-BMW-2 | EPA 300.0 | 468211 | | |
| 60239186011 | M-DUP-1 | EPA 300.0 | 468211 | | |
| 60239186011 | M-DUP-1 | EPA 300.0 | 468364 | | |
| 60239186012 | M-FB-1 | EPA 300.0 | 468211 | | |

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Sample Condition Upon Receipt

WO#: 60239186



Client Name: Galder

Courier: FedEx UPS VIA Clay PEX ECI Pace Xroads Client Other

Tracking #: _____ Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-266 / T-239 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 13.3 / 13.8 Corr. Factor CF +1.5 / CF +0.9 Corrected 2.1 / 15.3
Temperature should be above freezing to 6°C 0.6 14.8

Date and initials of person examining contents: HW 3/8/17

| | | |
|--|--|-----------------------------------|
| Chain of Custody present: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Chain of Custody relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | <i>Only Radium volume arrived</i> |
| Samples arrived within holding time: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Short Hold Time analyses (<72hr): | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | <i>04</i> |
| Rush Turn Around Time requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | |
| Sufficient volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Correct containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Pace containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Containers intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Filtered volume received for dissolved tests? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Sample labels match COC: Date / time / ID / analyses | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Samples contain multiple phases? Matrix: <u>WT</u> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | |
| Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Cyanide water sample checks: | <input checked="" type="checkbox"/> N/A | |
| Lead acetate strip turns dark? (Record only) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Potassium iodide test strip turns blue/purple? (Preserve) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Trip Blank present: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | |
| Headspace in VOA vials (>6mm): | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Samples from USDA Regulated Area: State: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Additional labels attached to 5035A / TX1005 vials in the field? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jami Chok Date: 3/8/17



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| Section A Required Client Information: Company: Golder Associates Address: 820 South Main Street, Suite 100 St Charles, MO 63301 Email To: maddock@golder.com Phone: 636-724-9191 Fax: 636-724-9323 Requested Due Date/TAT: Standard | | Section B Required Project Information: Report To: Mark Haddock (mhaddock@golder.com) Copy To: Jeffrey Ingram Purchase Order No.: _____ Project Name: Ameren Meramec Energy Center Project Number: 153-1406.0004A | | Section C Invoice Information: Attention: _____ Company Name: _____ Address: _____ Pace Quote Reference: _____ Pace Project Manager: Jamie Church Pace Profile #: 9285 | | REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____ Site Location: _____ STATE: MO | |
|--|--|--|--|--|--|--|--|

| ITEM # | Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WW WASTE WATER WWP PRODUCT P SOILSOLID SL OIL OL WP AR OT TS | COLLECTED | | SAMPLE TYPE (G=GRAB C=COMP) | MATRIX CODE (see valid codes to left) | # OF CONTAINERS | Preservatives | | | | | | | Analysis Test ↑ | Requested Analysis Filtered (Y/N) | Pace Project No./ Lab I.D. |
|--------|--|---------------------------|------------------------------|-----------------------------|---------------------------------------|-----------------|---------------|--------------------------------|------------------|-----|------|--------------------------------|----------|-----------------|-----------------------------------|----------------------------|
| | | COMPOSITE START DATE TIME | COMPOSITE END/GRAB DATE TIME | | | | Unpreserved | H ₂ SO ₄ | HNO ₃ | HCl | NaOH | Na ₂ O ₃ | Methanol | | | |
| 1 | M-MW-1 | | 3/7/17 1418 | G | WT G | 4 | | | | | | | | | 2 (PAIN) 6823N 6820 01 | |
| 2 | M-MW-2 | | 855 | G | WT G | 12 | | | | | | | | | 6 (PAIN) 3 (PAIN) 3 (PAIN) 02 | |
| 3 | M-MW-3 | | 635 | G | WT G | 4 | | | | | | | | | 2 (PAIN) 6823N 6820 03 | |
| 4 | M-MW-4 | | 1125 | G | WT G | | | | | | | | | | 04 | |
| 5 | M-MW-5 | | 1133 | G | WT G | | | | | | | | | | 65 | |
| 6 | M-MW-6 | | 1305 | G | WT G | | | | | | | | | | 06 | |
| 7 | M-MW-7 | | 1330 | G | WT G | | | | | | | | | | 67 | |
| 8 | M-MW-8 | | 1234 | G | WT G | | | | | | | | | | 68 | |
| 9 | M-BMW-1 | | 1133 | G | WT G | | | | | | | | | | 69 | |
| 10 | M-BMW-2 | | 1024 | G | WT G | | | | | | | | | | 010 | |
| 11 | M-DUP-1 | | | G | WT G | | | | | | | | | | 011 | |
| 12 | M-FB-1 | | 1316 | G | WT G | | | | | | | | | | 012 | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---------------------|-------------------------------|--------------------|--------|--------|---------------------------|--------------------|--------|
| | | <i>[Signature]</i> | | 3/7/17 | 1600 | <i>[Signature]</i> | 3/7/17 |
| | <i>[Signature]</i> | | 3/7/17 | 1700 | <i>[Signature]</i> | 3/8/17 | 07400 |

| SAMPLER NAME AND SIGNATURE | |
|---|---------------------------------------|
| PRINT Name of SAMPLER: <i>[Signature]</i> | DATE Signed (MM/DD/YY): 3/7/17 |
| SIGNATURE of SAMPLER: <i>[Signature]</i> | |

| Requested Analysis Filtered (Y/N) | | Temp in °C | Received on | Custody Sealed | Cooler (Y/N) | Samples Intact |
|-----------------------------------|--|------------|-------------|----------------|--------------|----------------|
| | | 2.1 | Y | Y | Y | Y |
| | | 15.3 | Y | Y | Y | Y |
| | | 14.8 | Y | Y | Y | Y |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

July 13, 2017

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN MERAMEC ENERGY CENTER
Pace Project No.: 60246629

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 15-016-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

Kansas Field Laboratory Accreditation: # E-92587

Missouri Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|------------|--------|----------------|----------------|
| 60246629001 | M-MW-1 | Water | 06/14/17 16:20 | 06/16/17 03:15 |
| 60246629002 | M-MW-2 | Water | 06/14/17 10:55 | 06/16/17 03:15 |
| 60246629003 | M-MW-3 | Water | 06/14/17 13:30 | 06/16/17 03:15 |
| 60246629004 | M-MW-4 | Water | 06/14/17 15:00 | 06/16/17 03:15 |
| 60246629005 | M-MW-5 | Water | 06/14/17 16:40 | 06/16/17 03:15 |
| 60246629006 | M-MW-6 | Water | 06/15/17 08:29 | 06/16/17 03:15 |
| 60246629007 | M-MW-7 | Water | 06/15/17 09:35 | 06/16/17 03:15 |
| 60246629008 | M-MW-8 | Water | 06/14/17 13:10 | 06/16/17 03:15 |
| 60246629009 | M-BMW-1 | Water | 06/14/17 11:52 | 06/16/17 03:15 |
| 60246629010 | M-BMW-2 | Water | 06/14/17 11:00 | 06/16/17 03:15 |
| 60246629011 | M-DUP-1 | Water | 06/14/17 08:00 | 06/16/17 03:15 |
| 60246629012 | M-FB-1 | Water | 06/14/17 12:33 | 06/16/17 03:15 |
| 60246629013 | M-MW-6 MS | Water | 06/15/17 08:29 | 06/16/17 03:15 |
| 60246629014 | M-MW-6 MSD | Water | 06/15/17 08:29 | 06/16/17 03:15 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60246629001 | M-MW-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| 60246629002 | M-MW-2 | EPA 300.0 | RAD | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| 60246629003 | M-MW-3 | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60246629004 | M-MW-4 | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| 60246629005 | M-MW-5 | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-------------|----------|-------------------|------------|
| 60246629006 | M-MW-6 | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| 60246629007 | M-MW-7 | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| 60246629008 | M-MW-8 | EPA 300.0 | RAD | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| 60246629009 | M-BMW-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| | | EPA 200.7 | SMW | 8 | PASI-K |
| 60246629010 | M-BMW-2 | EPA 200.8 | JGP | 6 | PASI-K |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|------------|-------------|----------|-------------------|------------|
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| 60246629011 | M-DUP-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| 60246629012 | M-FB-1 | EPA 200.7 | SMW | 8 | PASI-K |
| | | EPA 200.8 | JGP | 6 | PASI-K |
| | | EPA 7470 | JRS | 1 | PASI-K |
| | | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| | | SM 2540C | LDF | 1 | PASI-K |
| | | SM 4500-H+B | JSS | 1 | PASI-K |
| | | EPA 300.0 | RAD | 3 | PASI-K |
| 60246629013 | M-MW-6 MS | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |
| 60246629014 | M-MW-6 MSD | EPA 903.1 | WRR | 1 | PASI-PA |
| | | EPA 904.0 | JLW | 1 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-1 **Lab ID: 60246629001** Collected: 06/14/17 16:20 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 374 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:18 | 7440-39-3 | |
| Beryllium | 0.23J | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:18 | 7440-41-7 | |
| Boron | 48.8J | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:18 | 7440-42-8 | |
| Calcium | 132000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:18 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:18 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:18 | 7439-92-1 | |
| Lithium | <2.9 | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:18 | 7439-93-2 | |
| Molybdenum | <1.3 | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:18 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.032J | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 18:43 | 7440-36-0 | |
| Arsenic | 0.67J | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 18:43 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 18:43 | 7440-43-9 | |
| Chromium | 1.6 | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 18:43 | 7440-47-3 | |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 18:43 | 7782-49-2 | |
| Thallium | 0.076J | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 18:43 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:13 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 643 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 10:41 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 15:58 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 42.8 | mg/L | 5.0 | 2.5 | 5 | | 06/21/17 11:46 | 16887-00-6 | |
| Fluoride | 0.23 | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 11:31 | 16984-48-8 | |
| Sulfate | 96.1 | mg/L | 10.0 | 5.0 | 10 | | 06/21/17 12:01 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-2 **Lab ID: 60246629002** Collected: 06/14/17 10:55 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 393 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:20 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:20 | 7440-41-7 | |
| Boron | 6040 | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:20 | 7440-42-8 | |
| Calcium | 129000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:20 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:20 | 7440-48-4 | |
| Lead | 2.4J | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:20 | 7439-92-1 | |
| Lithium | 3.2J | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:20 | 7439-93-2 | |
| Molybdenum | 2.5J | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:20 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 18:46 | 7440-36-0 | |
| Arsenic | 1.6 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 18:46 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 18:46 | 7440-43-9 | |
| Chromium | 0.29J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 18:46 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 18:46 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 18:46 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:15 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 809 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 10:42 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.5 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 13:03 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 27.3 | mg/L | 2.0 | 1.0 | 2 | | 06/21/17 12:17 | 16887-00-6 | |
| Fluoride | <0.10 | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 13:18 | 16984-48-8 | |
| Sulfate | 317 | mg/L | 50.0 | 25.0 | 50 | | 06/21/17 12:32 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-3 **Lab ID: 60246629003** Collected: 06/14/17 13:30 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 206 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:23 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:23 | 7440-41-7 | |
| Boron | 6630 | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:23 | 7440-42-8 | |
| Calcium | 146000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:23 | 7440-70-2 | |
| Cobalt | 1.7J | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:23 | 7440-48-4 | |
| Lead | 2.5J | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:23 | 7439-92-1 | |
| Lithium | 3.7J | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:23 | 7439-93-2 | |
| Molybdenum | 5.2J | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:23 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.031J | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 18:53 | 7440-36-0 | |
| Arsenic | 7.1 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 18:53 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 18:53 | 7440-43-9 | |
| Chromium | 0.40J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 18:53 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 18:53 | 7782-49-2 | |
| Thallium | 0.061J | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 18:53 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:17 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 816 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 10:42 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.6 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 15:54 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 32.2 | mg/L | 2.0 | 1.0 | 2 | | 06/21/17 13:49 | 16887-00-6 | |
| Fluoride | <0.10 | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 13:34 | 16984-48-8 | |
| Sulfate | 278 | mg/L | 25.0 | 12.5 | 25 | | 06/21/17 14:05 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-4 **Lab ID: 60246629004** Collected: 06/14/17 15:00 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 219 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:27 | 7440-39-3 | |
| Beryllium | 0.23J | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:27 | 7440-41-7 | |
| Boron | 9000 | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:27 | 7440-42-8 | |
| Calcium | 182000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:27 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:27 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:27 | 7439-92-1 | |
| Lithium | 20.9 | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:27 | 7439-93-2 | |
| Molybdenum | 56.0 | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:27 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 18:56 | 7440-36-0 | |
| Arsenic | 14.8 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 18:56 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 18:56 | 7440-43-9 | |
| Chromium | 0.23J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 18:56 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 18:56 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 18:56 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:19 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 964 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 10:43 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.8 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 15:57 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 40.0 | mg/L | 5.0 | 2.5 | 5 | | 06/21/17 14:36 | 16887-00-6 | |
| Fluoride | 0.12J | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 14:20 | 16984-48-8 | |
| Sulfate | 378 | mg/L | 50.0 | 25.0 | 50 | | 06/21/17 14:51 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-5 **Lab ID: 60246629005** Collected: 06/14/17 16:40 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 308 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:29 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:29 | 7440-41-7 | |
| Boron | 9040 | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:29 | 7440-42-8 | |
| Calcium | 192000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:29 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:29 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:29 | 7439-92-1 | |
| Lithium | 20.2 | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:29 | 7439-93-2 | |
| Molybdenum | 97.3 | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:29 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 18:59 | 7440-36-0 | |
| Arsenic | 21.0 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 18:59 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 18:59 | 7440-43-9 | |
| Chromium | 0.22J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 18:59 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 18:59 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 18:59 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:21 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1090 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 10:43 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.0 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 16:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 40.2 | mg/L | 5.0 | 2.5 | 5 | | 06/21/17 15:22 | 16887-00-6 | |
| Fluoride | 0.16J | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 15:06 | 16984-48-8 | |
| Sulfate | 410 | mg/L | 50.0 | 25.0 | 50 | | 06/21/17 15:37 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-6 **Lab ID: 60246629006** Collected: 06/15/17 08:29 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|--|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 59.6 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:32 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:32 | 7440-41-7 | |
| Boron | 10900 | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:32 | 7440-42-8 | |
| Calcium | 350000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:32 | 7440-70-2 | M1 |
| Cobalt | 7.8 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:32 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:32 | 7439-92-1 | |
| Lithium | 129 | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:32 | 7439-93-2 | |
| Molybdenum | 147 | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:32 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.073J | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 19:02 | 7440-36-0 | |
| Arsenic | 2.3 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 19:02 | 7440-38-2 | |
| Cadmium | 0.027J | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 19:02 | 7440-43-9 | |
| Chromium | 0.17J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 19:02 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 19:02 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 19:02 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:24 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1320 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 15:48 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.3 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 16:06 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 14.5 | mg/L | 1.0 | 0.50 | 1 | | 06/21/17 16:23 | 16887-00-6 | |
| Fluoride | 0.12J | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 16:23 | 16984-48-8 | |
| Sulfate | 504 | mg/L | 50.0 | 25.0 | 50 | | 06/21/17 17:10 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-7 **Lab ID: 60246629007** Collected: 06/15/17 09:35 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|-----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 36.3 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:43 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:43 | 7440-41-7 | |
| Boron | 19300 | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:43 | 7440-42-8 | |
| Calcium | 289000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:43 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:43 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:43 | 7439-92-1 | |
| Lithium | 38.1 | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:43 | 7439-93-2 | |
| Molybdenum | 717 | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:43 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.39J | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 19:21 | 7440-36-0 | |
| Arsenic | 2.1 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 19:21 | 7440-38-2 | |
| Cadmium | 0.14J | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 19:21 | 7440-43-9 | |
| Chromium | 1.5 | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 19:21 | 7440-47-3 | |
| Selenium | 0.61J | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 19:21 | 7782-49-2 | |
| Thallium | 0.13J | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 19:21 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:35 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1630 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 15:49 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.6 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 16:09 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 69.1 | mg/L | 10.0 | 5.0 | 10 | | 06/21/17 18:11 | 16887-00-6 | |
| Fluoride | 0.46 | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 17:56 | 16984-48-8 | |
| Sulfate | 896 | mg/L | 100 | 50.0 | 100 | | 06/21/17 18:27 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-8 **Lab ID: 60246629008** Collected: 06/14/17 13:10 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 227 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:45 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:45 | 7440-41-7 | |
| Boron | 8390 | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:45 | 7440-42-8 | |
| Calcium | 182000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:45 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:45 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:45 | 7439-92-1 | |
| Lithium | 31.4 | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:45 | 7439-93-2 | |
| Molybdenum | 190 | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:45 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 19:25 | 7440-36-0 | |
| Arsenic | 5.8 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 19:25 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 19:25 | 7440-43-9 | |
| Chromium | 0.25J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 19:25 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 19:25 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 19:25 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:37 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 957 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 10:44 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 13:06 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 27.4 | mg/L | 2.0 | 1.0 | 2 | | 06/21/17 19:44 | 16887-00-6 | |
| Fluoride | 0.20 | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 19:28 | 16984-48-8 | |
| Sulfate | 407 | mg/L | 50.0 | 25.0 | 50 | | 06/21/17 18:42 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-BMW-1 **Lab ID: 60246629009** Collected: 06/14/17 11:52 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 224 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:48 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:48 | 7440-41-7 | |
| Boron | 475 | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:48 | 7440-42-8 | |
| Calcium | 103000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:48 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:48 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:48 | 7439-92-1 | |
| Lithium | 12.8 | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:48 | 7439-93-2 | |
| Molybdenum | 6.4J | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:48 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | 0.60J | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 19:28 | 7440-36-0 | |
| Arsenic | 1.7 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 19:28 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 19:28 | 7440-43-9 | |
| Chromium | 0.13J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 19:28 | 7440-47-3 | B |
| Selenium | 0.11J | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 19:28 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 19:28 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:39 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 723 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 10:44 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 7.2 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 13:08 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 168 | mg/L | 10.0 | 5.0 | 10 | | 06/22/17 13:50 | 16887-00-6 | |
| Fluoride | 0.38 | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 19:59 | 16984-48-8 | |
| Sulfate | 88.9 | mg/L | 10.0 | 5.0 | 10 | | 06/22/17 13:50 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-BMW-2 **Lab ID: 60246629010** Collected: 06/14/17 11:00 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 547 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:50 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:50 | 7440-41-7 | |
| Boron | 87.6J | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:50 | 7440-42-8 | |
| Calcium | 103000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:50 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:50 | 7440-48-4 | |
| Lead | 2.5J | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:50 | 7439-92-1 | |
| Lithium | 5.6J | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:50 | 7439-93-2 | |
| Molybdenum | <1.3 | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:50 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 19:31 | 7440-36-0 | |
| Arsenic | 1.8 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 19:31 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 19:31 | 7440-43-9 | |
| Chromium | 0.67J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 19:31 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 19:31 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 19:31 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:41 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 445 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 10:45 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.9 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 13:05 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 12.8 | mg/L | 1.0 | 0.50 | 1 | | 06/21/17 20:30 | 16887-00-6 | |
| Fluoride | 0.27 | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 20:30 | 16984-48-8 | |
| Sulfate | 13.8 | mg/L | 1.0 | 0.50 | 1 | | 06/21/17 20:30 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-DUP-1 **Lab ID: 60246629011** Collected: 06/14/17 08:00 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|------------------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | 218 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:52 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:52 | 7440-41-7 | |
| Boron | 8810 | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:52 | 7440-42-8 | |
| Calcium | 179000 | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:52 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:52 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:52 | 7439-92-1 | |
| Lithium | 22.3 | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:52 | 7439-93-2 | |
| Molybdenum | 54.7 | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:52 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 19:35 | 7440-36-0 | |
| Arsenic | 14.3 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 19:35 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 19:35 | 7440-43-9 | |
| Chromium | 0.25J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 19:35 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 19:35 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 19:35 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:43 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 927 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 15:44 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 6.7 | Std. Units | 0.10 | 0.10 | 1 | | 06/16/17 14:25 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 40.0 | mg/L | 5.0 | 2.5 | 5 | | 06/21/17 21:16 | 16887-00-6 | |
| Fluoride | 0.12J | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 21:01 | 16984-48-8 | |
| Sulfate | 367 | mg/L | 50.0 | 25.0 | 50 | | 06/21/17 21:31 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-FB-1 **Lab ID: 60246629012** Collected: 06/14/17 12:33 Received: 06/16/17 03:15 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|-------------------------------------|---------|---|------|-------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Barium | <0.91 | ug/L | 5.0 | 0.91 | 1 | 06/21/17 11:05 | 06/23/17 17:55 | 7440-39-3 | |
| Beryllium | <0.16 | ug/L | 1.0 | 0.16 | 1 | 06/21/17 11:05 | 06/23/17 17:55 | 7440-41-7 | |
| Boron | 27.7J | ug/L | 100 | 3.5 | 1 | 06/21/17 11:05 | 06/23/17 17:55 | 7440-42-8 | |
| Calcium | 49.2J | ug/L | 100 | 36.0 | 1 | 06/21/17 11:05 | 06/23/17 17:55 | 7440-70-2 | |
| Cobalt | <0.73 | ug/L | 5.0 | 0.73 | 1 | 06/21/17 11:05 | 06/23/17 17:55 | 7440-48-4 | |
| Lead | <2.4 | ug/L | 5.0 | 2.4 | 1 | 06/21/17 11:05 | 06/23/17 17:55 | 7439-92-1 | |
| Lithium | <2.9 | ug/L | 10.0 | 2.9 | 1 | 06/21/17 11:05 | 06/23/17 17:55 | 7439-93-2 | |
| Molybdenum | <1.3 | ug/L | 20.0 | 1.3 | 1 | 06/21/17 11:05 | 06/23/17 17:55 | 7439-98-7 | |
| 200.8 MET ICPMS | | Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 | | | | | | | |
| Antimony | <0.026 | ug/L | 1.0 | 0.026 | 1 | 06/21/17 11:05 | 06/26/17 19:15 | 7440-36-0 | |
| Arsenic | <0.052 | ug/L | 1.0 | 0.052 | 1 | 06/21/17 11:05 | 06/26/17 19:15 | 7440-38-2 | |
| Cadmium | <0.018 | ug/L | 0.50 | 0.018 | 1 | 06/21/17 11:05 | 06/26/17 19:15 | 7440-43-9 | |
| Chromium | 0.18J | ug/L | 1.0 | 0.054 | 1 | 06/21/17 11:05 | 06/26/17 19:15 | 7440-47-3 | B |
| Selenium | <0.086 | ug/L | 1.0 | 0.086 | 1 | 06/21/17 11:05 | 06/26/17 19:15 | 7782-49-2 | |
| Thallium | <0.036 | ug/L | 1.0 | 0.036 | 1 | 06/21/17 11:05 | 06/26/17 19:15 | 7440-28-0 | |
| 7470 Mercury | | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | <0.046 | ug/L | 0.20 | 0.046 | 1 | 06/24/17 11:09 | 06/26/17 11:46 | 7439-97-6 | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | <5.0 | mg/L | 5.0 | 5.0 | 1 | | 06/19/17 15:45 | | |
| 4500H+ pH, Electrometric | | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | 5.4 | Std. Units | 0.10 | 0.10 | 1 | | 06/19/17 13:00 | | H6 |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 06/21/17 21:47 | 16887-00-6 | |
| Fluoride | <0.10 | mg/L | 0.20 | 0.10 | 1 | | 06/21/17 21:47 | 16984-48-8 | |
| Sulfate | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 06/21/17 21:47 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

QC Batch: 482444 Analysis Method: EPA 7470
 QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
 Associated Lab Samples: 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012

METHOD BLANK: 1976505 Matrix: Water
 Associated Lab Samples: 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Mercury | ug/L | <0.046 | 0.20 | 0.046 | 06/26/17 10:57 | |

LABORATORY CONTROL SAMPLE: 1976506

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury | ug/L | 5 | 4.9 | 98 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1976507 1976508

| Parameter | Units | 60246629006 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury | ug/L | <0.046 | 5 | 5 | 4.2 | 4.4 | 84 | 88 | 75-125 | 5 | 20 | |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| | | | |
|-------------------------|--|-----------------------|---------------------|
| QC Batch: | 481901 | Analysis Method: | EPA 200.7 |
| QC Batch Method: | EPA 200.7 | Analysis Description: | 200.7 Metals, Total |
| Associated Lab Samples: | 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1973956 | Matrix: | Water |
| Associated Lab Samples: | 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|--------------|-----------------|------|----------------|------------|
| Barium | ug/L | <0.91 | 5.0 | 0.91 | 06/23/17 17:14 | |
| Beryllium | ug/L | <0.16 | 1.0 | 0.16 | 06/23/17 17:14 | |
| Boron | ug/L | <3.5 | 100 | 3.5 | 06/23/17 17:14 | |
| Calcium | ug/L | <36.0 | 100 | 36.0 | 06/23/17 17:14 | |
| Cobalt | ug/L | <0.73 | 5.0 | 0.73 | 06/23/17 17:14 | |
| Lead | ug/L | <2.4 | 5.0 | 2.4 | 06/23/17 17:14 | |
| Lithium | ug/L | <2.9 | 10.0 | 2.9 | 06/23/17 17:14 | |
| Molybdenum | ug/L | <1.3 | 20.0 | 1.3 | 06/23/17 17:14 | |

LABORATORY CONTROL SAMPLE: 1973957

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------|-------|-------------|------------|-----------|--------------|------------|
| Barium | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Beryllium | ug/L | 1000 | 1000 | 100 | 85-115 | |
| Boron | ug/L | 1000 | 952 | 95 | 85-115 | |
| Calcium | ug/L | 10000 | 9980 | 100 | 85-115 | |
| Cobalt | ug/L | 1000 | 1040 | 104 | 85-115 | |
| Lead | ug/L | 1000 | 1050 | 105 | 85-115 | |
| Lithium | ug/L | 1000 | 1040 | 104 | 85-115 | |
| Molybdenum | ug/L | 1000 | 1050 | 105 | 85-115 | |

MATRIX SPIKE SAMPLE: 1973958

| Parameter | Units | 60246629003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|------------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Barium | ug/L | 206 | 1000 | 1220 | 102 | 70-130 | |
| Beryllium | ug/L | <0.16 | 1000 | 1000 | 100 | 70-130 | |
| Boron | ug/L | 6630 | 1000 | 7720 | 109 | 70-130 | |
| Calcium | ug/L | 146000 | 10000 | 158000 | 116 | 70-130 | |
| Cobalt | ug/L | 1.7J | 1000 | 1010 | 101 | 70-130 | |
| Lead | ug/L | 2.5J | 1000 | 1010 | 101 | 70-130 | |
| Lithium | ug/L | 3.7J | 1000 | 1060 | 105 | 70-130 | |
| Molybdenum | ug/L | 5.2J | 1000 | 1060 | 106 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| Parameter | Units | 1973960 | | 1973961 | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|------------|-------|-----------------------|----------------------|-----------------------|--------------|-------------|--------------|-----------------|--------|------------|-------|
| | | 60246629006 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | | | | | | |
| Barium | ug/L | 59.6 | 1000 | 1000 | 1070 | 1080 | 101 | 102 | 70-130 | 1 | 20 |
| Beryllium | ug/L | <0.16 | 1000 | 1000 | 992 | 994 | 99 | 99 | 70-130 | 0 | 20 |
| Boron | ug/L | 10900 | 1000 | 1000 | 11900 | 12000 | 102 | 103 | 70-130 | 0 | 20 |
| Calcium | ug/L | 350000 | 10000 | 10000 | 354000 | 359000 | 41 | 88 | 70-130 | 1 | 20 M1 |
| Cobalt | ug/L | 7.8 | 1000 | 1000 | 1000 | 1010 | 99 | 100 | 70-130 | 1 | 20 |
| Lead | ug/L | <2.4 | 1000 | 1000 | 992 | 998 | 99 | 100 | 70-130 | 1 | 20 |
| Lithium | ug/L | 129 | 1000 | 1000 | 1190 | 1190 | 106 | 106 | 70-130 | 0 | 20 |
| Molybdenum | ug/L | 147 | 1000 | 1000 | 1200 | 1210 | 105 | 106 | 70-130 | 1 | 20 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| | | | |
|-------------------------|--|-----------------------|-----------|
| QC Batch: | 481903 | Analysis Method: | EPA 200.8 |
| QC Batch Method: | EPA 200.8 | Analysis Description: | 200.8 MET |
| Associated Lab Samples: | 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1973962 | Matrix: | Water |
| Associated Lab Samples: | 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|-------|----------------|------------|
| Antimony | ug/L | <0.026 | 1.0 | 0.026 | 06/26/17 18:37 | |
| Arsenic | ug/L | 0.055J | 1.0 | 0.052 | 06/26/17 18:37 | |
| Cadmium | ug/L | <0.018 | 0.50 | 0.018 | 06/26/17 18:37 | |
| Chromium | ug/L | 0.10J | 1.0 | 0.054 | 06/26/17 18:37 | |
| Selenium | ug/L | <0.086 | 1.0 | 0.086 | 06/26/17 18:37 | |
| Thallium | ug/L | <0.036 | 1.0 | 0.036 | 06/26/17 18:37 | |

LABORATORY CONTROL SAMPLE: 1973963

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Antimony | ug/L | 40 | 38.8 | 97 | 85-115 | |
| Arsenic | ug/L | 40 | 38.2 | 96 | 85-115 | |
| Cadmium | ug/L | 40 | 38.6 | 96 | 85-115 | |
| Chromium | ug/L | 40 | 39.9 | 100 | 85-115 | |
| Selenium | ug/L | 40 | 38.0 | 95 | 85-115 | |
| Thallium | ug/L | 40 | 37.0 | 93 | 85-115 | |

MATRIX SPIKE SAMPLE: 1973964

| Parameter | Units | 60246629002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | <0.026 | 40 | 39.6 | 99 | 70-130 | |
| Arsenic | ug/L | 1.6 | 40 | 40.0 | 96 | 70-130 | |
| Cadmium | ug/L | <0.018 | 40 | 37.8 | 95 | 70-130 | |
| Chromium | ug/L | 0.29J | 40 | 41.1 | 102 | 70-130 | |
| Selenium | ug/L | <0.086 | 40 | 36.2 | 90 | 70-130 | |
| Thallium | ug/L | <0.036 | 40 | 39.4 | 98 | 70-130 | |

MATRIX SPIKE SAMPLE: 1973965

| Parameter | Units | 60246629006 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Antimony | ug/L | 0.073J | 40 | 39.1 | 98 | 70-130 | |
| Arsenic | ug/L | 2.3 | 40 | 40.9 | 97 | 70-130 | |
| Cadmium | ug/L | 0.027J | 40 | 36.8 | 92 | 70-130 | |
| Chromium | ug/L | 0.17J | 40 | 39.4 | 98 | 70-130 | |
| Selenium | ug/L | <0.086 | 40 | 35.8 | 90 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| MATRIX SPIKE SAMPLE: | | 1973965 | | | | | |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 60246629006 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Thallium | ug/L | <0.036 | 40 | 40.4 | 101 | 70-130 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

QC Batch: 481477

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629008, 60246629009, 60246629010

METHOD BLANK: 1972767

Matrix: Water

Associated Lab Samples: 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629008, 60246629009, 60246629010

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 06/19/17 10:36 | |

LABORATORY CONTROL SAMPLE: 1972768

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 975 | 97 | 80-120 | |

SAMPLE DUPLICATE: 1972769

| Parameter | Units | 60246554001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 2760 | 2890 | 5 | 10 | |

SAMPLE DUPLICATE: 1972774

| Parameter | Units | 60246480001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 4710 | 4520 | 4 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

QC Batch: 481604

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60246629006, 60246629007, 60246629011, 60246629012

METHOD BLANK: 1973076

Matrix: Water

Associated Lab Samples: 60246629006, 60246629007, 60246629011, 60246629012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 06/19/17 15:39 | |

LABORATORY CONTROL SAMPLE: 1973077

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 955 | 96 | 80-120 | |

SAMPLE DUPLICATE: 1973078

| Parameter | Units | 60246629006 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 1320 | 1330 | 1 | 10 | |

SAMPLE DUPLICATE: 1973079

| Parameter | Units | 60246539018 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 816 | 791 | 3 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

QC Batch: 481369 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60246629011

SAMPLE DUPLICATE: 1971849

| Parameter | Units | 60246395001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 8.3 | 8.3 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

QC Batch: 481544 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60246629002, 60246629008, 60246629009, 60246629010, 60246629012

SAMPLE DUPLICATE: 1972929

| Parameter | Units | 60246354002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.6 | 7.6 | 0 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

QC Batch: 481637 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60246629001, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007

SAMPLE DUPLICATE: 1973158

| Parameter | Units | 60246629006 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|------------|-----------------------|---------------|-----|------------|------------|
| pH at 25 Degrees C | Std. Units | 7.3 | 7.3 | 1 | 5 | H6 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

QC Batch: 481963 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012

METHOD BLANK: 1974129 Matrix: Water
 Associated Lab Samples: 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 06/21/17 08:23 | |
| Fluoride | mg/L | <0.10 | 0.20 | 0.10 | 06/21/17 08:23 | |
| Sulfate | mg/L | <0.50 | 1.0 | 0.50 | 06/21/17 08:23 | |

LABORATORY CONTROL SAMPLE: 1974130

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 5.1 | 101 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.5 | 101 | 90-110 | |
| Sulfate | mg/L | 5 | 4.8 | 95 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1974131 1974132

| Parameter | Units | 60246629006 | | 60246629010 | | MS | | MSD | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|-------------|-------------|-------------|--------|--------|-------|-------|--------------|-----|---------|------|
| | | Result | Spike Conc. | Result | Spike Conc. | Result | Result | % Rec | % Rec | | | | |
| Chloride | mg/L | 14.5 | 5 | 5 | 5 | 20.0 | 20.0 | 111 | 111 | 80-120 | 0 | 15 | |
| Fluoride | mg/L | 0.12J | 2.5 | 2.5 | 2.5 | 2.6 | 2.6 | 99 | 100 | 80-120 | 1 | 15 | |
| Sulfate | mg/L | 504 | 250 | 250 | 250 | 751 | 750 | 99 | 98 | 80-120 | 0 | 15 | |

MATRIX SPIKE SAMPLE: 1974133

| Parameter | Units | 60246629010 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 12.8 | 5 | 18.5 | 114 | 80-120 | |
| Fluoride | mg/L | 0.27 | 2.5 | 2.8 | 101 | 80-120 | |
| Sulfate | mg/L | 13.8 | 5 | 19.0 | 104 | 80-120 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

QC Batch: 482164

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60246629009

METHOD BLANK: 1974902

Matrix: Water

Associated Lab Samples: 60246629009

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 06/22/17 08:34 | |
| Sulfate | mg/L | <0.50 | 1.0 | 0.50 | 06/22/17 08:34 | |

LABORATORY CONTROL SAMPLE: 1974903

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 5.1 | 101 | 90-110 | |
| Sulfate | mg/L | 5 | 5.1 | 103 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1974904 1974905

| Parameter | Units | 60247044001 | | MSD | | MS | | MSD | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|-------------|-------------|--------|--------|-------|-------|--------|--------------|-----|---------|------|
| | | Result | Spike Conc. | Spike Conc. | Result | Result | % Rec | % Rec | | | | | |
| Chloride | mg/L | 1750 | 1000 | 1000 | 2880 | 2880 | 112 | 113 | 80-120 | 0 | 15 | | |
| Sulfate | mg/L | ND | 1000 | 1000 | 1080 | 1050 | 100 | 98 | 80-120 | 2 | 15 | | |

MATRIX SPIKE SAMPLE: 1974906

| Parameter | Units | 60246963002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 90.7 | 50 | 146 | 110 | 80-120 | |
| Sulfate | mg/L | 98.2 | 50 | 148 | 101 | 80-120 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-1 **Lab ID: 60246629001** Collected: 06/14/17 16:20 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.569 ± 0.416 (0.465) C:NA T:94% | pCi/L | 06/29/17 11:17 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.354 ± 0.327 (0.665) C:78% T:85% | pCi/L | 07/06/17 15:48 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-2 **Lab ID: 60246629002** Collected: 06/14/17 10:55 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.582 ± 0.556 (0.847) C:NA T:92% | pCi/L | 06/29/17 11:17 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | -0.213 ± 0.263 (0.667) C:81% T:80% | pCi/L | 07/06/17 15:49 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-3 **Lab ID: 60246629003** Collected: 06/14/17 13:30 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.755 ± 0.598 (0.812) C:NA T:84% | pCi/L | 06/29/17 11:17 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.738 ± 0.431 (0.785) C:75% T:72% | pCi/L | 07/06/17 15:49 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-4 **Lab ID: 60246629004** Collected: 06/14/17 15:00 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.230 ± 0.264 (0.156) C:NA T:95% | pCi/L | 06/29/17 11:27 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.761 ± 0.368 (0.613) C:77% T:83% | pCi/L | 07/06/17 15:51 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-5 **Lab ID: 60246629005** Collected: 06/14/17 16:40 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.983 ± 0.527 (0.190) C:NA T:92% | pCi/L | 06/29/17 11:17 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.794 ± 0.345 (0.535) C:78% T:90% | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-6 **Lab ID: 60246629006** Collected: 06/15/17 08:29 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.0615 ± 0.435 (0.867) C:NA T:93% | pCi/L | 06/29/17 11:35 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.886 ± 0.444 (0.761) C:74% T:74% | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-7 **Lab ID: 60246629007** Collected: 06/15/17 09:35 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.861 ± 0.605 (0.772) C:NA T:84% | pCi/L | 06/29/17 11:35 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.549 ± 0.369 (0.704) C:77% T:82% | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-8 **Lab ID: 60246629008** Collected: 06/14/17 13:10 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.247 ± 0.344 (0.574) C:NA T:91% | pCi/L | 06/29/17 11:35 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 1.14 ± 0.473 (0.750) C:73% T:83% | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-BMW-1 **Lab ID: 60246629009** Collected: 06/14/17 11:52 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.530 ± 0.690 (1.15) C:NA T:86% | pCi/L | 06/29/17 11:35 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.950 ± 0.415 (0.672) C:75% T:86% | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-BMW-2 **Lab ID: 60246629010** Collected: 06/14/17 11:00 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.649 ± 0.409 (0.176) C:NA T:88% | pCi/L | 06/29/17 11:35 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.658 ± 0.370 (0.665) C:75% T:87% | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-DUP-1 **Lab ID: 60246629011** Collected: 06/14/17 08:00 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 0.568 ± 0.626 (1.00) C:NA T:85% | pCi/L | 06/29/17 11:35 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.871 ± 0.471 (0.848) C:75% T:76% | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-FB-1 **Lab ID: 60246629012** Collected: 06/14/17 12:33 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | -0.302 ± 0.315 (0.852) C:NA T:95% | pCi/L | 06/29/17 11:54 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 0.0671 ± 0.290 (0.663) C:69% T:90% | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-6 MS **Lab ID: 60246629013** Collected: 06/15/17 08:29 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|--|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 86.99%REC ± NA (NA) | pCi/L | 06/29/17 11:54 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 107.15% REC ± NA (NA) C:NA T:NA | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

Sample: M-MW-6 MSD **Lab ID: 60246629014** Collected: 06/15/17 08:29 Received: 06/16/17 03:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
|------------|-----------|---|-------|----------------|------------|------|
| Radium-226 | EPA 903.1 | 97.69%REC 11.58RPD ± NA (NA) | pCi/L | 06/29/17 11:54 | 13982-63-3 | |
| Radium-228 | EPA 904.0 | 108.42% REC 1.18 RPD ± NA (NA) C:NA T:NA | pCi/L | 07/06/17 15:52 | 15262-20-1 | |

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| | | | |
|-------------------------|--|-----------------------|------------------|
| QC Batch: | 262637 | Analysis Method: | EPA 904.0 |
| QC Batch Method: | EPA 904.0 | Analysis Description: | 904.0 Radium 228 |
| Associated Lab Samples: | 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012, 60246629013, 60246629014 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1293347 | Matrix: | Water |
| Associated Lab Samples: | 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012, 60246629013, 60246629014 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|-----------------------------------|-------|----------------|------------|
| Radium-228 | 0.386 ± 0.329 (0.661) C:80% T:89% | pCi/L | 07/06/17 12:13 | |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| | | | |
|-------------------------|--|-----------------------|------------------|
| QC Batch: | 262623 | Analysis Method: | EPA 903.1 |
| QC Batch Method: | EPA 903.1 | Analysis Description: | 903.1 Radium-226 |
| Associated Lab Samples: | 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012, 60246629013, 60246629014 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 1293309 | Matrix: | Water |
| Associated Lab Samples: | 60246629001, 60246629002, 60246629003, 60246629004, 60246629005, 60246629006, 60246629007, 60246629008, 60246629009, 60246629010, 60246629011, 60246629012, 60246629013, 60246629014 | | |

| Parameter | Act ± Unc (MDC) Carr Trac | Units | Analyzed | Qualifiers |
|------------|----------------------------------|-------|----------------|------------|
| Radium-226 | 0.646 ± 0.445 (0.475) C:NA T:91% | pCi/L | 06/29/17 11:17 | |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-PA Pace Analytical Services - Greensburg

SAMPLE QUALIFIERS

Sample: 60246629009

[1] 1X FOR FI

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60246629001 | M-MW-1 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629002 | M-MW-2 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629003 | M-MW-3 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629004 | M-MW-4 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629005 | M-MW-5 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629006 | M-MW-6 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629007 | M-MW-7 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629008 | M-MW-8 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629009 | M-BMW-1 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629010 | M-BMW-2 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629011 | M-DUP-1 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629012 | M-FB-1 | EPA 200.7 | 481901 | EPA 200.7 | 482090 |
| 60246629001 | M-MW-1 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629002 | M-MW-2 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629003 | M-MW-3 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629004 | M-MW-4 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629005 | M-MW-5 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629006 | M-MW-6 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629007 | M-MW-7 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629008 | M-MW-8 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629009 | M-BMW-1 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629010 | M-BMW-2 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629011 | M-DUP-1 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629012 | M-FB-1 | EPA 200.8 | 481903 | EPA 200.8 | 482088 |
| 60246629001 | M-MW-1 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629002 | M-MW-2 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629003 | M-MW-3 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629004 | M-MW-4 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629005 | M-MW-5 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629006 | M-MW-6 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629007 | M-MW-7 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629008 | M-MW-8 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629009 | M-BMW-1 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629010 | M-BMW-2 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629011 | M-DUP-1 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629012 | M-FB-1 | EPA 7470 | 482444 | EPA 7470 | 482491 |
| 60246629001 | M-MW-1 | EPA 903.1 | 262623 | | |
| 60246629002 | M-MW-2 | EPA 903.1 | 262623 | | |
| 60246629003 | M-MW-3 | EPA 903.1 | 262623 | | |
| 60246629004 | M-MW-4 | EPA 903.1 | 262623 | | |
| 60246629005 | M-MW-5 | EPA 903.1 | 262623 | | |
| 60246629006 | M-MW-6 | EPA 903.1 | 262623 | | |
| 60246629007 | M-MW-7 | EPA 903.1 | 262623 | | |
| 60246629008 | M-MW-8 | EPA 903.1 | 262623 | | |
| 60246629009 | M-BMW-1 | EPA 903.1 | 262623 | | |
| 60246629010 | M-BMW-2 | EPA 903.1 | 262623 | | |
| 60246629011 | M-DUP-1 | EPA 903.1 | 262623 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|----------|-------------------|------------------|
| 60246629012 | M-FB-1 | EPA 903.1 | 262623 | | |
| 60246629013 | M-MW-6 MS | EPA 903.1 | 262623 | | |
| 60246629014 | M-MW-6 MSD | EPA 903.1 | 262623 | | |
| 60246629001 | M-MW-1 | EPA 904.0 | 262637 | | |
| 60246629002 | M-MW-2 | EPA 904.0 | 262637 | | |
| 60246629003 | M-MW-3 | EPA 904.0 | 262637 | | |
| 60246629004 | M-MW-4 | EPA 904.0 | 262637 | | |
| 60246629005 | M-MW-5 | EPA 904.0 | 262637 | | |
| 60246629006 | M-MW-6 | EPA 904.0 | 262637 | | |
| 60246629007 | M-MW-7 | EPA 904.0 | 262637 | | |
| 60246629008 | M-MW-8 | EPA 904.0 | 262637 | | |
| 60246629009 | M-BMW-1 | EPA 904.0 | 262637 | | |
| 60246629010 | M-BMW-2 | EPA 904.0 | 262637 | | |
| 60246629011 | M-DUP-1 | EPA 904.0 | 262637 | | |
| 60246629012 | M-FB-1 | EPA 904.0 | 262637 | | |
| 60246629013 | M-MW-6 MS | EPA 904.0 | 262637 | | |
| 60246629014 | M-MW-6 MSD | EPA 904.0 | 262637 | | |
| 60246629001 | M-MW-1 | SM 2540C | 481477 | | |
| 60246629002 | M-MW-2 | SM 2540C | 481477 | | |
| 60246629003 | M-MW-3 | SM 2540C | 481477 | | |
| 60246629004 | M-MW-4 | SM 2540C | 481477 | | |
| 60246629005 | M-MW-5 | SM 2540C | 481477 | | |
| 60246629006 | M-MW-6 | SM 2540C | 481604 | | |
| 60246629007 | M-MW-7 | SM 2540C | 481604 | | |
| 60246629008 | M-MW-8 | SM 2540C | 481477 | | |
| 60246629009 | M-BMW-1 | SM 2540C | 481477 | | |
| 60246629010 | M-BMW-2 | SM 2540C | 481477 | | |
| 60246629011 | M-DUP-1 | SM 2540C | 481604 | | |
| 60246629012 | M-FB-1 | SM 2540C | 481604 | | |
| 60246629001 | M-MW-1 | SM 4500-H+B | 481637 | | |
| 60246629002 | M-MW-2 | SM 4500-H+B | 481544 | | |
| 60246629003 | M-MW-3 | SM 4500-H+B | 481637 | | |
| 60246629004 | M-MW-4 | SM 4500-H+B | 481637 | | |
| 60246629005 | M-MW-5 | SM 4500-H+B | 481637 | | |
| 60246629006 | M-MW-6 | SM 4500-H+B | 481637 | | |
| 60246629007 | M-MW-7 | SM 4500-H+B | 481637 | | |
| 60246629008 | M-MW-8 | SM 4500-H+B | 481544 | | |
| 60246629009 | M-BMW-1 | SM 4500-H+B | 481544 | | |
| 60246629010 | M-BMW-2 | SM 4500-H+B | 481544 | | |
| 60246629011 | M-DUP-1 | SM 4500-H+B | 481369 | | |
| 60246629012 | M-FB-1 | SM 4500-H+B | 481544 | | |
| 60246629001 | M-MW-1 | EPA 300.0 | 481963 | | |
| 60246629002 | M-MW-2 | EPA 300.0 | 481963 | | |

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CENTER

Pace Project No.: 60246629

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60246629003 | M-MW-3 | EPA 300.0 | 481963 | | |
| 60246629004 | M-MW-4 | EPA 300.0 | 481963 | | |
| 60246629005 | M-MW-5 | EPA 300.0 | 481963 | | |
| 60246629006 | M-MW-6 | EPA 300.0 | 481963 | | |
| 60246629007 | M-MW-7 | EPA 300.0 | 481963 | | |
| 60246629008 | M-MW-8 | EPA 300.0 | 481963 | | |
| 60246629009 | M-BMW-1 | EPA 300.0 | 481963 | | |
| 60246629009 | M-BMW-1 | EPA 300.0 | 482164 | | |
| 60246629010 | M-BMW-2 | EPA 300.0 | 481963 | | |
| 60246629011 | M-DUP-1 | EPA 300.0 | 481963 | | |
| 60246629012 | M-FB-1 | EPA 300.0 | 481963 | | |

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Sample Condition Upon Receipt

WO#: 60246629



SL5

Client Name: Golder

Courier: FedEx UPS VIA Clay PEX ECI Pace Xroads Client Other

Tracking #: _____ Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-266 / T-239 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 16.6/17.2 Corr. Factor CF +2.9 CF +0.7 Corrected 16.8/17.4/1.8

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 1.6

PVG/16/17

| | | |
|--|--|-----------|
| Chain of Custody present: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Chain of Custody relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Samples arrived within holding time: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Short Hold Time analyses (<72hr): | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | <u>PH</u> |
| Rush Turn Around Time requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | |
| Sufficient volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Correct containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Pace containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Containers intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Filtered volume received for dissolved tests? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Sample labels match COC: Date / time / ID / analyses | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Samples contain multiple phases? Matrix: <u>WT</u> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | |
| Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Cyanide water sample checks: | <input checked="" type="checkbox"/> N/A | |
| Lead acetate strip turns dark? (Record only) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Potassium iodide test strip turns blue/purple? (Preserve) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Trip Blank present: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Headspace in VOA vials (>6mm): | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Samples from USDA Regulated Area: State: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Additional labels attached to 5035A / TX1005 vials in the field? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jamie Chack _____ Date: 6/16/17



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: () of ()

Section A
Required Client Information:
 Company: **Golder Associates**
 Address: **820 South Main Street, Suite 100**
St Charles, MO 63301
 Email To: **maddock@golder.com**
 Phone: **636-724-9191** Fax: **636-724-9323**
 Requested Due Date/TAT: **Standard**

Section B
Required Project Information:
 Report To: **Mark Haddock (mhaddock@golder.com)**
 Copy To: **Jeffrey Ingram**
 Purchase Order No.:
 Project Name: **Ameren Meramec Energy Center**
 Project Number: **153-1406.0004A**

Section C
Invoice Information:
 Attention:
 Company Name:
 Address:
 Face Quote Reference:
 Face Project Manager: **Jamie Church**
 Face Profile #: **9285**

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location
 STATE: **MO**

| ITEM # | Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WP AR OT TS | COLLECTED | | SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left) | MATRIX CODE | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other | Analysis Test ↑ | Metals | Chloride/Fluoride/Sulfate | TDS | pH | Radium 226 & 228 | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|--------|--|-----------|------|--|-------------|---------------------------|-----------------|---|--------------------|--------|---------------------------|-----|----|------------------|-------------------------|----------------------------|
| | | DATE | TIME | | | | | | | | | | | | | |
| 1 | M-MW-1 | 6/14/17 | 626 | G | WT | 4 | 1 | 3 | | | | | | | | 183320 18324 2831N |
| 2 | M-MW-2 | | 1055 | G | WT | | | | | | | | | | | 002 |
| 3 | M-MW-3 | | 1330 | G | WT | | | | | | | | | | | 003 |
| 4 | M-MW-4 | | 1500 | G | WT | | | | | | | | | | | 004 |
| 5 | M-MW-5 | | 1640 | G | WT | | | | | | | | | | | 005 |
| 6 | M-MW-6 | 6/15/17 | 0829 | G | WT | 4 | 3 | | | | | | | | | 006 |
| 7 | M-MW-7 | | 0135 | G | WT | 4 | 3 | | | | | | | | | 007 |
| 8 | M-MW-8 | 6/14/17 | 1310 | G | WT | 4 | 1 | 3 | | | | | | | | 008 |
| 9 | M-BMW-1 | | 1152 | G | WT | | | | | | | | | | | 009 |
| 10 | M-BMW-2 | | 1100 | G | WT | | | | | | | | | | | 010 |
| 11 | M-DUP-1 | | | G | WT | | | | | | | | | | | 011 |
| 12 | M-FB-1 | | 1233 | G | WT | | | | | | | | | | | 012 |

ADDITIONAL COMMENTS
 Jeffrey Ingram / Golder
 Golder Associates
 Jeffrey Ingram
 Jeffrey Ingram

RELINQUISHED BY / AFFILIATION
 Jeffrey Ingram / Golder
 Golder Associates

DATE
 6/15/17 12:00
 6/16/17 03:15

ACCEPTED BY / AFFILIATION
 Jeffrey Ingram / Golder
 Golder Associates

DATE
 6/15/17 12:00
 6/16/17 03:15

Temp in °C
 16.0
 17.4
 1.8

Received on
 Ice (Y/N)

Custody Sealed
 (Y/N)

Samples Intact
 (Y/N)

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Jeffrey Ingram**
 SIGNATURE of SAMPLER: *[Signature]*

DATE Signed (MM/DD/YY): **06/15/17**

November 20, 2017

Mark Haddock
Golder Associates
820 S. Main St
Suite 100
Saint Charles, MO 63301

RE: Project: AMEREN MERAMEC ENERGY CTR
Pace Project No.: 60257424

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on November 07, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Ryan Feldmann, Golder
Jeffrey Ingram, Golder Associates
John Suozzi, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 17-016-0

Illinois Certification #: 200030

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212018-1

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

Kansas Field Laboratory Accreditation: # E-92587

Missouri Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|-----------|--------|----------------|----------------|
| 60257424001 | M-MW-1 | Water | 11/06/17 14:10 | 11/07/17 03:10 |
| 60257424002 | M-MW-2 | Water | 11/06/17 09:50 | 11/07/17 03:10 |
| 60257424003 | M-MW-3 | Water | 11/06/17 11:03 | 11/07/17 03:10 |
| 60257424004 | M-MW-4 | Water | 11/06/17 11:57 | 11/07/17 03:10 |
| 60257424005 | M-MW-5 | Water | 11/06/17 12:35 | 11/07/17 03:10 |
| 60257424006 | M-MW-6 | Water | 11/06/17 13:15 | 11/07/17 03:10 |
| 60257424007 | M-MW-7 | Water | 11/06/17 14:10 | 11/07/17 03:10 |
| 60257424008 | M-MW-8 | Water | 11/06/17 12:40 | 11/07/17 03:10 |
| 60257424009 | M-BMW-1 | Water | 11/06/17 11:35 | 11/07/17 03:10 |
| 60257424010 | M-BMW-2 | Water | 11/06/17 10:45 | 11/07/17 03:10 |
| 60257424011 | M-DUP-1 | Water | 11/06/17 10:45 | 11/07/17 03:10 |
| 60257424012 | M-FB-1 | Water | 11/06/17 13:18 | 11/07/17 03:10 |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-----------|----------|-------------------|------------|
| 60257424001 | M-MW-1 | EPA 200.7 | JGP | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60257424002 | M-MW-2 | EPA 200.7 | JGP | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60257424003 | M-MW-3 | EPA 200.7 | SMW | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60257424004 | M-MW-4 | EPA 200.7 | SMW | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60257424005 | M-MW-5 | EPA 200.7 | SMW | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60257424006 | M-MW-6 | EPA 200.7 | SMW | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60257424007 | M-MW-7 | EPA 200.7 | SMW | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60257424008 | M-MW-8 | EPA 200.7 | SMW | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60257424009 | M-BMW-1 | EPA 200.7 | SMW | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| 60257424010 | M-BMW-2 | EPA 200.7 | SMW | 7 | PASI-K |

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-----------|----------|-------------------|------------|
| 60257424011 | M-DUP-1 | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| 60257424012 | M-FB-1 | EPA 300.0 | OL | 3 | PASI-K |
| | | EPA 200.7 | SMW | 7 | PASI-K |
| | | SM 2320B | JSS | 1 | PASI-K |
| | | SM 2540C | HMM | 1 | PASI-K |
| | | EPA 300.0 | OL | 3 | PASI-K |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-MW-1 **Lab ID: 60257424001** Collected: 11/06/17 14:10 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 45.5J | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/14/17 17:44 | 7440-42-8 | |
| Calcium | 126000 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/14/17 17:44 | 7440-70-2 | |
| Iron | 14500 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/14/17 17:44 | 7439-89-6 | |
| Magnesium | 40800 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/14/17 17:44 | 7439-95-4 | |
| Manganese | 1830 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/14/17 17:44 | 7439-96-5 | |
| Potassium | 1500 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/14/17 17:44 | 7440-09-7 | |
| Sodium | 26100 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/14/17 17:44 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 399 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 18:34 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 612 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:12 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 42.4 | mg/L | 10.0 | 5.0 | 10 | | 11/15/17 11:26 | 16887-00-6 | |
| Fluoride | 0.26 | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 16:31 | 16984-48-8 | |
| Sulfate | 102 | mg/L | 10.0 | 5.0 | 10 | | 11/15/17 11:26 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-MW-2 **Lab ID: 60257424002** Collected: 11/06/17 09:50 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 5080 | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/14/17 17:47 | 7440-42-8 | |
| Calcium | 130000 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/14/17 17:47 | 7440-70-2 | |
| Iron | 44400 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/14/17 17:47 | 7439-89-6 | |
| Magnesium | 38500 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/14/17 17:47 | 7439-95-4 | |
| Manganese | 6240 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/14/17 17:47 | 7439-96-5 | |
| Potassium | 2180 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/14/17 17:47 | 7440-09-7 | |
| Sodium | 35500 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/14/17 17:47 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 272 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 18:40 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 172 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:12 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 23.6 | mg/L | 2.0 | 1.0 | 2 | | 11/15/17 12:09 | 16887-00-6 | |
| Fluoride | 0.11J | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 16:45 | 16984-48-8 | |
| Sulfate | 330 | mg/L | 50.0 | 25.0 | 50 | | 11/15/17 12:23 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-MW-3 **Lab ID: 60257424003** Collected: 11/06/17 11:03 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|-----------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 6660 | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/15/17 13:43 | 7440-42-8 | |
| Calcium | 151000 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/15/17 13:43 | 7440-70-2 | M1 |
| Iron | 34800 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/15/17 13:43 | 7439-89-6 | |
| Magnesium | 43700 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/15/17 13:43 | 7439-95-4 | |
| Manganese | 2550 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/15/17 13:43 | 7439-96-5 | |
| Potassium | 3130 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/15/17 13:43 | 7440-09-7 | |
| Sodium | 35300 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/15/17 13:43 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 328 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 18:45 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 809 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:13 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 31.7 | mg/L | 2.0 | 1.0 | 2 | | 11/15/17 13:06 | 16887-00-6 | |
| Fluoride | <0.10 | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 17:00 | 16984-48-8 | |
| Sulfate | 318 | mg/L | 50.0 | 25.0 | 50 | | 11/15/17 13:34 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-MW-4 **Lab ID: 60257424004** Collected: 11/06/17 11:57 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 8540 | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/15/17 13:54 | 7440-42-8 | |
| Calcium | 172000 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/15/17 13:54 | 7440-70-2 | |
| Iron | 23300 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/15/17 13:54 | 7439-89-6 | |
| Magnesium | 48900 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/15/17 13:54 | 7439-95-4 | |
| Manganese | 686 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/15/17 13:54 | 7439-96-5 | |
| Potassium | 5760 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/15/17 13:54 | 7440-09-7 | |
| Sodium | 43600 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/15/17 13:54 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 312 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 18:56 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 928 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:14 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 42.6 | mg/L | 5.0 | 2.5 | 5 | | 11/15/17 14:02 | 16887-00-6 | |
| Fluoride | 0.14J | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 17:57 | 16984-48-8 | |
| Sulfate | 404 | mg/L | 50.0 | 25.0 | 50 | | 11/15/17 14:16 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-MW-5 **Lab ID: 60257424005** Collected: 11/06/17 12:35 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 8720 | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/15/17 13:57 | 7440-42-8 | |
| Calcium | 172000 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/15/17 13:57 | 7440-70-2 | |
| Iron | 17600 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/15/17 13:57 | 7439-89-6 | |
| Magnesium | 55500 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/15/17 13:57 | 7439-95-4 | |
| Manganese | 443 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/15/17 13:57 | 7439-96-5 | |
| Potassium | 5030 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/15/17 13:57 | 7440-09-7 | |
| Sodium | 41800 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/15/17 13:57 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 354 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 19:01 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1030 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:15 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 40.1 | mg/L | 5.0 | 2.5 | 5 | | 11/15/17 14:31 | 16887-00-6 | |
| Fluoride | 0.18J | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 18:12 | 16984-48-8 | |
| Sulfate | 426 | mg/L | 50.0 | 25.0 | 50 | | 11/15/17 14:45 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-MW-6 **Lab ID: 60257424006** Collected: 11/06/17 13:15 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 8600 | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/15/17 14:01 | 7440-42-8 | |
| Calcium | 387000 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/15/17 14:01 | 7440-70-2 | |
| Iron | 6560 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/15/17 14:01 | 7439-89-6 | |
| Magnesium | 28900 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/15/17 14:01 | 7439-95-4 | |
| Manganese | 1280 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/15/17 14:01 | 7439-96-5 | |
| Potassium | 13700 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/15/17 14:01 | 7440-09-7 | |
| Sodium | 21500 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/15/17 14:01 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 531 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 19:08 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 1590 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:16 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 12.2 | mg/L | 1.0 | 0.50 | 1 | | 11/14/17 18:26 | 16887-00-6 | |
| Fluoride | 0.30 | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 18:26 | 16984-48-8 | |
| Sulfate | 696 | mg/L | 50.0 | 25.0 | 50 | | 11/15/17 14:59 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-MW-7 **Lab ID: 60257424007** Collected: 11/06/17 14:10 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|-----------------|---|------|------|-----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 25600 | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/15/17 14:05 | 7440-42-8 | |
| Calcium | 429000 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/15/17 14:05 | 7440-70-2 | |
| Iron | <12.4 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/15/17 14:05 | 7439-89-6 | |
| Magnesium | 40000 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/15/17 14:05 | 7439-95-4 | |
| Manganese | 7.4 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/15/17 14:05 | 7439-96-5 | |
| Potassium | 18200 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/15/17 14:05 | 7440-09-7 | |
| Sodium | 81800 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/15/17 14:05 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 252 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 19:23 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 2320 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:17 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 89.0 | mg/L | 10.0 | 5.0 | 10 | | 11/15/17 15:13 | 16887-00-6 | |
| Fluoride | 0.61 | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 18:41 | 16984-48-8 | |
| Sulfate | 1220 | mg/L | 100 | 50.0 | 100 | | 11/15/17 15:56 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-MW-8 **Lab ID: 60257424008** Collected: 11/06/17 12:40 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 7600 | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/15/17 14:09 | 7440-42-8 | |
| Calcium | 154000 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/15/17 14:09 | 7440-70-2 | |
| Iron | 9370 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/15/17 14:09 | 7439-89-6 | |
| Magnesium | 31600 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/15/17 14:09 | 7439-95-4 | |
| Manganese | 1800 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/15/17 14:09 | 7439-96-5 | |
| Potassium | 5740 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/15/17 14:09 | 7440-09-7 | |
| Sodium | 29400 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/15/17 14:09 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 222 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 19:27 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 917 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:17 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 24.7 | mg/L | 2.0 | 1.0 | 2 | | 11/15/17 16:10 | 16887-00-6 | |
| Fluoride | 0.23 | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 18:55 | 16984-48-8 | |
| Sulfate | 435 | mg/L | 50.0 | 25.0 | 50 | | 11/15/17 16:24 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-BMW-1 **Lab ID: 60257424009** Collected: 11/06/17 11:35 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 375 | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/15/17 14:12 | 7440-42-8 | |
| Calcium | 101000 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/15/17 14:12 | 7440-70-2 | |
| Iron | 259 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/15/17 14:12 | 7439-89-6 | |
| Magnesium | 23800 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/15/17 14:12 | 7439-95-4 | |
| Manganese | 146 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/15/17 14:12 | 7439-96-5 | |
| Potassium | 2920 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/15/17 14:12 | 7440-09-7 | |
| Sodium | 96200 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/15/17 14:12 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 291 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 19:32 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 764 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:18 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 126 | mg/L | 20.0 | 10.0 | 20 | | 11/15/17 16:38 | 16887-00-6 | |
| Fluoride | 0.48 | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 19:09 | 16984-48-8 | |
| Sulfate | 164 | mg/L | 20.0 | 10.0 | 20 | | 11/15/17 16:38 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-BMW-2 **Lab ID: 60257424010** Collected: 11/06/17 10:45 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|--------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 73.5J | ug/L | 100 | 3.5 | 1 | 11/10/17 15:29 | 11/15/17 14:16 | 7440-42-8 | |
| Calcium | 93100 | ug/L | 100 | 36.0 | 1 | 11/10/17 15:29 | 11/15/17 14:16 | 7440-70-2 | |
| Iron | 13500 | ug/L | 50.0 | 12.4 | 1 | 11/10/17 15:29 | 11/15/17 14:16 | 7439-89-6 | |
| Magnesium | 31200 | ug/L | 50.0 | 15.4 | 1 | 11/10/17 15:29 | 11/15/17 14:16 | 7439-95-4 | |
| Manganese | 3890 | ug/L | 5.0 | 1.8 | 1 | 11/10/17 15:29 | 11/15/17 14:16 | 7439-96-5 | |
| Potassium | 1220 | ug/L | 500 | 52.3 | 1 | 11/10/17 15:29 | 11/15/17 14:16 | 7440-09-7 | |
| Sodium | 17200 | ug/L | 500 | 28.4 | 1 | 11/10/17 15:29 | 11/15/17 14:16 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 416 | mg/L | 20.0 | 4.9 | 1 | | 11/08/17 19:38 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 400 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:18 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 12.8 | mg/L | 1.0 | 0.50 | 1 | | 11/14/17 19:24 | 16887-00-6 | |
| Fluoride | 0.28 | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 19:24 | 16984-48-8 | |
| Sulfate | 20.8 | mg/L | 2.0 | 1.0 | 2 | | 11/15/17 16:53 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-DUP-1 **Lab ID: 60257424011** Collected: 11/06/17 10:45 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 5460 | ug/L | 100 | 3.5 | 1 | 11/16/17 12:52 | 11/17/17 14:41 | 7440-42-8 | |
| Calcium | 136000 | ug/L | 100 | 36.0 | 1 | 11/16/17 12:52 | 11/17/17 14:41 | 7440-70-2 | |
| Iron | 46900 | ug/L | 50.0 | 12.4 | 1 | 11/16/17 12:52 | 11/17/17 14:41 | 7439-89-6 | |
| Magnesium | 39700 | ug/L | 50.0 | 15.4 | 1 | 11/16/17 12:52 | 11/17/17 14:41 | 7439-95-4 | |
| Manganese | 6560 | ug/L | 5.0 | 1.8 | 1 | 11/16/17 12:52 | 11/17/17 14:41 | 7439-96-5 | |
| Potassium | 2460 | ug/L | 500 | 52.3 | 1 | 11/16/17 12:52 | 11/17/17 14:41 | 7440-09-7 | |
| Sodium | 37600 | ug/L | 500 | 28.4 | 1 | 11/16/17 12:52 | 11/17/17 14:41 | 7440-23-5 | |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | 284 | mg/L | 20.0 | 4.9 | 1 | | 11/14/17 12:59 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 787 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:19 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | 23.9 | mg/L | 2.0 | 1.0 | 2 | | 11/15/17 17:07 | 16887-00-6 | |
| Fluoride | 0.11J | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 19:38 | 16984-48-8 | |
| Sulfate | 345 | mg/L | 50.0 | 25.0 | 50 | | 11/15/17 17:21 | 14808-79-8 | |

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

Sample: M-FB-1 **Lab ID: 60257424012** Collected: 11/06/17 13:18 Received: 11/07/17 03:10 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|-----------------|---|------|------|----|----------------|----------------|------------|------|
| 200.7 Metals, Total | | Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 | | | | | | | |
| Boron | 9.4J | ug/L | 100 | 3.5 | 1 | 11/16/17 12:52 | 11/17/17 14:45 | 7440-42-8 | |
| Calcium | 48.6J | ug/L | 100 | 36.0 | 1 | 11/16/17 12:52 | 11/17/17 14:45 | 7440-70-2 | |
| Iron | 20.4J | ug/L | 50.0 | 12.4 | 1 | 11/16/17 12:52 | 11/17/17 14:45 | 7439-89-6 | |
| Magnesium | <15.4 | ug/L | 50.0 | 15.4 | 1 | 11/16/17 12:52 | 11/17/17 14:45 | 7439-95-4 | |
| Manganese | <1.8 | ug/L | 5.0 | 1.8 | 1 | 11/16/17 12:52 | 11/17/17 14:45 | 7439-96-5 | |
| Potassium | 107J | ug/L | 500 | 52.3 | 1 | 11/16/17 12:52 | 11/17/17 14:45 | 7440-09-7 | B |
| Sodium | 65.6J | ug/L | 500 | 28.4 | 1 | 11/16/17 12:52 | 11/17/17 14:45 | 7440-23-5 | B |
| 2320B Alkalinity | | Analytical Method: SM 2320B | | | | | | | |
| Alkalinity, Total as CaCO ₃ | <4.9 | mg/L | 20.0 | 4.9 | 1 | | 11/14/17 13:03 | | |
| 2540C Total Dissolved Solids | | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | 8.5 | mg/L | 5.0 | 5.0 | 1 | | 11/13/17 13:20 | | |
| 300.0 IC Anions 28 Days | | Analytical Method: EPA 300.0 | | | | | | | |
| Chloride | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 11/14/17 19:53 | 16887-00-6 | |
| Fluoride | <0.10 | mg/L | 0.20 | 0.10 | 1 | | 11/14/17 19:53 | 16984-48-8 | |
| Sulfate | <0.50 | mg/L | 1.0 | 0.50 | 1 | | 11/14/17 19:53 | 14808-79-8 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

| | | | |
|-------------------------|--|-----------------------|---------------------|
| QC Batch: | 502740 | Analysis Method: | EPA 200.7 |
| QC Batch Method: | EPA 200.7 | Analysis Description: | 200.7 Metals, Total |
| Associated Lab Samples: | 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010 | | |

| | | | |
|-------------------------|--|---------|-------|
| METHOD BLANK: | 2057700 | Matrix: | Water |
| Associated Lab Samples: | 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Boron | ug/L | <3.5 | 100 | 3.5 | 11/14/17 17:40 | |
| Calcium | ug/L | <36.0 | 100 | 36.0 | 11/14/17 17:40 | |
| Iron | ug/L | 12.7J | 50.0 | 12.4 | 11/14/17 17:40 | |
| Magnesium | ug/L | <15.4 | 50.0 | 15.4 | 11/14/17 17:40 | |
| Manganese | ug/L | <1.8 | 5.0 | 1.8 | 11/14/17 17:40 | |
| Potassium | ug/L | <52.3 | 500 | 52.3 | 11/14/17 17:40 | |
| Sodium | ug/L | <28.4 | 500 | 28.4 | 11/14/17 17:40 | |

LABORATORY CONTROL SAMPLE: 2057701

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Boron | ug/L | 1000 | 947 | 95 | 85-115 | |
| Calcium | ug/L | 10000 | 9930 | 99 | 85-115 | |
| Iron | ug/L | 10000 | 9860 | 99 | 85-115 | |
| Magnesium | ug/L | 10000 | 9640 | 96 | 85-115 | |
| Manganese | ug/L | 1000 | 996 | 100 | 85-115 | |
| Potassium | ug/L | 10000 | 9450 | 94 | 85-115 | |
| Sodium | ug/L | 10000 | 9550 | 95 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2057702 2057703

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|-------------|-------------|--------|----------|-----------|--------------|--------|---------|-------|
| | | 60257424003 | Spike Conc. | Spike Conc. | Result | | | | | | |
| Boron | ug/L | 6660 | 1000 | 1000 | 7770 | 7460 | 111 | 80 | 70-130 | 4 | 20 |
| Calcium | ug/L | 151000 | 10000 | 10000 | 166000 | 160000 | 142 | 84 | 70-130 | 4 | 20 M1 |
| Iron | ug/L | 34800 | 10000 | 10000 | 45500 | 44000 | 107 | 92 | 70-130 | 3 | 20 |
| Magnesium | ug/L | 43700 | 10000 | 10000 | 54400 | 52400 | 107 | 87 | 70-130 | 4 | 20 |
| Manganese | ug/L | 2550 | 1000 | 1000 | 3580 | 3470 | 103 | 92 | 70-130 | 3 | 20 |
| Potassium | ug/L | 3130 | 10000 | 10000 | 13400 | 13100 | 102 | 99 | 70-130 | 2 | 20 |
| Sodium | ug/L | 35300 | 10000 | 10000 | 46300 | 44600 | 110 | 92 | 70-130 | 4 | 20 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

QC Batch: 503493 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Associated Lab Samples: 60257424011, 60257424012

METHOD BLANK: 2061180 Matrix: Water

Associated Lab Samples: 60257424011, 60257424012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Boron | ug/L | <3.5 | 100 | 3.5 | 11/17/17 14:34 | |
| Calcium | ug/L | <36.0 | 100 | 36.0 | 11/17/17 14:34 | |
| Iron | ug/L | <12.4 | 50.0 | 12.4 | 11/17/17 14:34 | |
| Magnesium | ug/L | <15.4 | 50.0 | 15.4 | 11/17/17 14:34 | |
| Manganese | ug/L | <1.8 | 5.0 | 1.8 | 11/17/17 14:34 | |
| Potassium | ug/L | 74.4J | 500 | 52.3 | 11/17/17 14:34 | |
| Sodium | ug/L | 56.5J | 500 | 28.4 | 11/17/17 14:34 | |

LABORATORY CONTROL SAMPLE: 2061181

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Boron | ug/L | 1000 | 981 | 98 | 85-115 | |
| Calcium | ug/L | 10000 | 10100 | 101 | 85-115 | |
| Iron | ug/L | 10000 | 10100 | 101 | 85-115 | |
| Magnesium | ug/L | 10000 | 9630 | 96 | 85-115 | |
| Manganese | ug/L | 1000 | 1010 | 101 | 85-115 | |
| Potassium | ug/L | 10000 | 10200 | 102 | 85-115 | |
| Sodium | ug/L | 10000 | 9880 | 99 | 85-115 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2061182 2061183

| Parameter | Units | 60257356002 | | 2061183 | | MS | | MSD | | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|-------------|----------------|-----------------|-----------|------------|-------|-------|--------|--------------|-----|---------|------|
| | | Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | % Rec | % Rec | | | | | |
| Boron | ug/L | 881 | 1000 | 1000 | 2020 | 2020 | 113 | 113 | 70-130 | 0 | 20 | | |
| Calcium | ug/L | 72100 | 10000 | 10000 | 88100 | 88200 | 160 | 162 | 70-130 | 0 | 20 | M1 | |
| Iron | ug/L | 122 | 10000 | 10000 | 11000 | 11000 | 109 | 109 | 70-130 | 0 | 20 | | |
| Magnesium | ug/L | 10700 | 10000 | 10000 | 21400 | 21400 | 107 | 107 | 70-130 | 0 | 20 | | |
| Manganese | ug/L | 16.2 | 1000 | 1000 | 1100 | 1100 | 108 | 108 | 70-130 | 0 | 20 | | |
| Potassium | ug/L | 14200 | 10000 | 10000 | 26400 | 26400 | 122 | 122 | 70-130 | 0 | 20 | | |
| Sodium | ug/L | 215000 | 10000 | 10000 | 239000 | 241000 | 247 | 265 | 70-130 | 1 | 20 | M1 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

QC Batch: 502364

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Associated Lab Samples: 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010

METHOD BLANK: 2056093

Matrix: Water

Associated Lab Samples: 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|----------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Alkalinity, Total as CaCO3 | mg/L | <4.9 | 20.0 | 4.9 | 11/08/17 17:11 | |

LABORATORY CONTROL SAMPLE: 2056094

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|----------------------------|-------|-------------|------------|-----------|--------------|------------|
| Alkalinity, Total as CaCO3 | mg/L | 500 | 507 | 101 | 90-110 | |

SAMPLE DUPLICATE: 2056095

| Parameter | Units | 60257186003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|----------------------------|-------|--------------------|------------|-----|---------|------------|
| Alkalinity, Total as CaCO3 | mg/L | ND | <4.9 | | 10 | |

SAMPLE DUPLICATE: 2056096

| Parameter | Units | 60257424003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|----------------------------|-------|--------------------|------------|-----|---------|------------|
| Alkalinity, Total as CaCO3 | mg/L | 328 | 315 | 4 | 10 | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

QC Batch: 503026

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Associated Lab Samples: 60257424011, 60257424012

METHOD BLANK: 2059457

Matrix: Water

Associated Lab Samples: 60257424011, 60257424012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|--|-------|--------------|-----------------|-----|----------------|------------|
| Alkalinity, Total as CaCO ₃ | mg/L | <4.9 | 20.0 | 4.9 | 11/14/17 11:49 | |

LABORATORY CONTROL SAMPLE: 2059458

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|--|-------|-------------|------------|-----------|--------------|------------|
| Alkalinity, Total as CaCO ₃ | mg/L | 500 | 484 | 97 | 90-110 | |

SAMPLE DUPLICATE: 2059459

| Parameter | Units | 60257521002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--|-------|--------------------|------------|-----|---------|------------|
| Alkalinity, Total as CaCO ₃ | mg/L | 91.5 | 92.0 | 0 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

QC Batch: 502852

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010, 60257424011, 60257424012

METHOD BLANK: 2058645

Matrix: Water

Associated Lab Samples: 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010, 60257424011, 60257424012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------------------|-------|--------------|-----------------|-----|----------------|------------|
| Total Dissolved Solids | mg/L | <5.0 | 5.0 | 5.0 | 11/13/17 13:10 | |

LABORATORY CONTROL SAMPLE: 2058646

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------|-------|-------------|------------|-----------|--------------|------------|
| Total Dissolved Solids | mg/L | 1000 | 1000 | 100 | 80-120 | |

SAMPLE DUPLICATE: 2058647

| Parameter | Units | 60257424003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 809 | 756 | 7 | 10 | |

SAMPLE DUPLICATE: 2058648

| Parameter | Units | 60257424008 Result | Dup Result | RPD | Max RPD | Qualifiers |
|------------------------|-------|--------------------|------------|-----|---------|------------|
| Total Dissolved Solids | mg/L | 917 | 881 | 4 | 10 | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

| | |
|-------------------------------------|---------------------------------------|
| QC Batch: 503001 | Analysis Method: EPA 300.0 |
| QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions |
| Associated Lab Samples: 60257424012 | |

METHOD BLANK: 2059284 Matrix: Water
Associated Lab Samples: 60257424012

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 11/14/17 08:00 | |

LABORATORY CONTROL SAMPLE: 2059285

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 5 | 4.8 | 95 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2059286 2059287

| Parameter | Units | 2059286 | | 2059287 | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|----------|-----------|--------------|--------|---------|------|
| | | 60257409006 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | | | | | | |
| Chloride | mg/L | 31.1 | 10 | 10 | 41.1 | 40.8 | 100 | 97 | 80-120 | 1 | 15 |
| Fluoride | mg/L | 0.41 | 5 | 5 | 5.6 | 5.8 | 103 | 108 | 80-120 | 4 | 15 |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

| | | | |
|-------------------------|---|-----------------------|-----------------|
| QC Batch: | 503009 | Analysis Method: | EPA 300.0 |
| QC Batch Method: | EPA 300.0 | Analysis Description: | 300.0 IC Anions |
| Associated Lab Samples: | 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010, 60257424011 | | |

| | | | |
|-------------------------|---|---------|-------|
| METHOD BLANK: | 2059312 | Matrix: | Water |
| Associated Lab Samples: | 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010, 60257424011 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 11/14/17 20:07 | |
| Fluoride | mg/L | <0.10 | 0.20 | 0.10 | 11/14/17 20:07 | |

| LABORATORY CONTROL SAMPLE: 2059313 | | | | | | |
|------------------------------------|-------|-------------|------------|-----------|--------------|------------|
| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
| Chloride | mg/L | 5 | 4.7 | 94 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.5 | 100 | 90-110 | |

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2059314 | | | | | | | | | | | | 2059315 | |
|--|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|---------|--|
| Parameter | Units | 60257499001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
| Chloride | mg/L | 684 | 250 | 250 | 891 | 904 | 83 | 88 | 80-120 | 1 | 15 | | |
| Fluoride | mg/L | ND | 125 | 125 | 128 | 126 | 102 | 101 | 80-120 | 1 | 15 | | |

| MATRIX SPIKE SAMPLE: 2059316 | | | | | | | | | | | |
|------------------------------|-------|--------------------|-------------|-----------|----------|--------------|------------|--|--|--|--|
| Parameter | Units | 60257424003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers | | | | |
| Fluoride | mg/L | <0.10 | 2.5 | 2.7 | 103 | 80-120 | | | | | |

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

| | | | |
|-------------------------|---|-----------------------|-----------------|
| QC Batch: | 503260 | Analysis Method: | EPA 300.0 |
| QC Batch Method: | EPA 300.0 | Analysis Description: | 300.0 IC Anions |
| Associated Lab Samples: | 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010, 60257424011 | | |

| | | | |
|-------------------------|---|---------|-------|
| METHOD BLANK: | 2060266 | Matrix: | Water |
| Associated Lab Samples: | 60257424001, 60257424002, 60257424003, 60257424004, 60257424005, 60257424006, 60257424007, 60257424008, 60257424009, 60257424010, 60257424011 | | |

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|------|----------------|------------|
| Chloride | mg/L | <0.50 | 1.0 | 0.50 | 11/15/17 17:35 | |
| Sulfate | mg/L | <0.50 | 1.0 | 0.50 | 11/15/17 17:35 | |

| LABORATORY CONTROL SAMPLE: 2060267 | | | | | | |
|------------------------------------|-------|-------------|------------|-----------|--------------|------------|
| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
| Chloride | mg/L | 5 | 4.6 | 92 | 90-110 | |
| Sulfate | mg/L | 5 | 4.8 | 97 | 90-110 | |

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2060268 | | | | | | | | | | | | 2060269 | |
|--|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|---------|--|
| Parameter | Units | 60257424001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
| Chloride | mg/L | 42.4 | 50 | 50 | 89.9 | 90.5 | 95 | 96 | 80-120 | 1 | 15 | | |
| Sulfate | mg/L | 102 | 50 | 50 | 153 | 154 | 102 | 104 | 80-120 | 1 | 15 | | |

| MATRIX SPIKE SAMPLE: 2060270 | | | | | | | | | | | |
|------------------------------|-------|--------------------|-------------|-----------|----------|--------------|------------|--|--|--|--|
| Parameter | Units | 60257424003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers | | | | |
| Chloride | mg/L | | 31.7 | 10 | 42.1 | 103 | 80-120 | | | | |
| Sulfate | mg/L | | 318 | 250 | 572 | 102 | 80-120 | | | | |

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60257424001 | M-MW-1 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424002 | M-MW-2 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424003 | M-MW-3 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424004 | M-MW-4 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424005 | M-MW-5 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424006 | M-MW-6 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424007 | M-MW-7 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424008 | M-MW-8 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424009 | M-BMW-1 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424010 | M-BMW-2 | EPA 200.7 | 502740 | EPA 200.7 | 502806 |
| 60257424011 | M-DUP-1 | EPA 200.7 | 503493 | EPA 200.7 | 503564 |
| 60257424012 | M-FB-1 | EPA 200.7 | 503493 | EPA 200.7 | 503564 |
| 60257424001 | M-MW-1 | SM 2320B | 502364 | | |
| 60257424002 | M-MW-2 | SM 2320B | 502364 | | |
| 60257424003 | M-MW-3 | SM 2320B | 502364 | | |
| 60257424004 | M-MW-4 | SM 2320B | 502364 | | |
| 60257424005 | M-MW-5 | SM 2320B | 502364 | | |
| 60257424006 | M-MW-6 | SM 2320B | 502364 | | |
| 60257424007 | M-MW-7 | SM 2320B | 502364 | | |
| 60257424008 | M-MW-8 | SM 2320B | 502364 | | |
| 60257424009 | M-BMW-1 | SM 2320B | 502364 | | |
| 60257424010 | M-BMW-2 | SM 2320B | 502364 | | |
| 60257424011 | M-DUP-1 | SM 2320B | 503026 | | |
| 60257424012 | M-FB-1 | SM 2320B | 503026 | | |
| 60257424001 | M-MW-1 | SM 2540C | 502852 | | |
| 60257424002 | M-MW-2 | SM 2540C | 502852 | | |
| 60257424003 | M-MW-3 | SM 2540C | 502852 | | |
| 60257424004 | M-MW-4 | SM 2540C | 502852 | | |
| 60257424005 | M-MW-5 | SM 2540C | 502852 | | |
| 60257424006 | M-MW-6 | SM 2540C | 502852 | | |
| 60257424007 | M-MW-7 | SM 2540C | 502852 | | |
| 60257424008 | M-MW-8 | SM 2540C | 502852 | | |
| 60257424009 | M-BMW-1 | SM 2540C | 502852 | | |
| 60257424010 | M-BMW-2 | SM 2540C | 502852 | | |
| 60257424011 | M-DUP-1 | SM 2540C | 502852 | | |
| 60257424012 | M-FB-1 | SM 2540C | 502852 | | |
| 60257424001 | M-MW-1 | EPA 300.0 | 503009 | | |
| 60257424001 | M-MW-1 | EPA 300.0 | 503260 | | |
| 60257424002 | M-MW-2 | EPA 300.0 | 503009 | | |
| 60257424002 | M-MW-2 | EPA 300.0 | 503260 | | |
| 60257424003 | M-MW-3 | EPA 300.0 | 503009 | | |
| 60257424003 | M-MW-3 | EPA 300.0 | 503260 | | |
| 60257424004 | M-MW-4 | EPA 300.0 | 503009 | | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC ENERGY CTR

Pace Project No.: 60257424

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 60257424004 | M-MW-4 | EPA 300.0 | 503260 | | |
| 60257424005 | M-MW-5 | EPA 300.0 | 503009 | | |
| 60257424005 | M-MW-5 | EPA 300.0 | 503260 | | |
| 60257424006 | M-MW-6 | EPA 300.0 | 503009 | | |
| 60257424006 | M-MW-6 | EPA 300.0 | 503260 | | |
| 60257424007 | M-MW-7 | EPA 300.0 | 503009 | | |
| 60257424007 | M-MW-7 | EPA 300.0 | 503260 | | |
| 60257424008 | M-MW-8 | EPA 300.0 | 503009 | | |
| 60257424008 | M-MW-8 | EPA 300.0 | 503260 | | |
| 60257424009 | M-BMW-1 | EPA 300.0 | 503009 | | |
| 60257424009 | M-BMW-1 | EPA 300.0 | 503260 | | |
| 60257424010 | M-BMW-2 | EPA 300.0 | 503009 | | |
| 60257424010 | M-BMW-2 | EPA 300.0 | 503260 | | |
| 60257424011 | M-DUP-1 | EPA 300.0 | 503009 | | |
| 60257424011 | M-DUP-1 | EPA 300.0 | 503260 | | |
| 60257424012 | M-FB-1 | EPA 300.0 | 503001 | | |

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60257424



Client Name: Golder Associates

Courier: FedEx UPS VIA Clay PEX ECI Pace Xroads Client Other

Tracking #: _____ Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-266 / T-239 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1.2 3.0 Corr. Factor: CF 0.0 / CF +0.2 Corrected 1.2 3.0

Date and initials of person examining contents: JLS
11/7

Temperature should be above freezing to 6°C

| | |
|--|--|
| Chain of Custody present: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Chain of Custody relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Samples arrived within holding time: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Short Hold Time analyses (<72hr): | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A |
| Rush Turn Around Time requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A |
| Sufficient volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Correct containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Pace containers used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Containers intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| Filtered volume received for dissolved tests? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| Sample labels match COC: Date / time / ID / analyses | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Samples contain multiple phases? Matrix: <u>WT</u> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A |
| Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Cyanide water sample checks: <u>N/A</u> | |
| Lead acetate strip turns dark? (Record only) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Potassium iodide test strip turns blue/purple? (Preserve) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Trip Blank present: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| Headspace in VOA vials (>6mm): | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| Samples from USDA Regulated Area: State: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| Additional labels attached to 5035A / TX1005 vials in the field? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jami Ched _____ Date: 11/8/17

Project Manager Review: _____ Date: _____



MEMORANDUM

Date: June 26, 2017
To: Project File
From: Tommy Goodwin
cc: Amanda Derhake, Jeff Ingram
RE: DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER - E.1

Project No.: 1531406
Project: Ameren
Email:

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- Analysis of pH for all samples was initiated outside of the 15 minute EPA required holding time. Field measurements of pH were taken at the time of sample collection.
- Calcium recovery was outside the criteria for MS. Data was not qualified on MS/MSD data alone.
- Reported results with high levels of non-target analytes or other matrix interference were analyzed at dilution and qualified as dilution (D).
- When a duplicate (i.e. field, sample) RPD was not met, associated samples were qualified as estimates (J). If the results were less than the method detection limit or detected in a blank the results were qualified as non-detects and estimates (UJ).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren-Meramec- E1
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 6/26/17

Laboratory: Pace Analytical SDG #: 60216046
 Analytical Method (type and no.): Metals 200.7&200.8, Hg 7470, TDS 2540C, pH 4500H+, Anions 300.0, Rads 903.1&904.0
 Matrix: Air Soil/Sed. Water Waste
 Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW7, M-MW-8,
~~M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MW- 2 MS, M-MW- 2 MSD~~

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Grab |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | pH, Cond, Turb, Temp, DO, ORP, Flow, DTW |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| i) Notations of unacceptable field conditions/performances from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Note Deficiencies: _____ | | | | |
| _____ | | | | |
| _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Were samples received in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Were hold times met for sample analysis? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | pH |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride, Sulfate |
| g) Were any matrix problems noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Calcium |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------|
| a) Were analytes detected in the method blank(s)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were analytes detected in the field blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>C_a (31.2)</u> |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Was the LCS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|--|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Dup-1@ MW-3</u> |
| | | | | <u>FB-1@ MW-6</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>C_a (200), M_o (22.2)</u> |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS</u> |
| d) Were lab dup. precision criteria met (note RPD)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS(8)</u> |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------|
| a) Was MS accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>C_a (64, Low)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was MSD accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

Comments/Notes:

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|------------------|----------------|--------|-----------|---|
| M-MW-1 | Chloride | 92.7 | D | Result had a dilution factor (DF) of 10 |
| " | Sulfate | 55.2 | | 5 |
| M-MW-2 | Chloride | 26.5 | | 2 |
| " | Sulfate | 313 | | 20 |
| M-MW-3 | Chloride | 48.9 | | 5 |
| " | Sulfate | 231 | | 20 |
| M-MW-4 | Chloride | 35.8 | | 5 |
| " | Sulfate | 370 | | 50 |
| M-MW-5 | Chloride | 40.2 | | 5 |
| " | Sulfate | 374 | | 50 |
| M-MW-6 | Chloride | 23.4 | | 2 |
| " | Sulfate | 580 | | 50 |
| M-MW-7 | Chloride | 58.3 | | 5 |
| " | Sulfate | 911 | | 100 |
| M-MW-8 | Chloride | 24.5 | | 2 |
| " | Sulfate | 469 | | 50 |
| M-DUP-1 | Chloride | 49.6 | | 5 |
| ⊥ | Sulfate | 230 | | 20 |
| ⊥ | Cobalt (Co) | 0.72 | UJ | RPD not within limits; Result < MDL. |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |

Signature: Tommy Woodhouse

Date: 6/26/2017



MEMORANDUM

Date: June 26, 2017
To: Project File
From: Tommy Goodwin
cc: Amanda Derhake, Jeff Ingram
RE: DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER - E.2

Project No.: 1531406
Project: Ameren
Email:

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- Analysis of pH for all samples was initiated outside of the 15 minute EPA required holding time. Field measurements of pH were taken at the time of sample collection.
- Calcium and Boron recovery were outside the criteria for MS. Data was not qualified on MS/MSD data alone.
- Reported results with high levels of non-target analytes or other matrix interference were analyzed at dilution and qualified as dilution (D).
- When a compound was detected in a blank (i.e. method, field, rinsate), and the sample results were greater than the MDL and less than the PQL the results were recorded at the PQL value and qualified as non-detects (U).
- When a duplicate (i.e. field, sample) RPD was not met, associated samples were qualified as estimates (J). If the results were less than the method detection limit or detected in a blank the results were qualified as non-detects and estimates (UJ).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren-Meramec- E2
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 6/26/17

Laboratory: Pace Analytical SDG #: 60219173
 Analytical Method (type and no.): Metals 200.7&200.8, Hg 7470, TDS 2540C, pH 4500H+, Anions 300.0, Rads 903.1&904.0
 Matrix: Air Soil/Sed. Water Waste _____
 Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW7, M-MW-8,
M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MW- 3 MS, M-MW-3 MSD

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Grab |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | pH, Cond, Turb, Temp, DO, ORP, Flow, DTW |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| i) Notations of unacceptable field conditions/performance from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Note Deficiencies: _____ | | | | |
| _____ | | | | |
| _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|------------------------------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Were samples received in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Mislabeled bottle - resolved |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Were hold times met for sample analysis? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | pH |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride, Sulfate |
| g) Were any matrix problems noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Boron, Cu |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|--|
| a) Were analytes detected in the method blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Cu (9.1), Cr (0.50), Pb (0.49), 0.50</u> |
| b) Were analytes detected in the field blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Cu (8), Mo (1.4), Cr (8), Chloride (0.53)</u> |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|------------------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Was the LCS accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Hg (High)</u> |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|---------------------------------------|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Dup-1@ MW-4</u> |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>FB-1@ MW-2</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Be (200), Pb (200), TDS (32.8)</u> |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS (33)</u> |
| d) Were lab dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | _____ |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| a) Was MS accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>B (Low), Cu (Low)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was MSD accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

Comments/Notes:

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|-----------------------|-----------------|--------|-----------|--|
| M-BMW-1 | Chromium (Cr) | 1.0 | U | Detected in ^{method} blank (MB); PQL > Result > MDL |
| | Chloride | 219 | D | Result had a dilution factor (DF) of 20 |
| | Sulfate | 64.0 | D | " " 5 |
| M-BMW-2 | Cr | 1.5 | U | Detected in MB; Result < 5x PQL MB detection |
| M-MW-5 | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| | Chloride | 41.5 | D | Result had a DF of 5 |
| | Sulfate | 355 | D | " " 50 |
| M-MW-6 | Chloride | 28.4 | D | 2 |
| | Sulfate | 631 | D | 50 |
| | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| M-MW-7 | Cr | 1.0 | U | " " |
| | Chloride | 74.3 | D | Result had a DF of 10 |
| | Sulfate | 941 | D | " " 100 |
| M-FB-1 | Calcium (Ca) | 100 | U | Detected in MB; PQL > Result > MDL |
| " | Cr | 1.0 | U | " " |
| M-MW-1 | Cr | 1.3 | U | ; Result < 5x PQL MB detection |
| | Chloride | 42.0 | D | Result had a DF of 10 |
| | Sulfate | 98.0 | D | " " 10 |
| M-MW-2 | Chloride | 28.5 | D | 2 |
| | Sulfate | 329 | D | 50 |
| | Cr | 1.0 | U | Detected in MB; PQL = Result |
| | Molybdenum (Mo) | 20.0 | U | Detected in Field Blank; PQL > Result > MDL |
| M-MW-3 | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| | Chloride | 45.4 | D | Result had a DF of 5 |
| | Sulfate | 264 | D | " " 50 |
| Continue on Next Page | | | | |

Signature: _____

Tommy Wood

Date: _____

6/26/17

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|-------------|------------------------------|--------|-----------|---|
| M-MW-4 | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| I | Total Dissolved Solids (TDS) | 1030 | J | RPD exceeded limit; Result was > MDL |
| | Chloride | 37.3 | D | Detected in ⁽¹²⁾ Result had a DF of 5 |
| | Sulfate | 380 | D | 50 |
| M-MW-8 | Chloride | 24.8 | D | I 2 |
| I | Sulfate | 449 | D | |
| | | Cr | 1.2 | U |
| M-DUP-1 | Cr | 1.0 | U | " ; PQL > Result > MDL |
| I | Chloride | 37.3 | D | Result had a DF of 5 |
| | Sulfate | 382 | D | " 50 |
| | Beryllium (Be) | 0.26 | UJ | RPD exceeded limit; Result < MDL |
| | Lead (Pb) | 2.5 | UJ | " " |
| (12) | | | | |

Signature: *Tony J. Woods Jr*

Date: 06/26/2017



MEMORANDUM

Date: June 26, 2017
To: Project File
From: Tommy Goodwin
cc: Amanda Derhake, Jeff Ingram
Project No.: 1531406
Project: Ameren
Email:
RE: DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MAKEUP EVENT 1

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- Analysis of pH for all samples was initiated outside of the 15 minute EPA required holding time. Field measurements of pH were taken at the time of sample collection.
- Calcium recovery was outside the criteria for MS. Data was not qualified on MS/MSD data alone.
- Reported results with high levels of non-target analytes or other matrix interference were analyzed at dilution and qualified as dilution (D).
- When a compound was detected in a blank (i.e. method, field, rinsate), and the sample results were greater than the MDL and less than the PQL the results were recorded at the PQL value and qualified as non-detects (U).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren-Meramec- Makeup Event 1
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 6/26/2017

Laboratory: Pace Analytical SDG #: 60221557
 Analytical Method (type and no.): Metals 200.7&200.8, Hg 7470, TDS 2540C, pH 4500H+, Anions 300.0, Rads 903.1&904.0
 Matrix: Air Soil/Sed. Water Waste
 Sample Names: ~~M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW-7, M-MW-8~~ (T)
M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MW-MS, M-MW-MSD (T)

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Grab |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | pH, Cond, Turb, Temp, DO, ORP, Flow, DTW |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| i) Notations of unacceptable field conditions/performance from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Note Deficiencies: _____ | | | | |
| _____ | | | | |
| _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Were samples received in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Were hold times met for sample analysis? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | pH |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride, Sulfate |
| g) Were any matrix problems noted? | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Ca(Low) |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|------------------|
| a) Were analytes detected in the method blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Sb (0.12)</u> |
| b) Were analytes detected in the field blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Was the LCS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|------------------|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <u>Dup-1@ NA</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <u>FB-1@ NA</u> |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS</u> |
| d) Were lab dup. precision criteria met (note RPD)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS (D)</u> |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-----------------|
| a) Was MS accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Ca (Low)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was MSD accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

Comments/Notes:



MEMORANDUM

Date: June 26, 2017
To: Project File
From: Tommy Goodwin
cc: Amanda Derhake, Jeff Ingram
RE: DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER - E.3

Project No.: 1531406
Project: Ameren
Email:

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- Analysis of pH for all samples was initiated outside of the 15 minute EPA required holding time. Field measurements of pH were taken at the time of sample collection.
- Calcium recovery was outside the criteria for MS. Data was not qualified on MS/MSD data alone.
- Reported results with high levels of non-target analytes or other matrix interference were analyzed at dilution and qualified as dilution (D).
- When a compound was detected in a blank (i.e. method, field, rinsate), and the sample results were greater than the MDL and less than the PQL the results were recorded at the PQL value and qualified as non-detects (U).
- When a duplicate (i.e. field, sample) RPD was not met, associated samples were qualified as estimates (J).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren-Meramec- E3
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 6/26/17

Laboratory: Pace Analytical SDG #: 60223843
 Analytical Method (type and no.): Metals 200.7&200.8, Hg 7470, TDS 2540C, pH 4500H+, Anions 300.0, Rads 903.1&904.0
 Matrix: Air Soil/Sed. Water Waste _____
 Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW7, M-MW-8,
M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MW- 1 MS, M-MW- 1 MSD

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Grab |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | pH, Cond, Turb, Temp, DO, ORP, Flow, DTW |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| i) Notations of unacceptable field conditions/performances from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | _____ |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| Note Deficiencies: _____ | | | | |
| _____ | | | | |
| _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Were samples received in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Were hold times met for sample analysis? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | pH |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride, Sulfate |
| g) Were any matrix problems noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ca |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Were analytes detected in the method blank(s)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| b) Were analytes detected in the field blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Ca(47.6), As(13.2), Sulfate(0.29)</u> |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Was the LCS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|----------------------------|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Dup-1@ MW-4</u> |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>FB-1@ MW-3</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>As(159.5), Cr(68.5)</u> |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Were lab dup. precision criteria met (note RPD)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS(y)</u> |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-----------------|
| a) Was MS accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Ca(High)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Was MSD accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Comments/Notes:

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|---|----------------|--------|-----------|---|
| M-MW-1 | Chloride | 43.6 | D | Result had a dilution factor (DF) of 5 |
| " | Sulfate | 99.8 | | 10 |
| M-MW-2 | Chloride | 24.3 | | 2 |
| " | Sulfate | 299 | | 50 |
| M-MW-5 | Chloride | 40.3 | | 5 |
| " | Sulfate | 341 | | 50 |
| M-MW-6 | Chloride | 209 | | 2 |
| " | Sulfate | 555 | | 50 |
| M-MW-7 | Chloride | 68.9 | | 5 |
| " | Sulfate | 881 | | 100 |
| M-MW-8 | Chloride | 75.2 | | 2 |
| " | Sulfate | 437 | | 50 |
| M-BMW-1 | Chloride | 214 | | 20 |
| " | Sulfate | 54.9 | | 5 |
| (T6) M-DUP-1 M-BMW-2 FB-1 | Chloride | 36.5 | | 5 |
| | Sulfate | 358 | | 50 |
| | Arsenic (As) | 15 | J | RPD exceeded limit; Result > MDL |
| M-MW-4 | As | 13.3 | J | " " |
| | Chloride | 37.1 | D | Result had a DF of 5 |
| | Sulfate | 366 | | 50 |
| M-MW-3 | Chloride | 34.6 | | 2 |
| | Sulfate | 309 | | 50 |
| | As | 6.6 | U | Detected in Field Blank (FB); Result < 5x FB Result |
| | | | | (T6) |

Signature: Tommy J. Woods Jr.

Date: 6/26/2017



MEMORANDUM

Date: June 26, 2017
To: Project File
From: Tommy Goodwin
cc: Amanda Derhake, Jeff Ingram
RE: DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER - E.4

Project No.: 1531406
Project: Ameren
Email:

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- Analysis of pH for all samples was initiated outside of the 15 minute EPA required holding time. Field measurements of pH were taken at the time of sample collection.
- Mercury recovery was outside the criteria for MSD. Data was not qualified on MS/MSD data alone.
- Reported results with high levels of non-target analytes or other matrix interference were analyzed at dilution and qualified as dilution (D).
- When a compound was detected in a blank (i.e. method, field, rinsate), and the sample results were greater than the MDL and less than the PQL the results were recorded at the PQL value and qualified as non-detects (U).
- When a duplicate (i.e. field, sample) RPD was not met, associated samples were qualified as estimates (J). If the results were less than the method detection limit or detected in a blank the results were qualified as non-detects and estimates (UJ).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren-Meramec- EY
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 6/26/2017

Laboratory: Pace Analytical SDG #: 60227172
 Analytical Method (type and no.): Metals 200.7&200.8, Hg 7470, TDS 2540C, pH 4500H+, Anions 300.0, Rads 903.1&904.0
 Matrix: Air Soil/Sed. Water Waste _____
 Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW7, M-MW-8,
M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MW- 2 MS, M-MW- 2 MSD

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Grab |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | pH, Cond, Turb, Temp, DO, ORP, Flow, DTW |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| i) Notations of unacceptable field conditions/performances from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | _____ |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| Note Deficiencies: _____ | | | | |
| _____ | | | | |
| _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Were samples received in good condition? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Were hold times met for sample analysis? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | pH |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride, Sulfate |
| g) Were any matrix problems noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | H ₂ |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|---|
| a) Were analytes detected in the method blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Cu (16.1), Mo (0.66), Cd (0.047)</u> |
| b) Were analytes detected in the field blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Cu (Blank/31.2), TDS (6.0)</u> |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Was the LCS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|--------------------|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Dup-1@ MW-3</u> |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>FB-1@ MW-8</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Pb (200)</u> |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Were lab dup. precision criteria met (note RPD)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS (4)</u> |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-----------------|
| a) Was MS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was MSD accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Hg (Low)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

Comments/Notes:

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason | |
|-----------------------|--------------------------|--------|-----------|---|-----|
| M-MW-7 | Cadmium (Cd) | 0.50 | U | Detected in Method Blank (MB); PQL > Result > MDL | |
| I | Chloride | 62.6 | D | Result had a dilution factor (DF) of 5 | |
| I | Sulfate | 1000 | I | | 100 |
| M-BMW-1 | Chloride | 248 | I | | 20 |
| I | Sulfate | 63.7 | I | 5 | |
| I | Cd | 0.50 | U | Detected in MB; PQL > Result > MDL | |
| M-BMW-2 | Cd | 0.50 | U | I | |
| M-MW-2 | Molybdenum (Mo) | 20.0 | U | I | |
| I | Chloride | 25.3 | D | Result had ~ DF of 2 | |
| I | Sulfate | 312 | D | 20 | |
| M-MW-1 | Chloride | 43.7 | D | 5 | |
| " | Sulfate | 98.8 | D | 10 | |
| M-MW-4 | Chloride | 36.0 | D | 5 | |
| " | Sulfate | 378 | D | 50 | |
| M-MW-5 | Chloride | 40.5 | D | 5 | |
| " | Sulfate | 391 | D | 50 | |
| M-MW-6 | Chloride | 21.9 | D | 2 | |
| " | Sulfate | 547 | D | 50 | |
| M-MW-8 | Chloride | 25.5 | D | 2 | |
| " | Sulfate | 455 | D | 50 | |
| M-MW-3 | Chloride | 29.2 | D | 5 | |
| I | Sulfate | 344 | D | 20 | |
| I | Mo | 20.0 | U | Detected in MB; PQL > Result > MDL | |
| I | Lead (Pb) | 2.5 | U | RPD exceeded limit; Result < MDL | |
| M-MW-DUP-1 | Pb | | | | |
| | Chloride (Cl) | | | | |

Next Page

M-MW-7-1
Signature: _____

~~Mo~~
~~Mo~~
~~Mo~~
Tommy J. Gooden

Date: 6/26/2017



MEMORANDUM

Date: June 27, 2017
To: Project File
From: Tommy Goodwin
cc: Amanda Derhake, Jeff Ingram
Project No.: 1531406
Project: Ameren
Email:
RE: DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER - E.5

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- Analysis of pH for all samples was initiated outside of the 15 minute EPA required holding time. Field measurements of pH were taken at the time of sample collection.
- Recovery of Barium and Calcium were outside the criteria for MS. Data was not qualified on MS/MSD data alone.
- Reported results with high levels of non-target analytes or other matrix interference were analyzed at dilution and qualified as dilution (D).
- When a compound was detected in a blank (i.e. method, field, rinsate), and the sample results were greater than the MDL and less than the PQL the results were recorded at the PQL value and qualified as non-detects (U).
- When a duplicate (i.e. field, sample) RPD was not met, associated samples were qualified as estimates (J).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Goldier Associates
 Project Name: Ameren-Meramec- ES
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 6/27/2017

Laboratory: Pace Analytical SDG #: 60232174
 Analytical Method (type and no.): Metals 200.7&200.8, Hg 7470, TDS 2540C, pH 4500H+, Anions 300.0, Rads 903.1&904.0
 Matrix: Air Soil/Sed. Water Waste
 Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW7, M-MW-8,
M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MW- 3 MS, M-MW- 3 MSD

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Grab |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | pH, Cond, Turb, Temp, DO, ORP, Flow, DTW |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| i) Notations of unacceptable field conditions/performance from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Note Deficiencies: _____ | | | | |
| _____ | | | | |
| _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Were samples received in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Were hold times met for sample analysis? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | pH |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride, Sulfate |
| g) Were any matrix problems noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | B, Ca |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|--|
| a) Were analytes detected in the method blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Ba(0.87), Be(0.56), Ca(12.6), Mo(1.0)</u> |
| b) Were analytes detected in the field blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Ba(0.67), Ca(11.7), Cr(0.48)</u> |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Was the LCS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|--|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Dup-1@ MW-5</u> |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>FB-1@ MW-8</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Be(200), Cr(29.9), Fluoride(27.3)</u> |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Were lab dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>TDS(13)</u> |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|------------------------|
| a) Was MS accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>B(Low), Ca(Low)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was MSD accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

Comments/Notes:

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|-------------|-----------------|----------------|-----------|---|
| M-MW-1 | Molybdenum (Mo) | 20.0 | U | Detected in Method Blank (MB); PQL > Result > MDL |
| | Chloride | 42.2 | D | Result had a Dilution Factor (DF) of 10 |
| | Sulfate | 99.1 | D | |
| M-MW-2 | Chloride | 23.5 | D | |
| | Sulfate | 290 | D | |
| | | Mo | 20.0 | U |
| M-MW-3 | Mo | 20.0 | U | " " |
| | Chloride | 23.9 | D | Result had a DF of 2 |
| | Sulfate | 348 | D | |
| M-MW-4 | Chloride | 36.3 | D | |
| | Sulfate | 402 | D | |
| | | Beryllium (Be) | 1.0 | U |
| M-MW-5 | Be | 1.0 | U | " " |
| | Fluoride | 0.25 | J | RPD exceeded limit; Result > MDL |
| | Chloride | 38.7 | D | Result had a DF of 5 |
| | Sulfate | 438 | D | |
| M-MW-6 | Chloride | 18.1 | D | |
| " | Sulfate | 610 | D | |
| M-MW-7 | Chloride | 81.6 | D | |
| " | Sulfate | 756 | D | |
| M-MW-8 | Chloride | 24.0 | D | |
| | Sulfate | 478 | D | |
| | | Chromium (Cr) | 1.0 | U |
| M-BMW-1 | Mo | 20.0 | U | " MB; PQL > Result > MDL |
| | Chloride | 205 | D | Result had a DF of 20 |
| | Sulfate | 58.0 | D | |

M-FB-1

Barium (Ba)

Calcium (Ca)

5.0

100

U

U

Detected in MB; PQL > Result > MDL

Signature: Tommy J. Good

Date: 6/27/17



MEMORANDUM

Date: June 27, 2017
To: Project File
From: Tommy Goodwin
cc: Amanda Derhake, Jeff Ingram
RE: DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER - E.6

Project No.: 1531406
Project: Ameren
Email:

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- Analysis of pH for all samples was initiated outside of the 15 minute EPA required holding time. Field measurements of pH were taken at the time of sample collection.
- Reported results with high levels of non-target analytes or other matrix interference were analyzed at dilution and qualified as dilution (D).
- When a compound was detected in a blank (i.e. method, field, rinsate), and the sample results were greater than the MDL and less than the PQL the results were recorded at the PQL value and qualified as non-detects (U).
- When a duplicate (i.e. field, sample) RPD was not met, associated samples were qualified as estimates (J). If the results were less than the method detection limit or detected in a blank the results were qualified as non-detects and estimates (UJ).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren-Meramec- E6
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 6/27/17

Laboratory: Pace Analytical SDG #: 60235624
 Analytical Method (type and no.): Metals 200.7&200.8, Hg 7470, TDS 2540C, pH 4500H+, Anions 300.0, Rads 903.1&904.0
 Matrix: Air Soil/Sed. Water Waste
 Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW7, M-MW-8,
M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MW- 2 MS, M-MW- 2 MSD

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Grab |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | pH, Cond, Turb, Temp, DO, ORP, Flow, DTW |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| i) Notations of unacceptable field conditions/performances from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Note Deficiencies: _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Were samples received in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Were hold times met for sample analysis? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | pH |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride, Sulfate |
| g) Were any matrix problems noted? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|---------------------------------------|
| a) Were analytes detected in the method blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Hg(0.11), Sb(0.083), Cr(0.18),</u> |
| b) Were analytes detected in the field blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Ca(17.6)</u> |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Was the LCS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|---|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Dup-1@ ^{MW-2} 2D ^{MW-2} MW-2</u> |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>FB-1@ MW-6</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Li(200)</u> |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Were lab dup. precision criteria met (note RPD)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS(4)</u> |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|----------|
| a) Was MS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was MSD accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

Comments/Notes:

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|-------------------|----------------|---------------|-----------|---|
| M-MW-1 | Mercury (Hg) | 0.20 | U | Detected in Method Blank (MB); PQL > Result > MDL |
| I | Chloride | 43.9 | D | Result had a Dilution Factor (DF) of 5 |
| | Sulfate | 104 | D | " " 10 |
| | Chromium (Cr) | 1.0 | U | Detected in MB; PQL > Result > MDL |
| M-MW-2 | Cr | 1.0 | U | " |
| I | Chloride | 26.8 | D | Result had a DF of 2 |
| | Sulfate | 352 | D | " 50 |
| M-MW-3 | Chloride | 28.2 | D | I 2 |
| I | Sulfate | 110 | D | |
| | | Cr | 1.0 | U |
| M-MW-2 | Lithium (Li) | 4.9 | UJ | RPD exceeded limit; Result < MDL |
| M-MW-4 | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| I | Chloride | 39.9 | D | Result had a DF of 5 |
| | Sulfate | 403 | D | " 50 |
| M-MW-5 | Chloride | 39.8 | D | I 5 |
| I | Sulfate | 446 | D | |
| | | Cr | 1.0 | U |
| M-MW-6 | Cr | 1.0 | U | Detected " " |
| " | Sulfate | 672 | D | Result had a DF of 50 |
| M-MW-7 | Chloride | 89.5 | D | I 10 |
| I | Sulfate | 999 | D | |
| | | Antimony (Sb) | 1.0 | U |
| | Cr | 1.0 | U | " " |
| M-MW-8 | Chloride | 25.2 | D | Result had a DF of 2 |
| " | Sulfate | 448 | D | 50 |
| — See Next Page — | | | | |

Signature: Tommy A. Booth

Date: 6/27/2017

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|--|----------------|--------|-----------|------------------------------------|
| M-BMW-1 | Sb | 1.0 | U | Detected in MB; PQL > Result > MDL |
| | Chloride | 167 | D | Result had a DF of 10 |
| | Sulfate | 112 | D | 10 |
| M-DUP-1 | Chloride | 27.0 | D | |
| | Sulfate | 353 | D | 2 |
| | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| M-BMW-2 | Cr | 1.0 | U | " " |
| <div style="position: relative; width: 100%; height: 100%;"> (16) </div> | | | | |

Signature: Tommy A. Wood Jr.

Date: 6/27/2017



MEMORANDUM

Date: June 27, 2017
To: Project File
From: Tommy Goodwin
cc: Amanda Derhake, Jeff Ingram
RE: DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER - E.7

Project No.: 1531406
Project: Ameren
Email:

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- Analysis of pH for all samples was initiated outside of the 15 minute EPA required holding time. Field measurements of pH were taken at the time of sample collection.
- Recovery of Chloride was outside the criteria for MS and MSD. Data was not qualified on MS/MSD data alone.
- Reported results with high levels of non-target analytes or other matrix interference were analyzed at dilution and qualified as dilution (D).
- When a compound was detected in a blank (i.e. method, field, rinsate), and the sample results were greater than the MDL and less than the PQL the results were recorded at the PQL value and qualified as non-detects (U).
- When a duplicate (i.e. field, sample) RPD was not met, associated samples were qualified as estimates (J).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren-Meramec- E7
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 6/27/2017

Laboratory: Pace Analytical SDG #: 60239186
 Analytical Method (type and no.): Metals 200.7&200.8, Hg 7470, TDS 2540C, pH 4500H+, Anions 300.0, Rads 903.1&904.0
 Matrix: Air Soil/Sed. Water Waste _____
 Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW7, M-MW-8,
M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MW- 2 MS, M-MW- 2 MSD

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Grab |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | pH, Cond, Turb, Temp, DO, ORP, Flow, DTW |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| i) Notations of unacceptable field conditions/performances from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | _____ |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| Note Deficiencies: _____ | | | | |
| _____ | | | | |
| _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Were samples received in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Were hold times met for sample analysis? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | pH |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride, Sulfate |
| g) Were any matrix problems noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|------------------------------------|
| a) Were analytes detected in the method blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Cr(0.11)</u> |
| b) Were analytes detected in the field blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>B(23.0), Cr(0.33), TDS(8.0)</u> |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Was the LCS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|---------------------------|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Dup-1@ MW-5</u> |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>FB-1@ MW-1</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Cr(110.5), Se(200)</u> |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Were lab dup. precision criteria met (note RPD)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS (1)</u> |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|------------------------|
| a) Was MS accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Chloride (High)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was MSD accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Chloride (High)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

Comments/Notes:

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|-------------|----------------|---------------------------|-----------|--|
| M-MW-1 | Chromium (Cr) | 1.0 | U | Field Blank (FB) Detected in Method Blank (MB); PQL > Result > MDL |
| | Chloride | 39.6 | D | Result had a Dilution Factor (DF) of 5 |
| | Sulfate | 104 | D | " " 10 |
| | Boron (B) | 100 | U | Detected in Field Blank (FB); PQL > Result > MDL |
| M-MW-2 | Chloride | 25.2 | D | Result had a DF of 2 |
| " | Sulfate | 399 | D | 50 |
| M-MW-3 | Chloride | 30.1 | D | 2 |
| | Sulfate | 315 | D | 50 |
| | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| M-MW-4 | Cr | 1.0 | U | " " |
| | Chloride | 37.6 | D | Result had a DF of 5 |
| | Sulfate | 404 | D | 50 |
| M-MW-5 | Chloride | 37.6 | D | 5 |
| | Sulfate | 425 | D | 50 |
| | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| | Selenium (Se) | 0.086 0.086 | U | RPD exceeded limit; Result < MDL |
| M-MW-6 | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| " | Sulfate | 656 | D | Result had a DF of 50 |
| M-MW-7 | Chloride | 76.4 | D | 10 |
| | Sulfate | 1250 | D | 100 |
| | Cr | 1.0 1.0 | U | Detected in MB; PQL > Result > MDL |
| M-MW-8 | Chloride | 23.0 | D | DF of 2 |
| " | Sulfate | 456 | D | 50 |
| M-BMW-1 | Chloride | 124 | D | 10 |
| " | Sulfate | 127 | D | 10 |
| M-FB-1 | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |

M-DUP-1

Signature: _____

Cr
Chloride
Sulfate

1.7
37.0
423

J
D
D

RPD exceeded limit; ~~PQL~~ Result > PQL
DF of 5
DF of 50
Date: _____

6/27/2017

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren-Meramec- E8
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 7/11/2017

Laboratory: Pace Analytical SDG #: 60246629
 Analytical Method (type and no.): Metals 200.7&200.8, Hg 7470, TDS 2540C, pH 4500H+, Anions 300.0, Rads 903.1&904.0
 Matrix: Air Soil/Sed. Water Waste
 Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW7, M-MW-8,
M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MW- 6 MS, M-MW- 6 MSD

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|---|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>6/14/17 6/15/17</u> |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>JSI/RJF</u> |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Grab</u> |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>pH, Cond, Turb, Temp, DO, ORP, Flow, DTW</u> |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| i) Notations of unacceptable field conditions/performances from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Note Deficiencies: _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Were samples received in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Were hold times met for sample analysis? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>pH</u> |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Chloride, Sulfate</u> |
| g) Were any matrix problems noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Ca</u> |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|------------------------------------|
| a) Were analytes detected in the method blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>As(0.053), Cr(0.10)</u> |
| b) Were analytes detected in the field blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>B(27.7), Cu(49.2), Cr(0.18)</u> |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Was the LCS accuracy criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|--------------------|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Dup-1@ MW-4</u> |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>FB-1@ MW-8</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Be(200)</u> |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| d) Were lab dup. precision criteria met (note RPD)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>TDS(5)</u> |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| a) Was MS accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Cu(Low)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was MSD accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Cu(Low)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

Comments/Notes:

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|-------------------------|---|--------|-----------|---|
| M-MW-1 | Arsenic (As) Chromium (Cr) (10) | 1.0 | U | Detected in Method Blank (MB); PQL > Result > MDL |
| | Chloride | 42.8 | D | Result had a Dilution Factor (DF) of 5 |
| | Sulfate | 96.1 | D | |
| M-MW-2 | Chloride | 27.3 | D | |
| | Sulfate | 317 | D | 10 |
| M-MW-2 | Chromium (Cr) | 1.0 | U | |
| M-MW-3 | Cr | 1.0 | U | 50 |
| | Chloride | 32.2 | D | |
| | Sulfate | 278 | D | 25 |
| M-MW-4 | Chloride | 40.0 | D | |
| | Sulfate | 378 | D | 50 |
| | Cr | 1.0 | U | |
| M-MW-5 | Cr | 1.0 | U | " " |
| | Chloride | 40.2 | D | DF of 5 |
| | Sulfate | 410 | D | |
| M-MW-6 | Sulfate | 504 | D | 50 |
| " | Cr | 1.0 | U | |
| M-MW-7 | Chloride | 69.1 | D | DF of 10 |
| " | Sulfate | 896 | D | |
| M-MW-8 | Chloride | 274 | D | 2 |
| | Sulfate | 407 | D | |
| | Cr | 1.0 | U | Detected in Field Blank + MB; PQL > Result > MDL |
| M-BMW-1 | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| | Chloride | 168 | D | DF of 10 |
| | Sulfate | 88.9 | D | |
| M-BMW-2 (16) | See Next Page | | | |

Signature: Tommy J. Good

Date: 7/13/2017

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|--|----------------|--------|-----------|------------------------------------|
| M-BMW-2 | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| M-DVP-1 | Cr | 1.0 | U | " " |
| I | Be | 0.16 | UJ | RPD exceeded limit; Result < MDL |
| | Chloride | 40.0 | D | DF of 5 |
| | Sulfate | 367 | D | 50 |
| M-FB-1 | Cr | 1.0 | U | Detected in MB; PQL > Result > MDL |
| <div style="position: relative; width: 100%; height: 100%;"> (TR) </div> | | | | |

Signature: *Tommy J. Wood*

Date: 7/14/2017



MEMORANDUM

Date: December 22, 2017
To: Project File
From: Tommy Goodwin
cc: Amanda Derhake, Jeff Ingram
Project No.: 1531406
Project: Ameren
Email:
RE: DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – D.M. NOV. 2017

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- Recovery of Calcium and Sodium was outside the criteria for MS and MSD. Data was not qualified on MS/MSD data alone.
- Reported results with high levels of non-target analytes or other matrix interference were analyzed at dilution and qualified as dilution (D).
- When a compound was detected in a sample result between the MDL and the PQL the results were recorded at the detection value and qualified as estimates (J).
- When a compound was detected in a blank (i.e. method, field, rinsate), and the sample results were greater than the MDL and less than the PQL the results were recorded at the PQL value and qualified as non-detects (U). If the sample results were greater than the PQL, but less than 10 times the blank detection result, the detections were recorded at the result value and qualified as non-detects (U).
- When a duplicate (i.e. field, sample) RPD was not met, associated samples were qualified as estimates (J).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren-Meramec- D.M. Nov 2017
 Reviewer: T Goodwin

Project Manager: J Ingram
 Project Number: 1531406.0004A
 Validation Date: 12/22/17

Laboratory: Pace Analytical SDG #: 60257424
 Analytical Method (type and no.): Metals 200.7 & 200.8, Hg 7470, TDS 2540C, pH 4500Hr, Anions 300.0, Rads 903.1 & 904.0, SM 2320B
 Matrix: Air Soil/Sed. Water Waste
 Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW7, M-MW-8,
M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

| Field Information | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Sampling dates noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Sampling team indicated? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Sample location noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Sample depth indicated (Soils)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| e) Sample type indicated (grab/composite)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Grab |
| f) Field QC noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| g) Field parameters collected (note types)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | pH, Cond, Turb, Temp, DO, ORP, Flow, DTW |
| h) Field Calibration within control limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| i) Notations of unacceptable field conditions/performances from field logs or field notes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| j) Does the laboratory narrative indicate deficiencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Note Deficiencies: _____ | | | | |
| _____ | | | | |
| _____ | | | | |

| Chain-of-Custody (COC) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was the COC properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) Was the COC signed by both field and laboratory personnel? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Were samples received in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| General (reference QAPP or Method) | YES | NO | NA | COMMENTS |
|---|-------------------------------------|--------------------------|-------------------------------------|-------------------|
| a) Were hold times met for sample pretreatment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Were hold times met for sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Were the correct preservatives used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) Was the correct method used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| e) Were appropriate reporting limits achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| f) Were any sample dilutions noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chloride, Sulfate |
| g) Were any matrix problems noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ca, Na |

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

| Blanks | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|-------------------------------------|--|
| a) Were analytes detected in the method blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Fe (12.7) ; -011 + -012 = K (74.4), Na (56.5)</u> <u>B (9.4), Ca (48.6), Fe (20.4), K (107), Na (65.6)</u> <u>TDS (8.6)</u> |
| b) Were analytes detected in the field blank(s)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Were analytes detected in the equipment blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| d) Were analytes detected in the trip blank(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Laboratory Control Sample (LCS) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|--------------------------|--------------------------|----------|
| a) Was a LCS analyzed once per SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| b) Were the proper analytes included in the LCS? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| c) Was the LCS accuracy criteria met? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

| Duplicates | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|--------------------------|---|
| a) Were field duplicates collected (note original and duplicate sample names)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Dup-1@ M-MW-2</u> <u>FB-1@ M-MW-1</u> <u>TDS (128.3)</u> |
| b) Were field dup. precision criteria met (note RPD)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| c) Were lab duplicates analyzed (note original and duplicate samples)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>AK, TDS</u> |
| d) Were lab dup. precision criteria met (note RPD)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Blind Standards | YES | NO | NA | COMMENTS |
|---|--------------------------|--------------------------|-------------------------------------|----------|
| a) Was a blind standard used (indicate name, analytes included and concentrations)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |
| b) Was the %D within control limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____ |

| Matrix Spike/Matrix Spike Duplicate (MS/MSD) | YES | NO | NA | COMMENTS |
|--|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------|
| a) Was MS accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Ca (142) (166), Na (247)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Was MSD accuracy criteria met? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Ca (162), Na (265)</u> |
| Recovery could not be calculated since sample contained high concentration of analyte? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| c) Were MS/MSD precision criteria met? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

Comments/Notes:

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

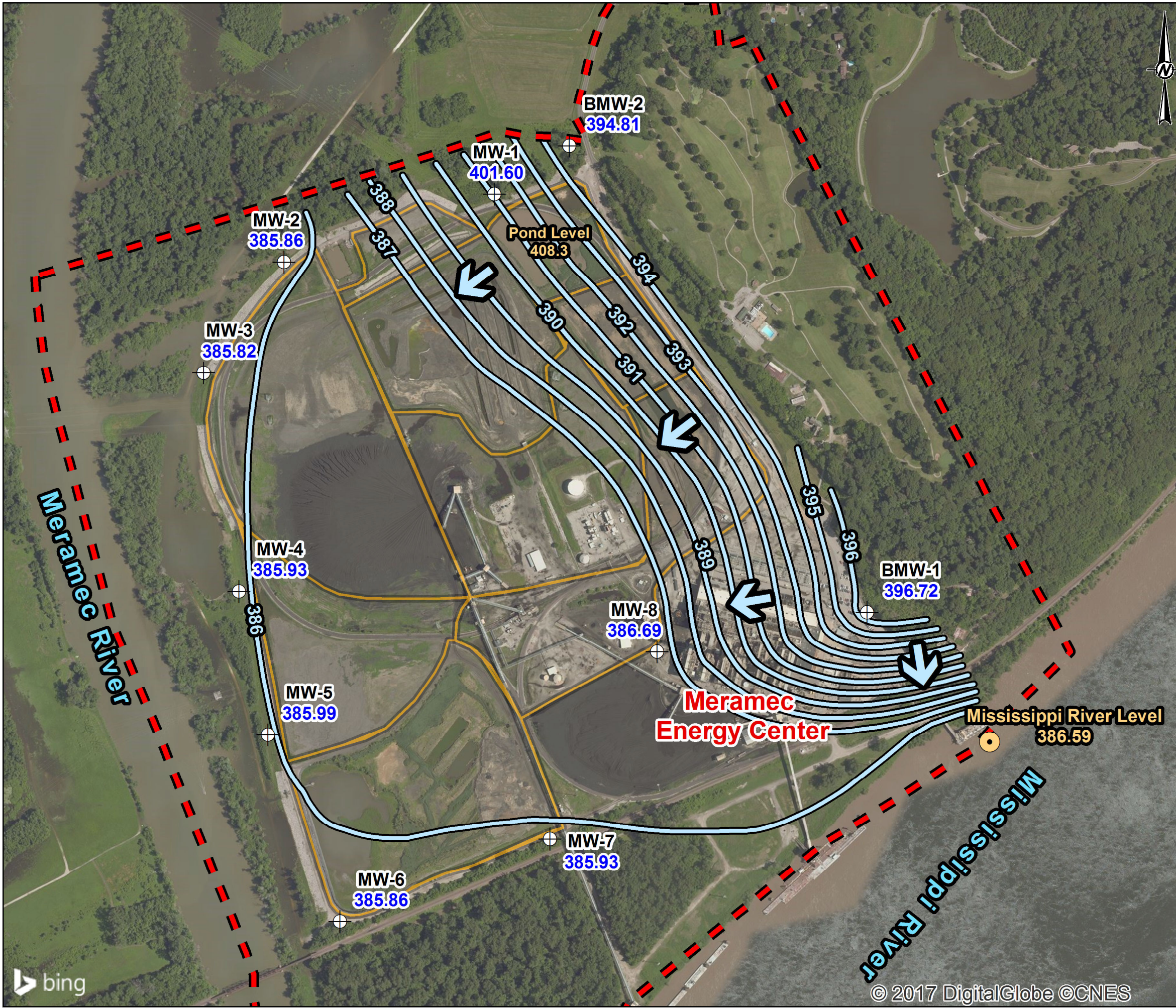
Data Qualification:

| Sample Name | Constituent(s) | Result | Qualifier | Reason |
|-------------|--------------------------|--------|-----------|---|
| M-MW-1 | Boron (B) | 100 | U | Detected in Method Blank (MB); PQL > Result |
| ⊥ | Chloride | 42.4 | D | Result has dilution factor (DF) of 10 |
| | Sulfate | 102 | ⊥ | 10 |
| M-MW-2 | Chloride | 23.6 | ⊥ | 2 |
| | Sulfate | 330 | ⊥ | 50 |
| | Total Diss. Solids (TDS) | 172 | J | RPD not met; Result > MDL |
| | Fluoride | 0.11 | J | Result between PQL + MDL |
| M-MW-3 | Chloride | 31.7 | D | DF of 2 |
| ⊥ | Sulfate | 318 | ⊥ | 50 |
| M-MW-4 | Chloride | 42.6 | ⊥ | 5 |
| | Sulfate | 404 | ⊥ | 50 |
| | Fluoride | 0.14 | J | PQL > Result > MDL |
| M-MW-5 | Fluoride | 0.18 | ⊥ | ⊥ |
| ⊥ | Chloride | 40.1 | D | DF of 5 |
| | Sulfate | 426 | ⊥ | 50 |
| M-MW-6 | ⊥ | 696 | ⊥ | 50 |
| M-MW-7 | ⊥ | 1220 | ⊥ | 100 |
| ⊥ | Chloride | 89.0 | ⊥ | 10 |
| M-MW-8 | Chloride | 24.7 | ⊥ | 2 |
| ⊥ | Sulfate | 435 | ⊥ | 50 |
| M-BMW-1 | Chloride | 126 | ⊥ | 20 |
| ⊥ | Sulfate | 164 | ⊥ | 20 |
| M-BMW-2 | Sulfate | 20.8 | ⊥ | 2 |
| ⊥ | B | 73.5 | U | Detected in MB; PQL > Result |
| M-DUP-1 | TDS | 787 | J | RPD not met; Result > MDL |
| Next Page | | | | |

Signature: 

Date: 12/22/2017

APPENDIX C – POTENTIOMETRIC SURFACE MAPS



LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
- Groundwater Monitoring Well
- Mississippi River Gauge
- Groundwater Flow Direction



NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3. GROUNDWATER MONITORING WELLS SURVEYED BY ZAHNER AND ASSOCIATES, INC. ON FEBRUARY 4 AND APRIL 28, 2016.
4. WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING.
5. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
6. MISSISSIPPI RIVER AND POND LEVELS PROVIDED BY AMEREN.

REFERENCES

- 1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.

0 250 500 1,000 1,500 Feet

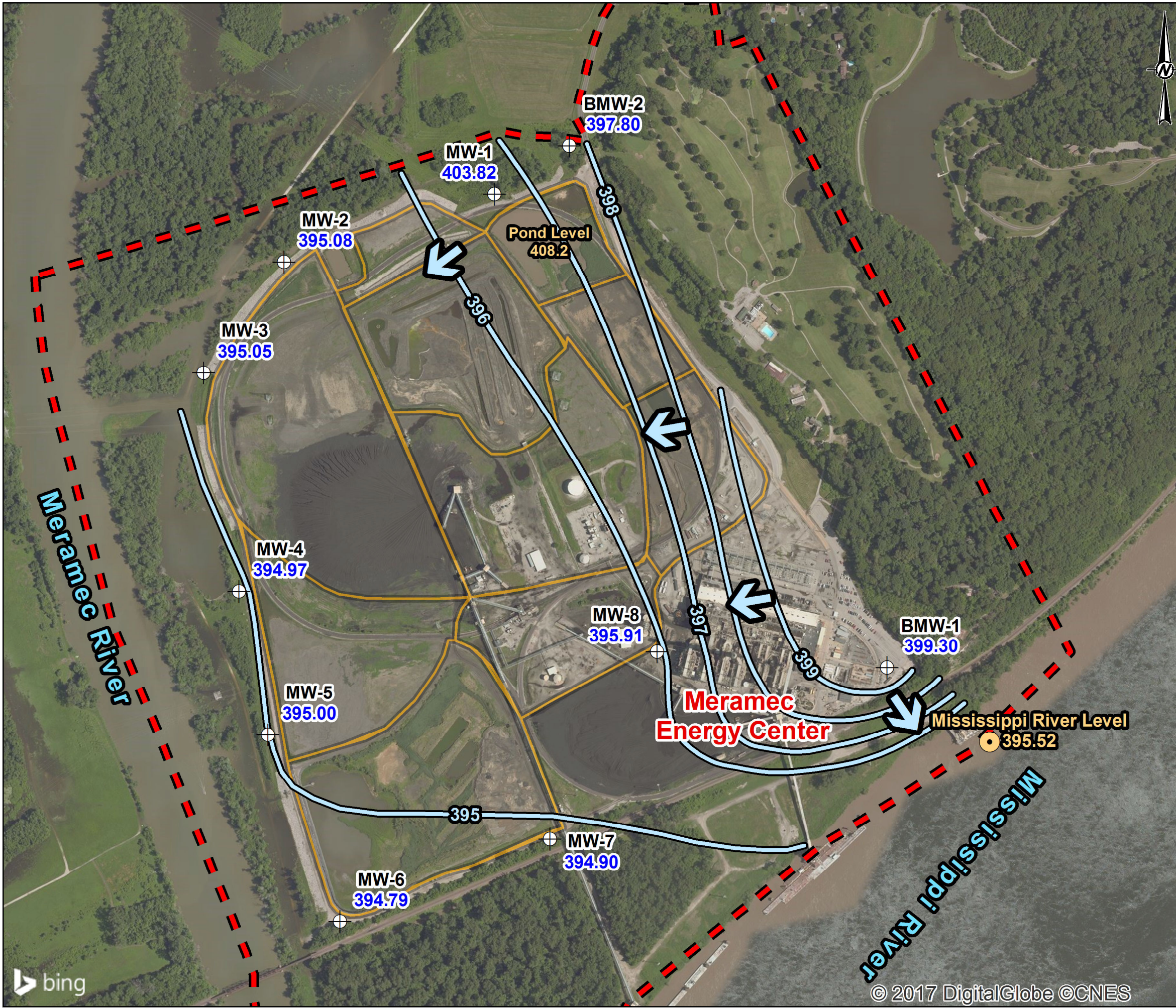
| | | |
|--|----------------|---------------------|
| CLIENT AMEREN MISSOURI MERAMEC ENERGY CENTER | | |
| PROJECT CCR GROUNDWATER MONITORING PROGRAM | | |
| TITLE POTENTIOMETRIC SURFACE MAP BACKGROUND EVENT 1 - MARCH 28, 2016 | | |
| CONSULTANT | YYYY-MM-DD | 2016-03-31 |
| | PREPARED | JSI |
| | DESIGN | JSI |
| | REVIEW | JS |
| | APPROVED | MNH |
| PROJECT No. 153-1406 | PHASE 0004A | Rev. 0.0 |
| | | FIGURE P1 |

Path: G:\Projects\153-1406 - Ameren GW Monitoring Program - M03Phase 0004 - Meramec Energy\000 - Meramec Energy\000 - PRODUCT\CONCEPT\Map\Final\M03 - ET.mxd



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1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:



LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
- Groundwater Monitoring Well
- Mississippi River Gauge
- Groundwater Flow Direction

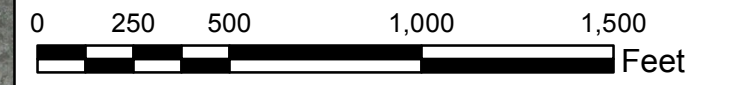


NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3. GROUNDWATER MONITORING WELLS SURVEYED BY ZAHNER AND ASSOCIATES, INC. ON FEBRUARY 4 AND APRIL 28, 2016.
4. WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING.
5. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
6. MISSISSIPPI RIVER AND POND LEVELS PROVIDED BY AMEREN.

REFERENCES

- 1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.



CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM



TITLE
**POTENTIOMETRIC SURFACE MAP
BACKGROUND EVENT 2 - MAY 13, 2016**

| | | |
|------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2016-05-24 |
| | PREPARED | JSI |
| | DESIGN | JSI |
| | REVIEW | JS |
| | APPROVED | MNH |

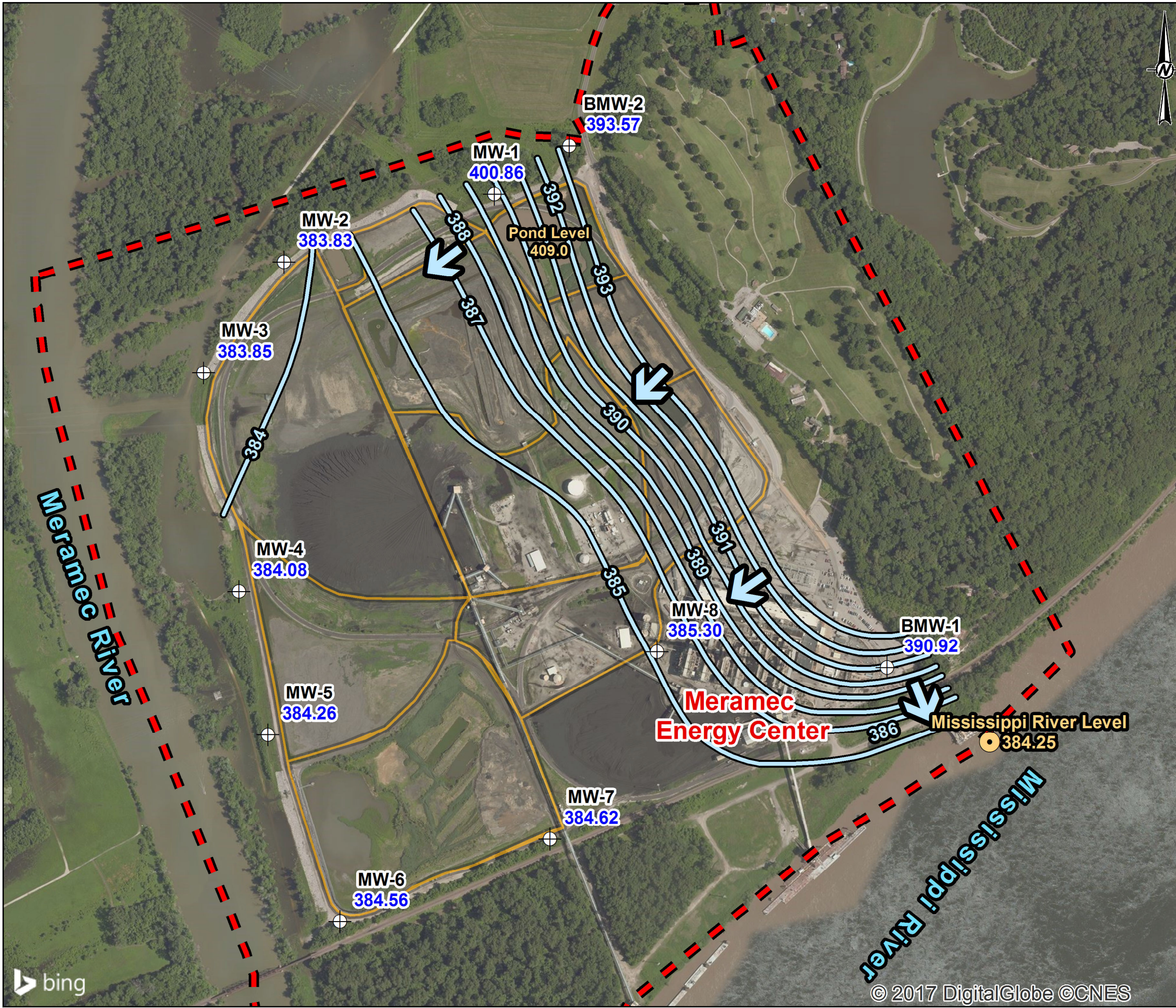
PROJECT No. 153-1406 PHASE 0004A Rev. 0.0 FIGURE P2

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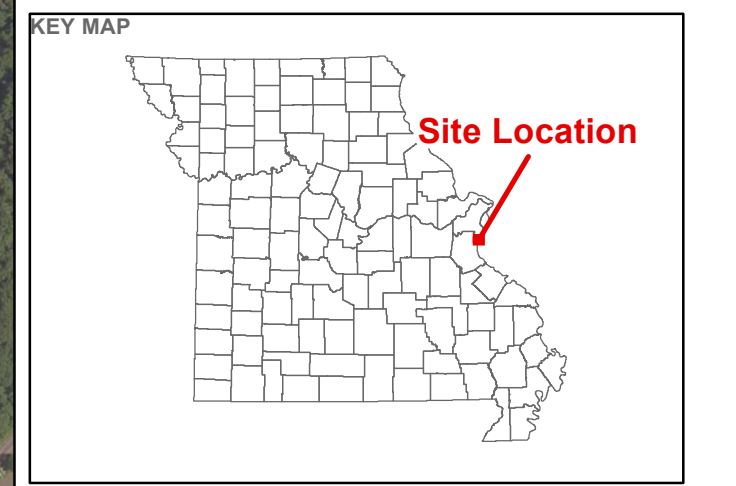
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1in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:



LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
- Groundwater Monitoring Well
- Mississippi River Gauge
- Groundwater Flow Direction



NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3. GROUNDWATER MONITORING WELLS SURVEYED BY ZAHNER AND ASSOCIATES, INC. ON FEBRUARY 4 AND APRIL 28, 2016.
4. WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING.
5. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
6. MISSISSIPPI RIVER AND POND LEVELS PROVIDED BY AMEREN.

REFERENCES

- 1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.

0 250 500 1,000 1,500 Feet

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
**POTENTIOMETRIC SURFACE MAP
BACKGROUND EVENT 3 - JULY 18, 2016**

| CONSULTANT | DATE |
|------------|-----------------------|
| | YYYY-MM-DD 2016-08-16 |
| | PREPARED JS |
| | DESIGN JS |
| | REVIEW JSI |
| | APPROVED MNH |

PROJECT No. 153-1406 PHASE 0004A Rev. 0.0

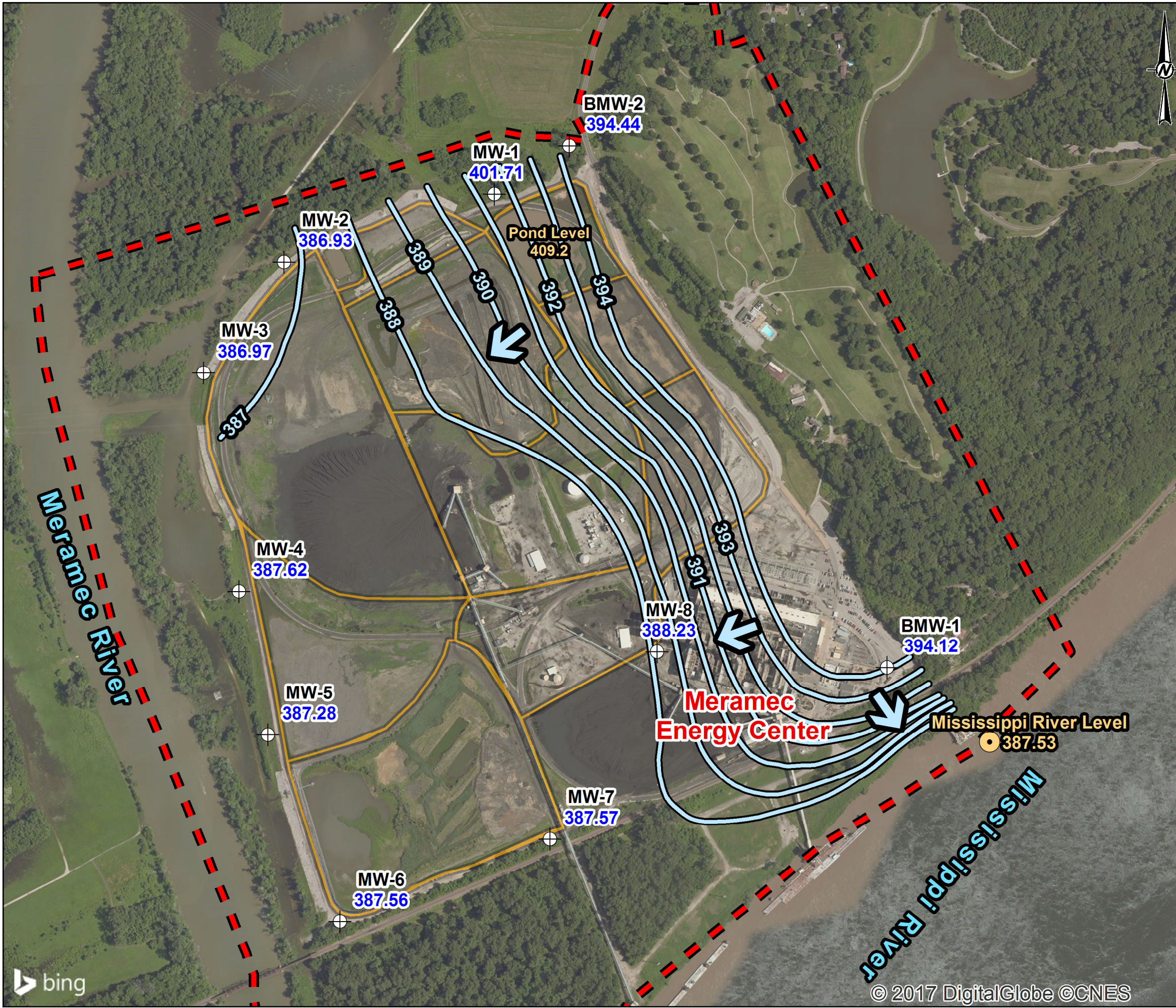
FIGURE **P3**

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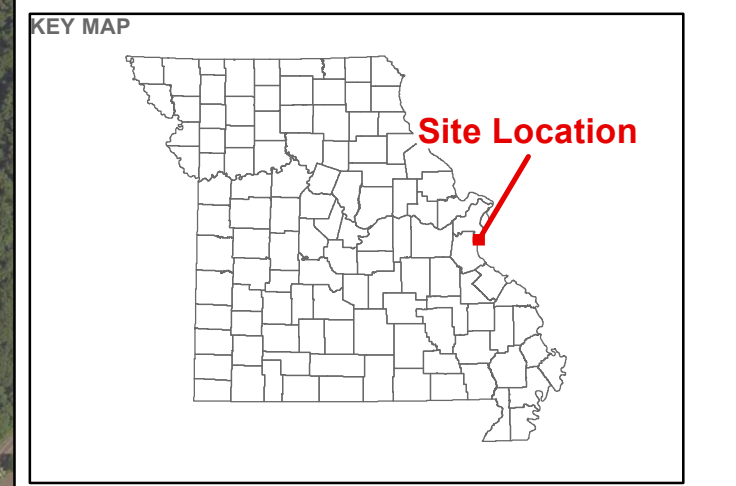
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LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
- Groundwater Monitoring Well
- Mississippi River Gauge
- Groundwater Flow Direction



NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3. GROUNDWATER MONITORING WELLS SURVEYED BY ZAHNER AND ASSOCIATES, INC. ON FEBRUARY 4 AND APRIL 28, 2016.
4. WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING.
5. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
6. MISSISSIPPI RIVER AND POND LEVELS PROVIDED BY AMEREN.

REFERENCES

- 1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.

0 250 500 1,000 1,500 Feet

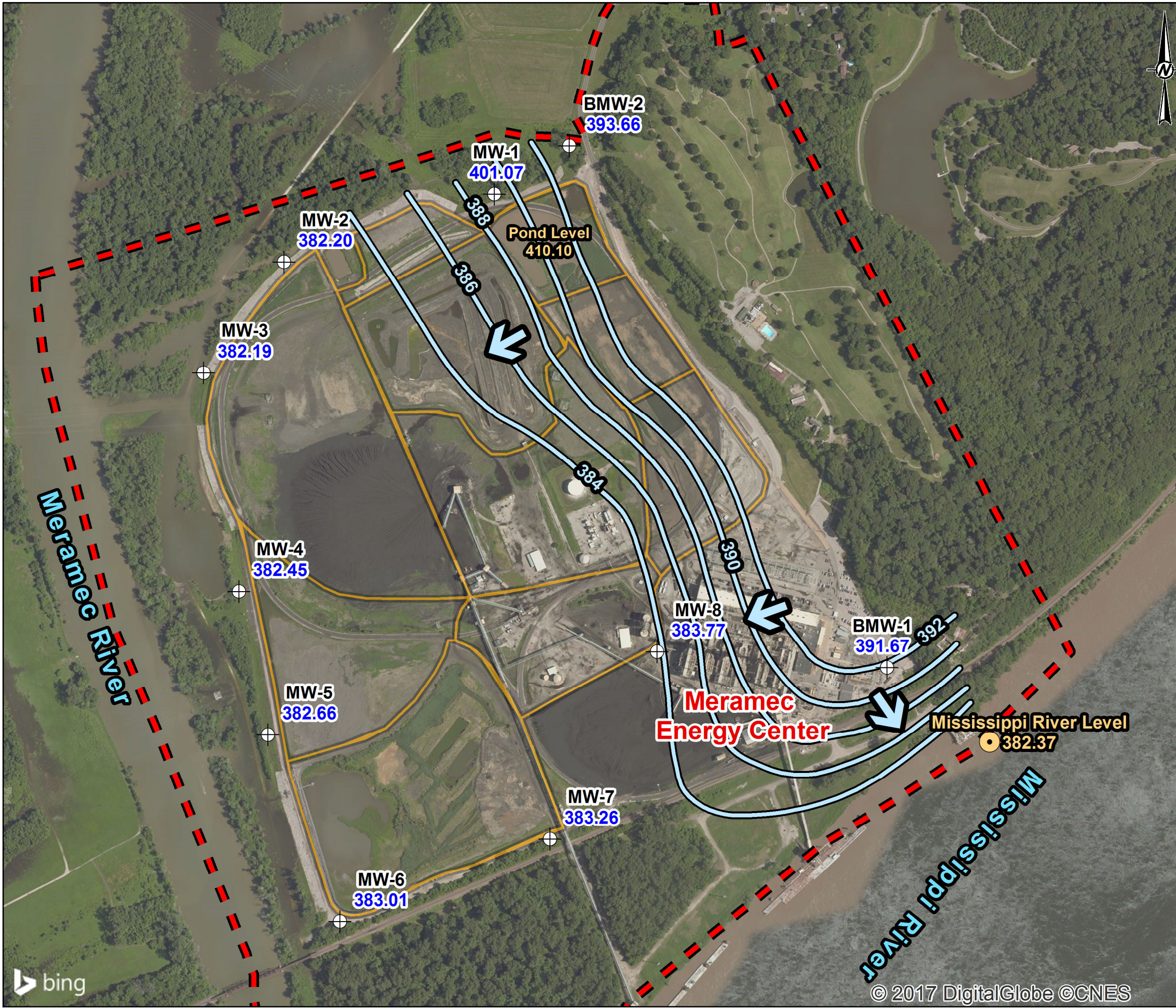
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|---|----------------|---------------------|
| CLIENT AMEREN MISSOURI MERAMEC ENERGY CENTER | | |
| PROJECT CCR GROUNDWATER MONITORING PROGRAM | | |
| TITLE POTENTIOMETRIC SURFACE MAP BACKGROUND EVENT 4 - SEPTEMBER 7, 2016 | | |
| CONSULTANT | YYYY-MM-DD | 2017-09-27 |
| | PREPARED | JSI |
| | DESIGN | JSI |
| | REVIEW | JS |
| | APPROVED | MNH |
| PROJECT No. 153-1406 | PHASE 0004A | Rev. 0.0 |
| | | FIGURE P4 |

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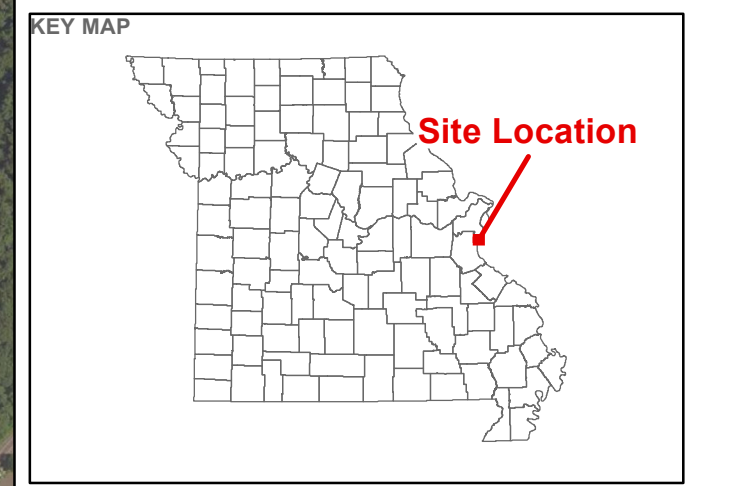
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LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
- Groundwater Monitoring Well
- Mississippi River Gauge
- Groundwater Flow Direction



NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3. GROUNDWATER MONITORING WELLS SURVEYED BY ZAHNER AND ASSOCIATES, INC. ON FEBRUARY 4 AND APRIL 28, 2016.
4. WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING.
5. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
6. MISSISSIPPI RIVER AND POND LEVELS PROVIDED BY AMEREN.

REFERENCES

- 1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.

0 250 500 1,000 1,500 Feet

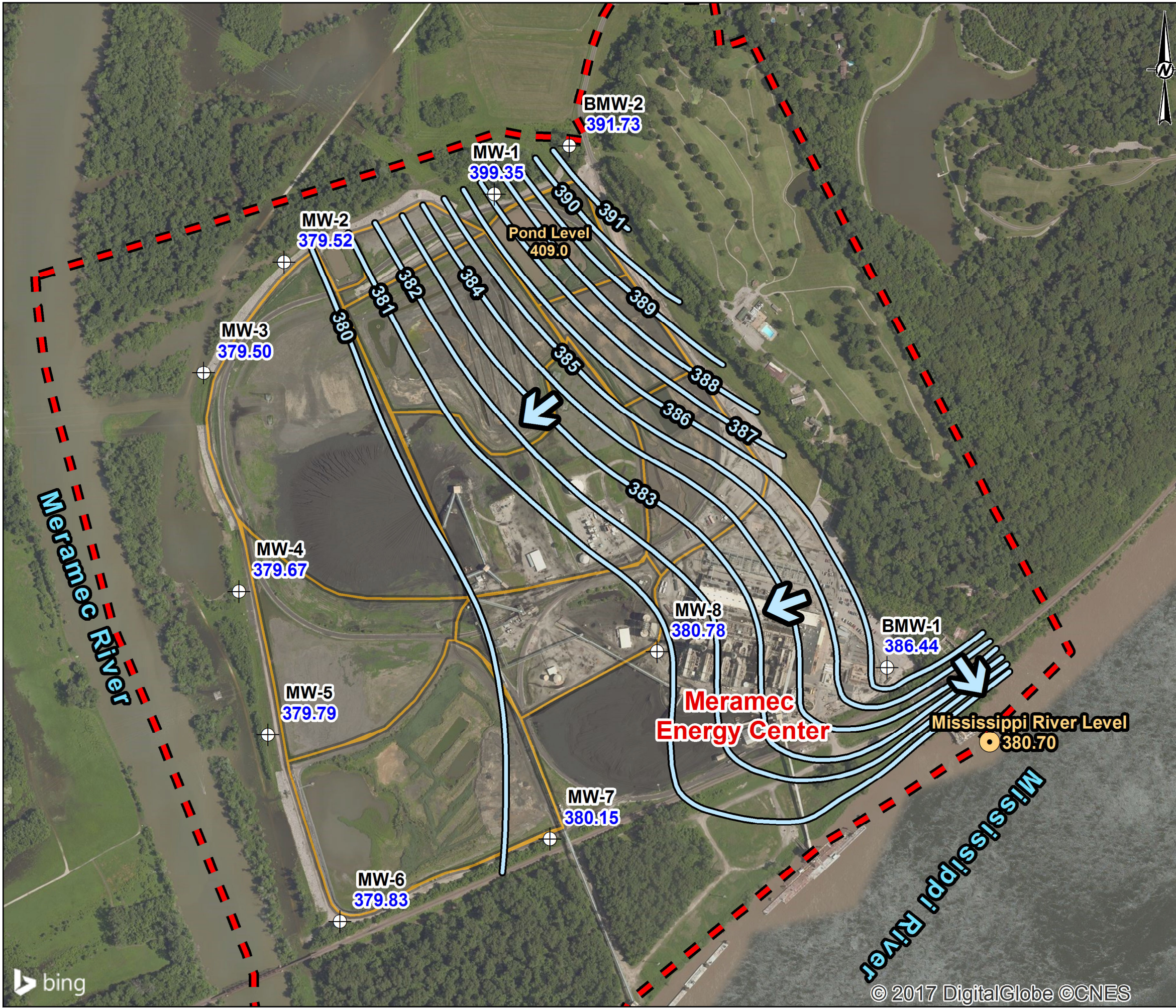
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| CLIENT AMEREN MISSOURI MERAMEC ENERGY CENTER | | |
| PROJECT CCR GROUNDWATER MONITORING PROGRAM | | |
| TITLE POTENTIOMETRIC SURFACE MAP BACKGROUND EVENT 5 - NOVEMBER 10, 2016 | | |
| CONSULTANT | YYYY-MM-DD | 2017-11-21 |
| | PREPARED | JSI |
| | DESIGN | JSI |
| | REVIEW | MSG |
| | APPROVED | MNH |
| PROJECT No. 153-1406 | PHASE 0004A | Rev. 0.0 |
| | | FIGURE P5 |

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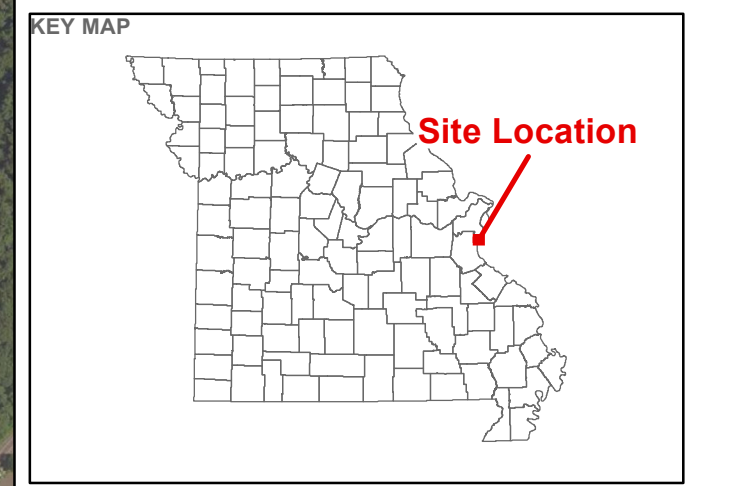
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LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
- Groundwater Monitoring Well
- Mississippi River Gauge
- Groundwater Flow Direction



NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3. GROUNDWATER MONITORING WELLS SURVEYED BY ZAHNER AND ASSOCIATES, INC. ON FEBRUARY 4 AND APRIL 28, 2016.
4. WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING.
5. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
6. MISSISSIPPI RIVER AND POND LEVELS PROVIDED BY AMEREN.

REFERENCES

- 1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.

0 250 500 1,000 1,500 Feet

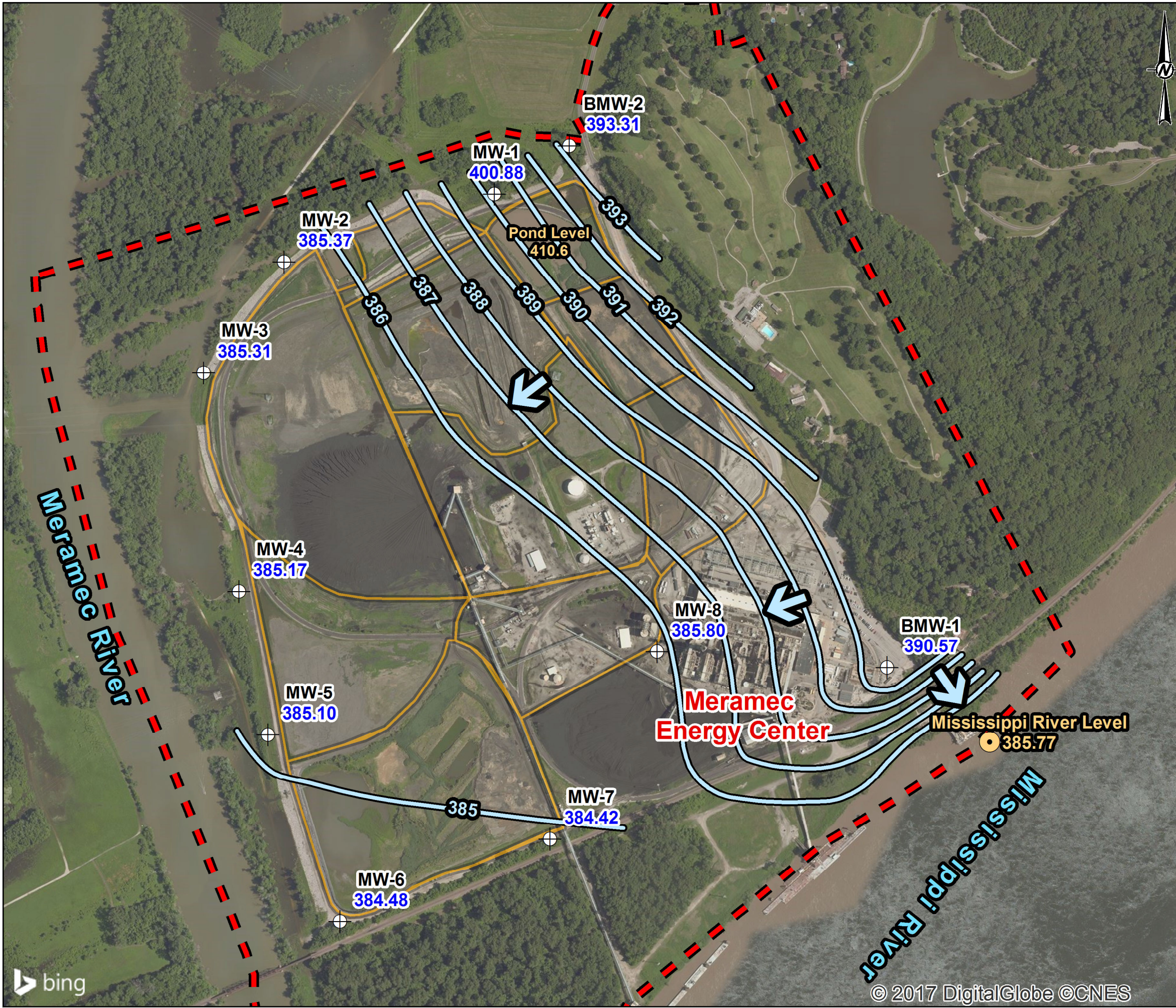
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| CLIENT AMEREN MISSOURI MERAMEC ENERGY CENTER | | |
| PROJECT CCR GROUNDWATER MONITORING PROGRAM | | |
| TITLE POTENTIOMETRIC SURFACE MAP BACKGROUND EVENT 6 - JANUARY 6, 2017 | | |
| CONSULTANT | YYYY-MM-DD | 2017-01-23 |
| | PREPARED | JS |
| | DESIGN | JSI |
| | REVIEW | BEF |
| | APPROVED | MNH |
| PROJECT No. 153-1406 | PHASE 0004A | Rev. 0.0 |
| | | FIGURE P6 |

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- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
- Groundwater Monitoring Well
- Mississippi River Gauge
- Groundwater Flow Direction



NOTES

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3. GROUNDWATER MONITORING WELLS SURVEYED BY ZAHNER AND ASSOCIATES, INC. ON FEBRUARY 4 AND APRIL 28, 2016.
4. WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING.
5. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
6. MISSISSIPPI RIVER AND POND LEVELS PROVIDED BY AMEREN.

REFERENCES

- 1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.

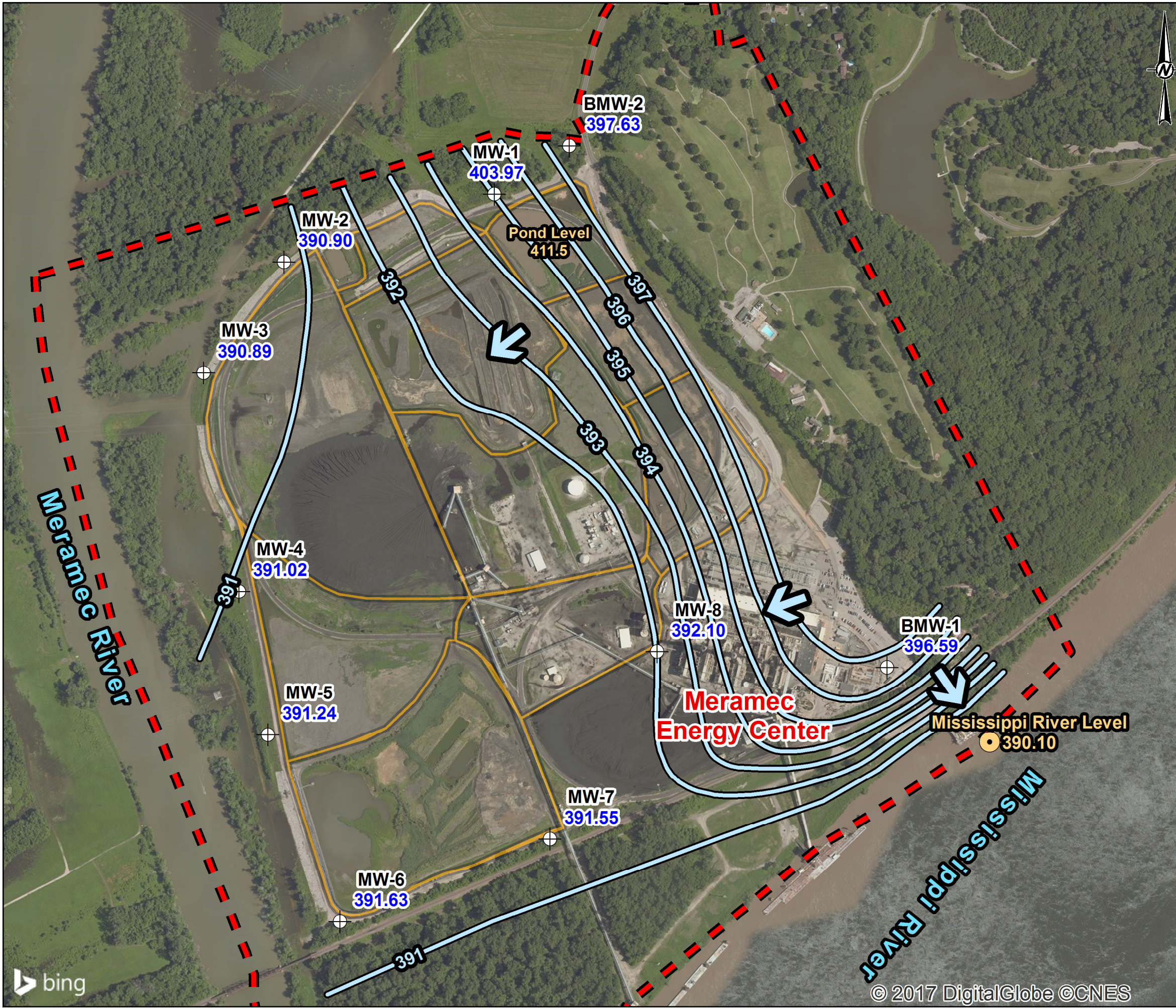
0 250 500 1,000 1,500 Feet

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|---|----------------|---------------------|
| CLIENT AMEREN MISSOURI MERAMEC ENERGY CENTER | | |
| PROJECT CCR GROUNDWATER MONITORING PROGRAM | | |
| TITLE POTENTIOMETRIC SURFACE MAP BACKGROUND EVENT 7 - MARCH 7, 2017 | | |
| CONSULTANT | YYYY-MM-DD | 2017-03-14 |
| | PREPARED | JS |
| | DESIGN | JSI |
| | REVIEW | JS |
| | APPROVED | MNH |
| PROJECT No. 153-1406 | PHASE 0004A | Rev. 0.0 |
| | | FIGURE P7 |

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LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
- Groundwater Monitoring Well
- Mississippi River Gauge
- Groundwater Flow Direction



NOTES

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6. MISSISSIPPI RIVER AND POND LEVELS PROVIDED BY AMEREN.

REFERENCES

- 1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.

0 250 500 1,000 1,500 Feet

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
**POTENTIOMETRIC SURFACE MAP
BACKGROUND EVENT 8 - JUNE 14, 2017**

| | | |
|------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2017-07-06 |
| | PREPARED | JS |
| | DESIGN | JSI |
| | REVIEW | RJF |
| | APPROVED | MNH |

PROJECT No. 153-1406 PHASE 0004A Rev. 0.0

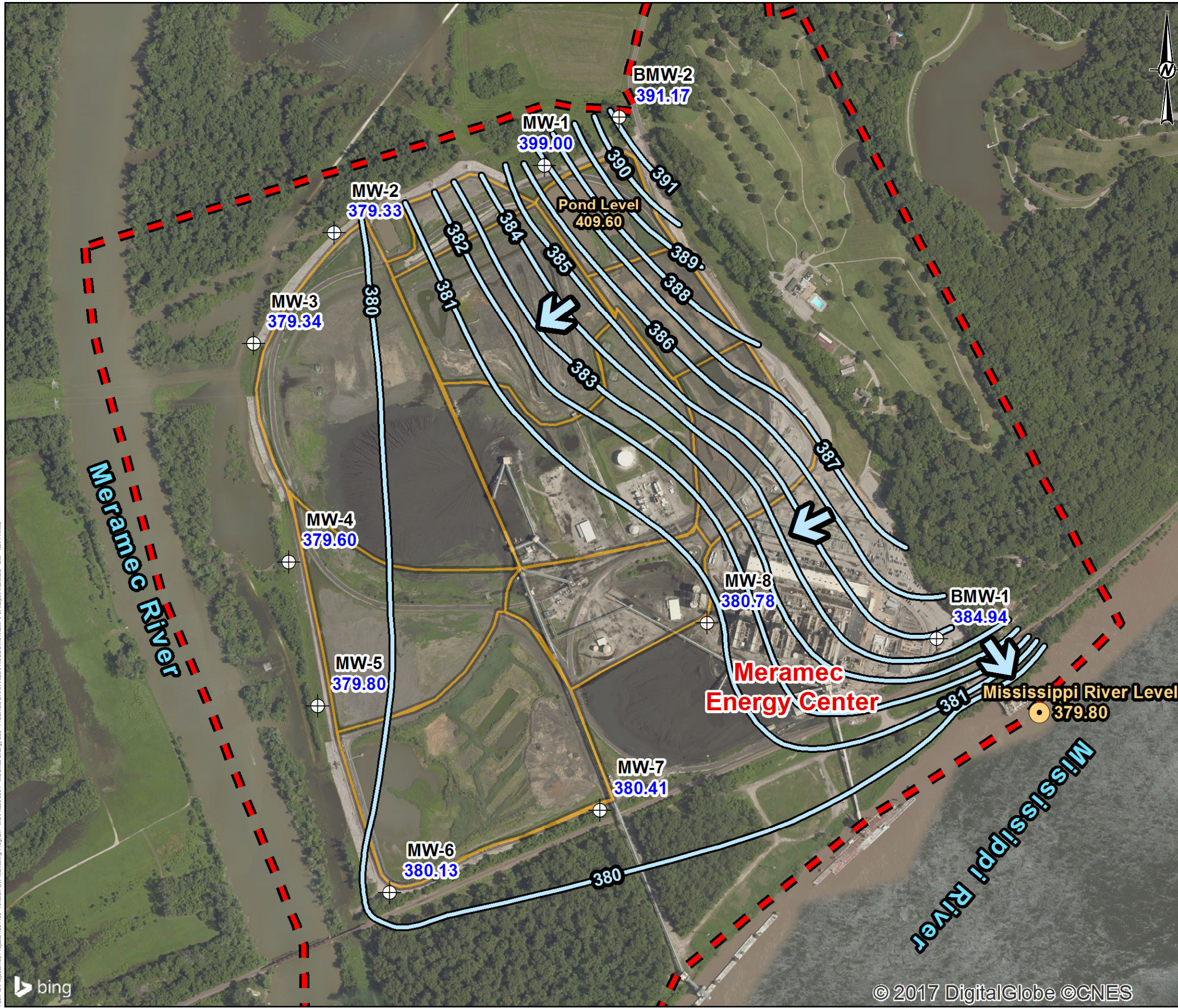
Golder Associates

FIGURE **P8**

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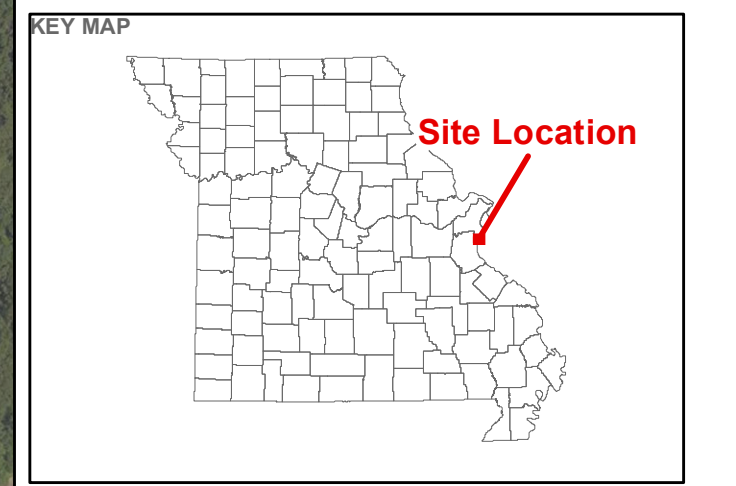


1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:



LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
- Groundwater Monitoring Well
- Mississippi River Gauge
- Groundwater Flow Direction

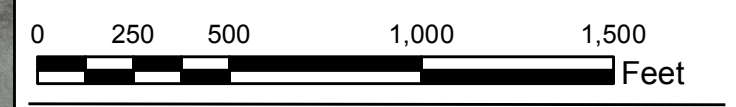


NOTES

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6. MISSISSIPPI RIVER AND POND LEVELS PROVIDED BY AMEREN.

REFERENCES

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- 2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2401 FEET.



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 MERAMEC ENERGY CENTER



PROJECT
 CCR GROUNDWATER MONITORING PROGRAM

TITLE
**POTENTIOMETRIC SURFACE MAP
 DETECTION MONITORING - NOVEMBER 6, 2017**

| | | |
|------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2017-11-20 |
| | PREPARED | RJF |
| | DESIGN | JSI |
| | REVIEW | JS/JSI |
| | APPROVED | MNH |

PROJECT No. 153-1406 PHASE 0004A Rev. 0.0 FIGURE P9

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| Australasia | + 61 3 8862 3500 |
| Europe | + 356 21 42 30 20 |
| North America | + 1 800 275 3281 |
| South America | + 56 2 2616 2000 |

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www.golder.com

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St. Charles, MO 63301 USA
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