

**CLECO CAJUN LLC
LOUISIANA GENERATING LLC
BIG CAJUN II POWER PLANT**

**BOTTOM ASH BASIN AND
FLY ASH BASIN
NEW ROADS, LA**

**2020 Annual Groundwater Monitoring Report
for the Coal Combustion Residuals Rule**

January 2021



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EXECUTIVE SUMMARY

- Current groundwater monitoring program status: assessment monitoring.
- Date of initiation of assessment monitoring: September 26, 2018.
- Confirmed exceedances of groundwater protection standards at statistically significant levels for this reporting period: None.

1.0 INTRODUCTION

Louisiana Generating LLC hereby presents the 2020 Annual Groundwater Monitoring report for the Bottom Ash and Fly Ash Basins at the Big Cajun II Power Plant (BC2) located in New Roads, Louisiana (Figure 1). This report summarizes groundwater sampling and analysis activities completed in accordance with applicable portions of the U.S. Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) Rule.

2.0 FACILITY INFORMATION

Louisiana Generating LLC owns and operates BC2 located at 10431 Cajun II Road, New Roads, Louisiana 70760. The Bottom Ash and Fly Ash Basins in service at the plant have been permitted to operate by the Louisiana Department of Environmental Quality (LDEQ) Waste Permits Division. The materials handled by these facilities are non-hazardous, on-site-generated materials only.

As required by the CCR Rule part §257.90, BC2 has a groundwater monitoring well system to evaluate the groundwater quality conditions near the Bottom Ash and Fly Ash Basins. The monitoring system has been historically used to conduct groundwater monitoring required by BC2's LDEQ approved solid waste permits. A total of twenty monitoring wells have been installed per applicable portions of §257.91. Locations of the monitoring wells can be found on Figure 2, and a table of monitoring well construction details is provided in Table 1.

3.0 FIELD ACTIVITIES

Groundwater sampling events were conducted by approved contract personnel in accordance with applicable portions of §257.93. Semi-annual assessment monitoring sampling events were conducted in April and September 2020. Additional baseline sampling events were conducted for new background wells (MW-19BG1 through MW-19BG5) which were installed in September 2019. These new background wells were sampled in October 2019, January 2020 and July 2020 in addition to the semi-annual sampling events in which all wells on site were sampled.

The depth-to-water below the top of each well casing was measured and recorded prior to purging and sampling each well during each sampling event. Water levels were measured to the nearest 0.01 foot from the top of casing using an electronic water level indicator. Total depth of each well was also measured to confirm that the screened interval was open to groundwater flow. Water level measurements were recorded in groundwater sampling forms. The water level measurements were subtracted from the top of casing elevations to obtain the groundwater elevations.

Groundwater purging and sampling activities were conducted using electric suction lift pumps or electric submersible pumps. These activities were conducted in accordance with applicable portions of Sections 6.1, 6.2, 6.3, 6.5 through 6.8, and 8.1.3 and 8.1.4 of the *Standard Guide for Sampling Groundwater Monitoring Wells* (ASTM International, Publication D4448). Groundwater samples were collected by filling the sample containers directly from the tubing connected to the pump or from a disposable bailer. Care was taken to minimize agitation of the samples. Samples were placed in laboratory-provided plastic containers with appropriate preservatives, per Section 9 of ASTM D4448.

Samples were properly preserved on ice in the field and shipped to Pace Analytical Services, LLC in St. Rose, Louisiana. Samples were analyzed for the CCR groundwater monitoring parameters by the following methods: chloride by 4500, sulfate by D516, fluoride by 300.0, total dissolved solids by 2540C; metals by 6020/7470, and radium by 903.1/904.

Full chain-of-custody protocols were observed during sample collection, transportation, and analysis. Sample shipment/transport procedures were conducted per Sections 9.9 through 9.11 of ASTM D4448.

4.0 GROUNDWATER FLOW EVALUATION

Horizontal groundwater flow was evaluated in the uppermost water bearing zone by construction of potentiometric surface maps (Figures 3 and 4) from data measured in monitoring wells at BC2. An evaluation of groundwater flow indicates that, similar to previous monitoring, the groundwater flow direction varied but was predominantly away from the Mississippi River (east to west) with localized variability in the area of the Bottom Ash Basin and eastern portion of the Fly Ash Basin.

Groundwater flow rate was evaluated using the groundwater flow equation, $v = [k (dh/dl)] / n_e$. For this equation, v is groundwater flow velocity in ft/day, k is hydraulic conductivity in ft/day, dh/dl is hydraulic gradient in ft/ft, and n_e is effective porosity (unitless).

Hydraulic conductivity (k) value ranging from 10 to 100 ft/day was assumed (Heath, 1989) based on the silty sand and fine- to coarse-grained sand observed in soil cuttings from soil borings completed at the site. Hydraulic gradient (dh/dl) value estimates from potentiometric surface maps representing each sampling event for the Ash Basins areas are summarized below. An effective porosity (n_e) of 0.2 was assumed based on the soil types of the uppermost water bearing zone (Fetter, 2001). Using these values, the groundwater flow rates (v) are listed below.

| Date | Hydraulic Gradient (feet/feet) | Estimated Groundwater Flow Velocity (feet/day) |
|----------------|--------------------------------|--|
| April 2020 | 0.0006 to 0.009 | 0.03 to 4.5 |
| September 2020 | 0.0004 to 0.003 | 0.02 to 1.5 |

It is important to note that this is an advective rate and does not take into account potential hydrogeological heterogeneities such as adsorption, biodegradation, dispersion, or other retarding factors in the groundwater flow in this zone. Additionally, variations in the advective flow may occur due to potential lateral geological heterogeneities.

5.0 ANALYTICAL RESULTS

Groundwater samples collected at BC2 were analyzed for the CCR Rule groundwater monitoring parameters using appropriate EPA approved analytical methods. Results show frequent detections of numerous parameters in both up- and downgradient monitoring wells at BC2. Analytical results are compared to Groundwater Protection Standards (GWPS). Analytical results are provided in Tables 2 through 6.

6.0 DATA EVALUATION

Statistical evaluations of groundwater data have been performed per applicable portions of §257.93.f. When assessment monitoring is initiated because of confirmed statistically significant increases (SSIs) observed during the detection monitoring program, detected Appendix IV parameters are compared to Groundwater Protection Standards (GWPS) through the use of confidence intervals. The GWPS are either the maximum contaminant level (MCL) or a statistical limit based on background, whichever is higher (§257.95.h). CCR Rule specified levels are used for parameters without MCLs (unless background is higher) which include: cobalt, lithium and molybdenum. Alternate contaminant levels

(ACLs) will be established from upgradient wells through the use of tolerance limits. For this monitoring period, arsenic is the only parameter which has a GWPS based on background (0.09 milligrams per liter).

On an annual basis, all Appendix IV parameters are sampled (§257.95.b) and the detected parameters are added to the list of parameters sampled in the second semi-annual event (§257.95.d).

Confidence intervals have been calculated to evaluate data for parameters which have been detected above the GWPS in at least one discrete sample collected from a downgradient/compliance well during the baseline or assessment monitoring program events. Confidence intervals require a minimum of four samples; however, eight samples are recommended.

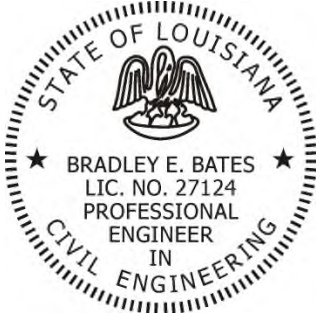
In assessment monitoring, a well is determined to be out of compliance when the lower confidence limit (LCL), or the entire interval, exceeds the GWPS. Evaluation of the 2020 groundwater monitoring data at BC2 indicate that no Appendix IV parameters are present at statistically significant levels (SSLs) above the parameters' GWPS.

7.0 CONCLUSIONS AND RECOMMENDATIONS

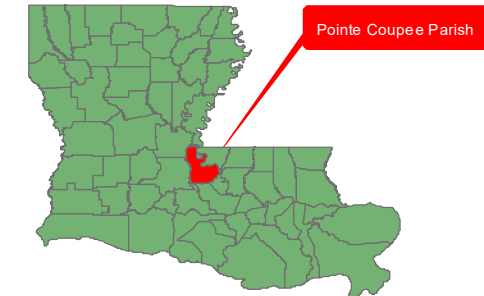
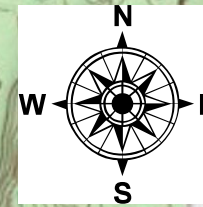
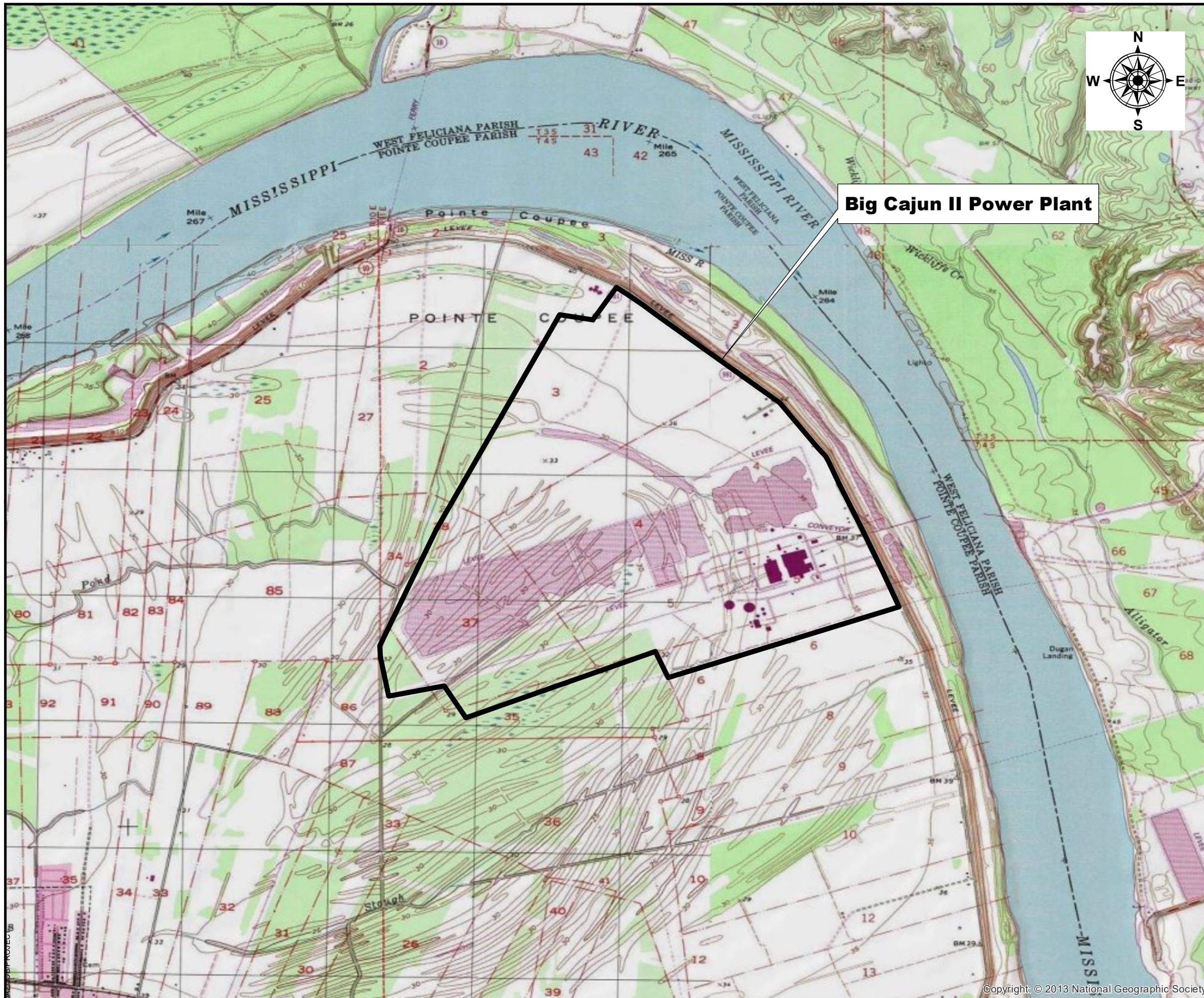
- BC2 has a monitoring well system to monitor groundwater quality at the Bottom Ash and Fly Ash Basins per applicable portions of §257.91. The network consists of six upgradient and fourteen downgradient monitoring wells.
- Five background wells (MW-19BG1 through MW-19BG5) were installed in September 2019. After collection of sufficient data to establish baseline conditions in these wells, data from the new background wells has been included in the statistical evaluation data set.
- BC2 conducted sufficient groundwater monitoring sampling events, per applicable portions of §257.93 and §257.95.
- Potentiometric surface evaluation at BC2 indicates variable groundwater flow patterns due to the site's close proximity to the Mississippi River.
- Statistical evaluations of groundwater data conducted per applicable portions of §257.93 indicate that no Appendix IV parameters are present at SSLs above the parameters' GWPS.
- Semi-annual assessment monitoring sampling events are tentatively scheduled for April and October of 2021. Data generated during these sampling events will be included in the next annual report.

8.0 CERTIFICATION

I hereby certify this annual groundwater monitoring report for the Louisiana Generating LLC Big Cajun II Power Plant. I am a duly licensed Professional Engineer under the laws of the State of Louisiana.




| | |
|--|---|
| _____ Signature | 27124 _____ PE Registration Number |
| <i>Bradley E. Bates</i> _____ Name | <i>Professional Engineer</i> _____ Title |
| <i>Eagle Environmental Services, Inc.</i> _____ Company | <i>12/4/2020</i> _____ Date |



Big Cajun II Power Plant

Legend

 Approximate Property Boundary



CLECO Cajun, LLC

Big Cajun II Power Plant

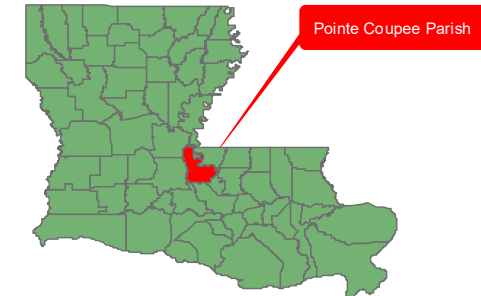
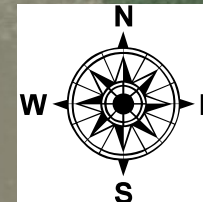
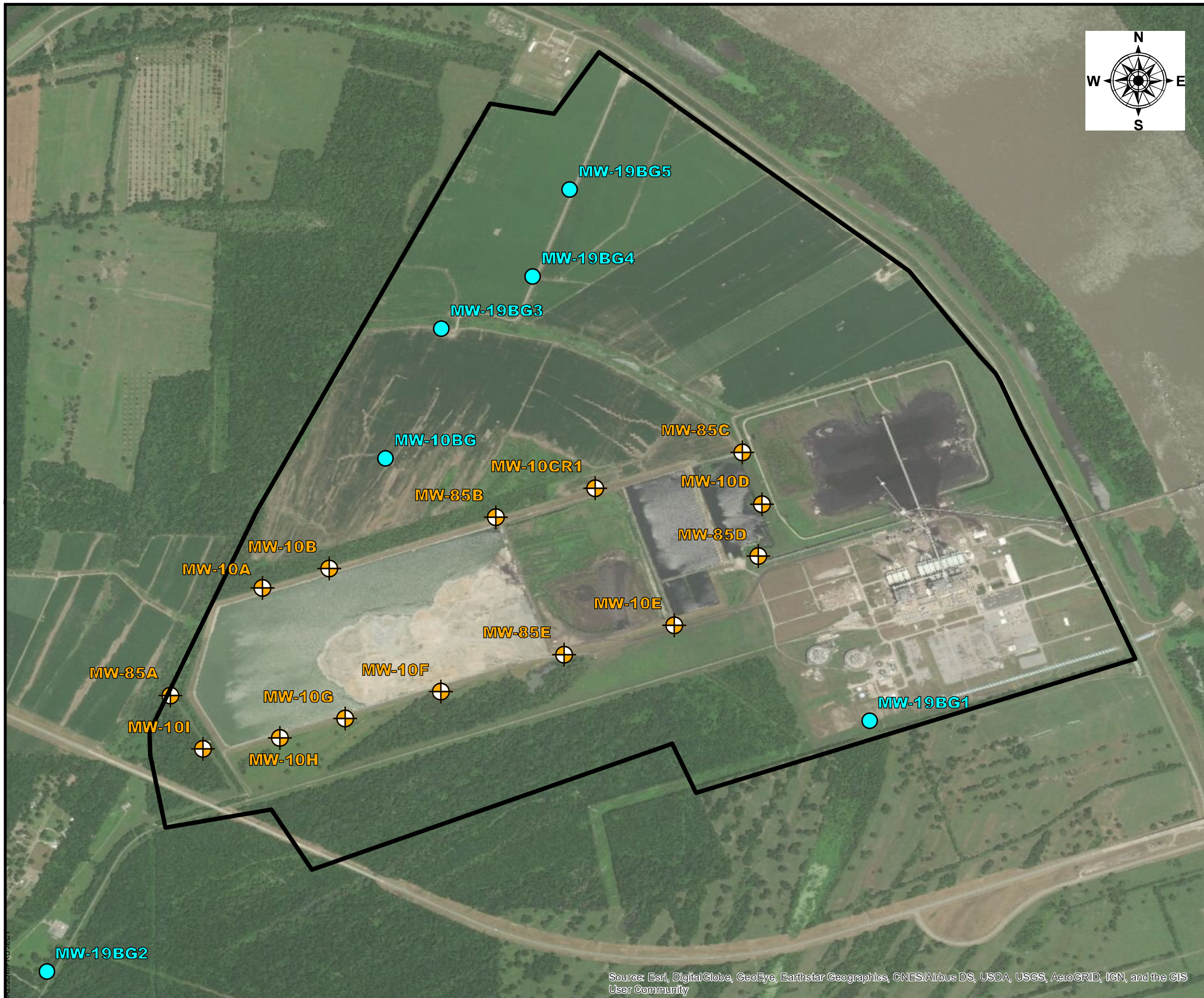
Site Location Map

Pointe Coupee Parish



| | |
|-----------|------------------|
| Drawn: | JP |
| Checked: | JM |
| Approved: | RS |
| Date: | 7/11/19 |
| Dwg. No.: | 367-19-0001-A001 |

Figure 1



Legend

- Background Well Locations
- ⊕ Compliance Well Locations
- Approximate Property Boundary



CLECO Cajun, LLC

Big Cajun II Power Plant

Monitoring Well Location Map

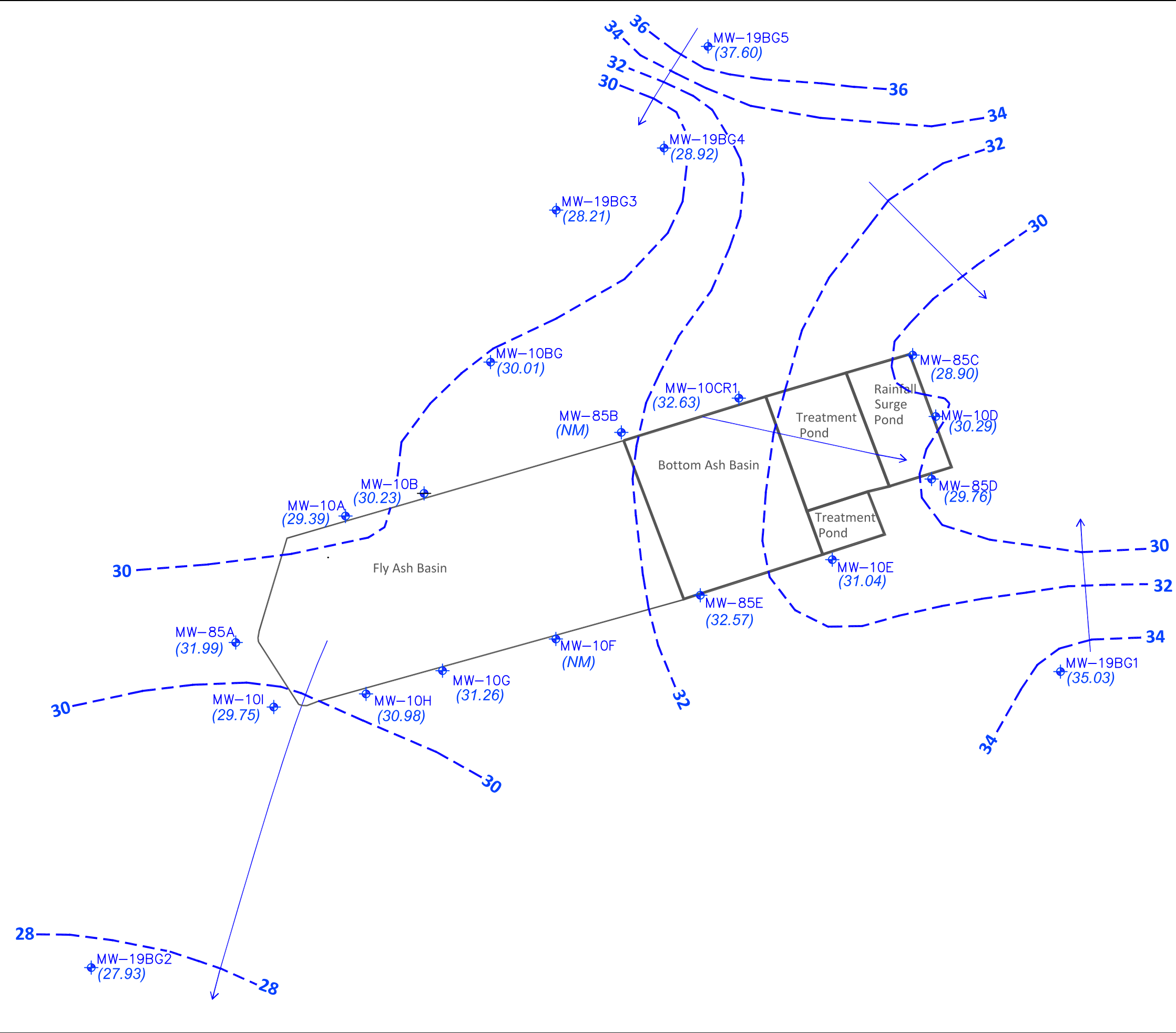
Pointe Coupee Parish







| | |
|-----------|----------------------|
| Drawn: | JP |
| Checked: | JM |
| Approved: | JM |
| Date: | 4/16/20 |
| Dwg. No.: | 367-20-0003-A001-CCR |

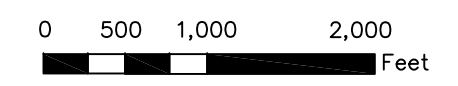
Figure 2


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

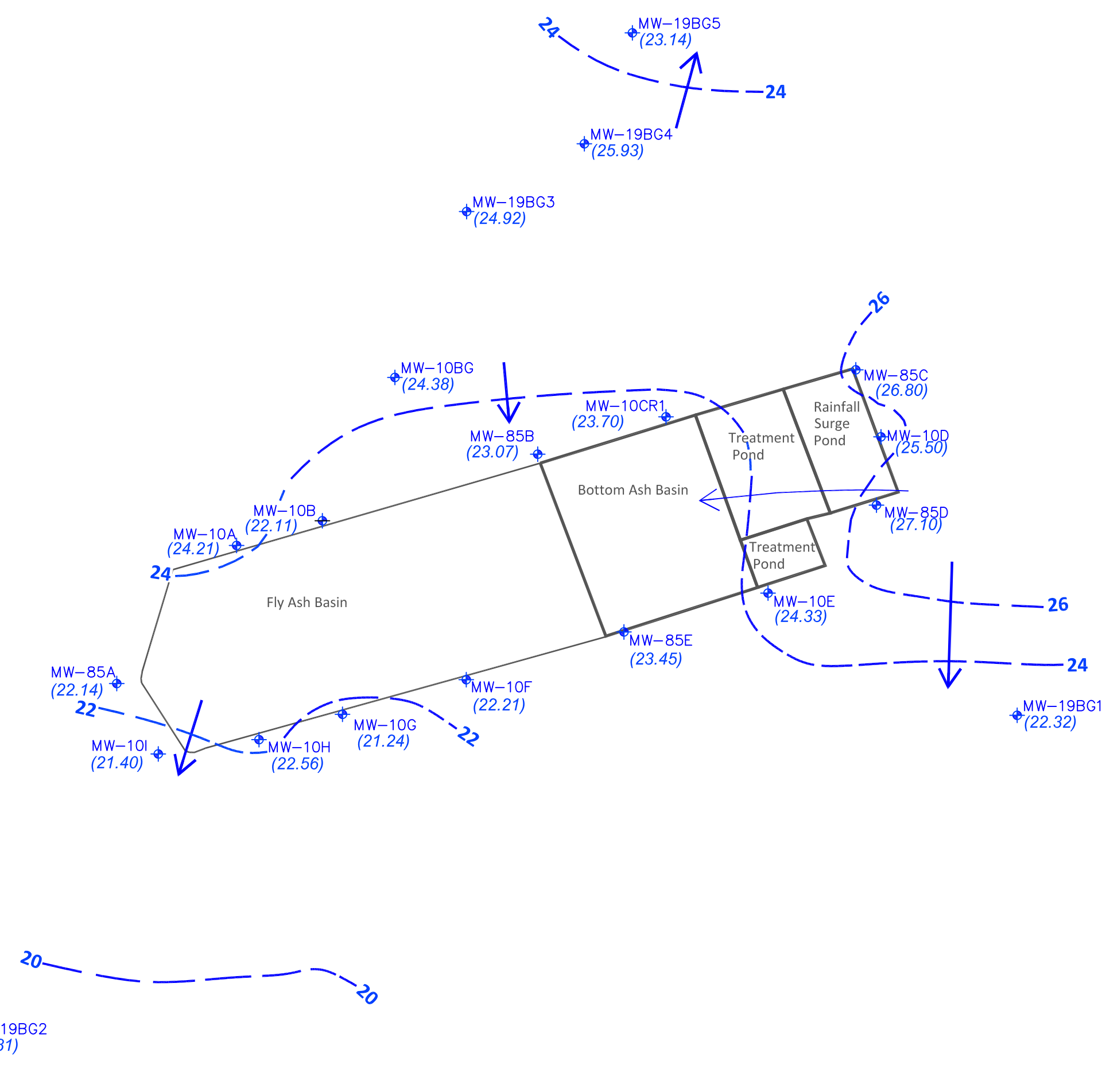


Legend

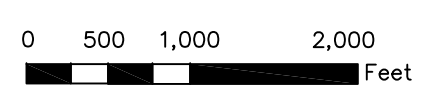
-  MW-10B Monitoring Well
-  (28.21) Measured Potentiometric Elevation (ft. NGVD)
-  32 Potentiometric Surface Elevation (ft. NGVD)
-  NM Not Measured. Flowing Well Conditions.



| | |
|---|------------------------------------|
|  Big Cajun II Power Plant | |
| Potentiometric Surface Map April 2020 | |
| Pointe Coupee Parish | |
|  | Drawn: JP |
| | Checked: JM |
| | Approved: JM |
| | Date: 10/14/20 |
| | Dwg. No.: 367-20-0004-APP- F-3-CCR |
| Figure 3 | |



- Legend**
- Monitoring Well
 - (22.14) Measured Potentiometric Elevation (ft. NGVD)
 - 22 Potentiometric Surface Elevation (ft. NGVD)



| | |
|--|------------------------------------|
| | |
| Big Cajun II Power Plant | |
| Potentiometric Surface Map September 2020 | |
| Pointe Coupee Parish | |
| | Drawn: JP |
| | Checked: JM |
| | Approved: JM |
| | Date: 10/14/20 |
| | Dwg. No.: 367-20-0004-APP- F-4-CCR |
| Figure 4 | |

TABLE 1

Monitoring Well Information

| Well ID | Latitude (DMS) | Longitude (DMS) | Installation Date | Zone Monitored | Gradient | Top of Casing Elevation (ft NGVD) | Ground Surface Elevation (ft NGVD) | Top of Screen Elevation (ft NGVD) | Bottom of Screen Elevation (ft NGVD) | Well Depth (ft bgs) | Well Diameter (in) |
|-----------------|-----------------------|------------------------|--------------------------|-----------------------|-----------------|--|---|--|---|----------------------------|---------------------------|
| MW-85A | 30°43'44" | 91°23'50" | Jun 1985 | Uppermost | Down | 34.82 | 33.17 | -1.58 | -21.58 | 55.75 | 2 |
| MW-85B | 30°43'47" | 91°22'37" | Jun 1985 | Uppermost | Down | 32.25 | 30.60 | 21.55 | 1.15 | 30.45 | 2 |
| MW-85C | 30°43'57" | 91°22'37" | Jun 1985 | Uppermost | Down | 35.05 | 33.46 | 15.61 | -4.74 | 39.20 | 2 |
| MW-85D | 30°43'44" | 91°22'25" | Jun 1985 | Uppermost | Down | 35.71 | 34.20 | 16.20 | -3.80 | 39.00 | 2 |
| MW-85E | 30°43'30" | 91°23'01" | Jun 1985 | Uppermost | Down | 33.52 | 32.07 | 22.97 | 2.67 | 30.40 | 2 |
| MW-10A | 30°43'37" | 91°23'40" | Jun 2011 | Uppermost | Down | 32.97 | 29.89 | 10.57 | 0.57 | 29.57 | 2 |
| MW-10B | 30°43'39" | 91°23'31" | Jun 2011 | Uppermost | Down | 31.13 | 27.86 | 7.98 | -2.02 | 30.13 | 2 |
| MW-10CR1 | 30°43'50" | 91°22'55" | Oct 2016 | Uppermost | Down | 35.48 | 32.43 | 12.95 | 2.95 | 29.73 | 2 |
| MW-10D | 30°43'48" | 91°22'32" | Jun 2011 | Uppermost | Down | 33.18 | 30.22 | 9.83 | -0.17 | 30.64 | 2 |
| MW-10E | 30°43'23" | 91°23'15" | May 2011 | Uppermost | Down | 33.54 | 30.42 | 9.94 | -0.06 | 30.74 | 2 |
| MW-10F | 30°43'32" | 91°22'44" | May 2011 | Uppermost | Down | 31.27 | 28.97 | 2.92 | -7.08 | 36.30 | 2 |
| MW-10G | 30°43'19" | 91°23'28" | Jun 2011 | Uppermost | Down | 32.17 | 29.30 | 0.42 | -9.58 | 39.13 | 2 |
| MW-10H | 30°43'17" | 91°23'37" | Jun 2011 | Uppermost | Down | 32.01 | 29.21 | -9.74 | -19.74 | 49.20 | 2 |
| MW-10I | 30°43'15" | 91°23'48" | Jun 2011 | Uppermost | Down | 33.12 | 30.06 | 0.31 | -9.69 | 40.00 | 2 |
| MW-10BG | 30°43'55" | 91°23'23" | Jun 2011 | Uppermost | Up | 33.74 | 30.79 | 10.39 | 0.39 | 30.65 | 2 |
| MW-19BG1 | 30°43'19" | 91°22'17" | Sep 2019 | Uppermost | Up | 38.15 | 34.54 | 7.04 | -2.96 | 42.54 | 2 |
| MW-19BG2 | 30°42'45" | 91°24'09" | Sep 2019 | Uppermost | Up | 31.99 | 28.88 | 0.18 | -9.82 | 39.24 | 2 |
| MW-19BG3 | 30°44'12" | 91°23'15" | Sep 2019 | Uppermost | Up | 34.57 | 31.65 | 2.95 | -7.05 | 39.21 | 2 |
| MW-19BG4 | 30°44'20" | 91°23'03" | Sep 2019 | Uppermost | Up | 33.62 | 30.61 | 10.91 | 0.91 | 30.23 | 2 |
| MW-19BG5 | 30°44'31" | 91°22'58" | Sep 2019 | Uppermost | Up | 37.60 | 34.23 | 5.05 | -4.95 | 39.68 | 2 |

Notes:

DMS = Degrees Minutes Seconds
 NGVS = National Geodetic Vertical Datum
 BGS = Below Ground Surface

TABLE 2

October 2019 Analytical Data Summary

| Parameter/Well | MW-19BG1 | MW-19BG2 | MW-19BG3 | MW-19BG4 | MW-19BG5 |
|---------------------------------|----------|----------|----------|----------|----------|
| | 10/1/19 | 10/1/19 | 10/1/19 | 10/1/19 | 10/1/19 |
| Boron (mg/l) | 0.062 | 0.11 | 0.16 | 0.18 | 0.069 |
| Calcium (mg/l) | 69.2 | 101 | 79.6 | 106 | 87.4 |
| Chloride (mg/l) | 17.6 | 5.1 | 7.7 | 14.2 | 4.1 |
| pH (S.U.) | 6.8 | 7.15 | 7.02 | 7.05 | 7.1 |
| Sulfate (mg/l) | <1 | <1 | <1 | 28 | 6.7 |
| TDS (mg/l) | 270 | 435 | 365 | 200 | 365 |
| Antimony (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Arsenic (mg/l) | 0.0026 | 0.025 | 0.03 | 0.052 | 0.012 |
| Barium (mg/l) | 0.29 | 0.41 | 0.39 | 0.42 | 0.33 |
| Beryllium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Cadmium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chromium (mg/l) | 0.0027 | 0.0051 | 0.0082 | 0.0088 | 0.0074 |
| Cobalt (mg/l) | <0.001 | 0.0036 | 0.0036 | 0.005 | 0.0045 |
| Fluoride (mg/l) | 0.35 | 0.36 | 0.19 | 0.21 | 0.22 |
| Lead (mg/l) | <0.001 | 0.0047 | 0.005 | 0.0067 | 0.0053 |
| Lithium (mg/l) | 0.01 | 0.012 | 0.014 | 0.015 | 0.013 |
| Mercury (mg/l) | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 |
| Molybdenum (mg/l) | <0.0030 | <0.0030 | 0.0064 | <0.0030 | 0.0037 |
| Selenium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Thallium (mg/l) | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| Combined Radium-226,228 (pCi/l) | 1.78 | 2.36 | 2.41 | 2.214 | 2.76 |

Notes:

mg/l = milligrams per liter
S.U. = standard units
pCi/l = picocuries per liter

TABLE 3

January 2020 Analytical Data Summary

| Parameter/Well | MW-19BG1 | MW-19BG2 | MW-19BG3 | MW-19BG4 | MW-19BG5 |
|---------------------------------|----------|----------|----------|----------|----------|
| | 1/16/20 | 1/16/20 | 1/16/20 | 1/16/20 | 1/16/20 |
| Boron (mg/l) | 0.096 | 0.13 | 0.18 | 0.2 | 0.1 |
| Calcium (mg/l) | 98.9 | 119 | 96.2 | 121 | 104 |
| Chloride (mg/l) | 19.9 | 5.5 | 6.3 | 12 | 4.3 |
| pH (S.U.) | 7 | 7.34 | 7.08 | 7.21 | 7.43 |
| Sulfate (mg/l) | 21.8 | <1 | 3.5 | <1 | <1 |
| TDS (mg/l) | 420 | 410 | 450 | 380 | 330 |
| Antimony (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Arsenic (mg/l) | 0.0017 | 0.016 | 0.041 | 0.052 | 0.023 |
| Barium (mg/l) | 0.38 | 0.44 | 0.5 | 0.35 | 0.43 |
| Beryllium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Cadmium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chromium (mg/l) | 0.0039 | 0.0032 | 0.0057 | 0.0041 | 0.0084 |
| Cobalt (mg/l) | 0.0013 | 0.0026 | 0.0028 | 0.002 | 0.0047 |
| Fluoride (mg/l) | 0.2 | 0.17 | 0.2 | 0.16 | 0.21 |
| Lead (mg/l) | 0.0021 | 0.0033 | 0.0041 | 0.0034 | 0.0061 |
| Lithium (mg/l) | 0.0096 | 0.012 | 0.011 | 0.011 | 0.011 |
| Mercury (mg/l) | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 |
| Molybdenum (mg/l) | <0.003 | <0.003 | 0.0051 | <0.003 | 0.0037 |
| Selenium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Thallium (mg/l) | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| Combined Radium-226,228 (pCi/l) | 1.01 | 1.35 | 1.45 | 1.43 | 1.2 |

Notes:

mg/l = milligrams per liter
S.U. = standard units
pCi/l = picocuries per liter

TABLE 4

April 2020 Analytical Data Summary

| Parameter/Well | MW-85A | MW-85B | MW-85C | MW-85D | MW-85E | MW-10A | MW-10B | MW-10CR1 | MW-10D | MW-10E | MW-10F |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|
| | 4/7/20 | 4/6/20 | 4/6/20 | 4/8/20 | 4/7/20 | 4/6/20 | 4/6/20 | 4/6/20 | 4/6/20 | 4/8/20 | 4/7/20 |
| Boron (mg/l) | 0.076 | 0.052 | 0.15 | 0.13 | 6 | 0.71 | 0.56 | 0.25 | 0.16 | 0.16 | 5.8 |
| Calcium (mg/l) | 72.9 | 97.2 | 118 | 113 | 161 | 120 | 99.8 | 113 | 153 | 125 | 278 |
| Chloride (mg/l) | 10.9 | 57.2 | 50.6 | 19.1 | 95.8 | 81.8 | 72.2 | 56.3 | 76 | 51 | 33.7 |
| pH (S.U.) | 6.65 | 7.16 | 7.21 | 6.7 | 6.62 | 6.87 | 7.21 | 7.14 | 6.77 | 6.6 | 6.69 |
| Sulfate (mg/l) | <1 | 233 | 145 | 38.4 | 758 | 267 | 87 | 125 | 307 | 161 | 1180 |
| TDS (mg/l) | 460 | 570 | 505 | 505 | 1220 | 695 | 595 | 600 | 745 | 800 | 1940 |
| Antimony (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Arsenic (mg/l) | 0.002 | <0.001 | 0.0078 | 0.0045 | 0.0081 | 0.0021 | 0.0035 | 0.01 | 0.037 | 0.012 | 0.0055 |
| Barium (mg/l) | 0.32 | 0.5 | 0.37 | 0.27 | 0.064 | 0.3 | 0.48 | 0.39 | 0.72 | 0.38 | 0.055 |
| Beryllium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Cadmium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chromium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0014 | <0.001 |
| Cobalt (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0012 | 0.0018 |
| Fluoride (mg/l) | 0.3 | 0.24 | 0.25 | 0.41 | 0.32 | 0.43 | 0.1 | 0.32 | 0.25 | 0.3 | <0.1 |
| Lead (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0011 | <0.001 |
| Lithium (mg/l) | 0.016 | 0.016 | 0.012 | 0.016 | 0.017 | 0.014 | 0.017 | 0.016 | 0.015 | 0.019 | 0.025 |
| Mercury (mg/l) | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 |
| Molybdenum (mg/l) | <0.003 | <0.003 | <0.003 | <0.003 | 0.048 | <0.003 | <0.003 | 0.0034 | <0.003 | <0.003 | <0.003 |
| Selenium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Thallium (mg/l) | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| Combined Radium-226,228 (pCi/l) | 1.08 | 1.29 | 0.576 | 0.729 | 0.567 | 0.809 | 0.093 | 0.552 | 0.877 | 0.716 | 0.448 |

Notes:
mg/l = milligrams per liter
S.U. = standard units
pCi/l = picocuries per liter

TABLE 4

April 2020 Analytical Data Summary

| Parameter/Well | MW-10G | MW-10H | MW-10I | MW-10BG | MW-19BG1 | MW-19BG2 | MW-19BG3 | MW-19BG4 | MW-19BG5 |
|---------------------------------|---------|---------|---------|---------|----------|----------|----------|----------|----------|
| | 4/7/20 | 4/7/20 | 4/7/20 | 4/8/20 | 4/7/20 | 4/7/20 | 4/7/20 | 4/7/20 | 4/7/20 |
| Boron (mg/l) | 0.84 | 0.15 | 0.1 | 0.079 | 0.076 | 0.12 | 0.17 | 0.2 | 0.091 |
| Calcium (mg/l) | 91.2 | 141 | 93.7 | 78.7 | 95.9 | 121 | 94.5 | 122 | 91.8 |
| Chloride (mg/l) | 89.2 | 58.7 | 22.2 | 5.1 | 18.1 | 5.1 | 6.2 | 12.1 | 4.1 |
| pH (S.U.) | 6.86 | 6.74 | 6.76 | 6.8 | 6.87 | 7.12 | 7.27 | 7.09 | 6.97 |
| Sulfate (mg/l) | 105 | 46.4 | <1 | <1 | 26.7 | <1 | <1 | <1 | <1 |
| TDS (mg/l) | 605 | 605 | 440 | 225 | 320 | 410 | 245 | 420 | 190 |
| Antimony (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Arsenic (mg/l) | 0.002 | 0.009 | <0.001 | 0.0055 | <0.001 | 0.024 | 0.056 | 0.055 | 0.034 |
| Barium (mg/l) | 0.35 | 0.47 | 0.33 | 0.25 | 0.33 | 0.45 | 0.55 | 0.28 | 0.28 |
| Beryllium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Cadmium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chromium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0052 | 0.011 | 0.0021 | <0.001 |
| Cobalt (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0043 | 0.0048 | 0.0011 | <0.001 |
| Fluoride (mg/l) | 0.16 | 0.18 | 0.12 | 0.3 | 0.18 | 0.16 | 0.16 | 0.14 | 0.23 |
| Lead (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0058 | 0.011 | 0.0016 | <0.001 |
| Lithium (mg/l) | 0.02 | 0.02 | 0.023 | 0.014 | 0.0097 | 0.014 | 0.015 | 0.011 | 0.0077 |
| Mercury (mg/l) | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 |
| Molybdenum (mg/l) | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | 0.0037 | <0.003 | <0.003 |
| Selenium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Thallium (mg/l) | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| Combined Radium-226,228 (pCi/l) | 0.653 | 0.642 | 0.81 | 1.21 | 3.75 | 1.13 | 1.98 | 0.695 | 0.146 |

Notes:
mg/l = milligrams per liter
S.U. = standard units
pCi/l = picocuries per liter

TABLE 5

July 2020 Analytical Data Summary

| Parameter/Well | MW-19BG1 | MW-19BG2 | MW-19BG3 | MW-19BG4 | MW-19BG5 |
|---------------------------------|----------|----------|----------|----------|----------|
| | 7/21/20 | 7/21/20 | 7/21/20 | 7/21/20 | 7/21/20 |
| Boron (mg/l) | 0.096 | 0.15 | 0.22 | 0.25 | 0.12 |
| Calcium (mg/l) | 84.4 | 102 | 92 | 121 | 100 |
| Chloride (mg/l) | 16.4 | 4.1 | 5.9 | 13.1 | 4.3 |
| pH (S.U.) | 6.88 | 7.14 | 7.08 | 7.11 | 7.15 |
| Sulfate (mg/l) | 9.6 | <1 | <1 | <1 | <1 |
| TDS (mg/l) | 425 | 505 | 425 | 635 | 480 |
| Antimony (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Arsenic (mg/l) | 0.0016 | 0.027 | 0.067 | 0.098 | 0.034 |
| Barium (mg/l) | 0.31 | 0.41 | 0.35 | 0.35 | 0.39 |
| Beryllium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Cadmium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chromium (mg/l) | 0.0017 | 0.0067 | 0.0011 | 0.0013 | 0.0093 |
| Cobalt (mg/l) | <0.001 | 0.0035 | <0.001 | <0.001 | 0.0044 |
| Fluoride (mg/l) | 0.18 | 0.14 | 0.16 | <0.1 | 0.23 |
| Lead (mg/l) | <0.001 | 0.0045 | 0.0016 | <0.001 | 0.0057 |
| Lithium (mg/l) | 0.0094 | 0.013 | 0.0097 | 0.0095 | 0.012 |
| Mercury (mg/l) | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 |
| Molybdenum (mg/l) | <0.003 | <0.003 | 0.0031 | <0.003 | <0.003 |
| Selenium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Thallium (mg/l) | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| Combined Radium-226,228 (pCi/l) | 1.3 | 1.38 | 0.889 | 1.13 | 0.856 |

Notes:

mg/l = milligrams per liter
S.U. = standard units
pCi/l = picocuries per liter

TABLE 6

September 2020 Analytical Data Summary

| Parameter/Well | MW-85A | MW-85B | MW-85C | MW-85D | MW-85E | MW-10A | MW-10B | MW-10CR1 | MW-10D | MW-10E | MW-10F |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|
| | 9/15/20 | 9/16/20 | 9/16/20 | 9/16/20 | 9/15/20 | 9/16/20 | 9/16/20 | 9/16/20 | 9/16/20 | 9/15/20 | 9/15/20 |
| Boron (mg/l) | 0.07 | 0.054 | 0.19 | 0.15 | 5.1 | 0.59 | 0.53 | 0.31 | 0.18 | 0.21 | 7 |
| Calcium (mg/l) | 66.1 | 91.5 | 125 | 122 | 166 | 128 | 103 | 146 | 145 | 138 | 442 |
| Chloride (mg/l) | 10.8 | 3.8 | 47.5 | 20.4 | 76.8 | 77.4 | 75.8 | 65.8 | 66.8 | 52.8 | 34.4 |
| pH (S.U.) | 6.49 | 6.65 | 6.9 | 6.7 | 6.45 | 6.78 | 6.22 | 6.78 | 6.9 | 6.7 | 6.31 |
| Sulfate (mg/l) | <1 | 9.9 | 144 | 66.8 | 775 | 299 | 63.4 | 284 | 307 | 230 | 1780 |
| TDS (mg/l) | 335 | 90 | 705 | 545 | 1320 | 830 | 545 | 855 | 815 | 705 | 2880 |
| Arsenic (mg/l) | 0.002 | 0.0012 | 0.0055 | 0.0056 | 0.012 | 0.013 | 0.011 | 0.007 | 0.0027 | 0.022 | 0.0091 |
| Barium (mg/l) | 0.3 | 0.52 | 0.28 | 0.26 | 0.068 | 0.41 | 0.56 | 0.47 | 0.22 | 0.47 | 0.059 |
| Chromium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0051 | <0.001 | <0.001 | <0.001 | <0.001 |
| Cobalt (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0028 | 0.0015 | <0.001 | <0.001 | 0.0049 |
| Fluoride (mg/l) | 0.49 | <0.1 | 0.28 | 0.26 | 0.18 | 0.31 | 0.3 | 0.25 | 0.21 | 0.22 | <0.1 |
| Lead (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0035 | <0.001 | <0.001 | 0.0013 | <0.001 |
| Lithium (mg/l) | 0.015 | 0.015 | 0.013 | 0.018 | 0.016 | 0.014 | 0.018 | 0.019 | 0.014 | 0.019 | 0.034 |
| Molybdenum (mg/l) | <0.003 | <0.003 | <0.003 | <0.003 | 0.03 | <0.003 | <0.003 | 0.0039 | <0.003 | <0.003 | <0.003 |
| Combined Radium-226,228 (pCi/l) | 0.769 | 2.11 | 1.79 | 1.31 | 1.23 | 0.913 | 1.69 | 0.917 | 1.07 | 1.63 | 1.5 |

Notes:

mg/l = milligrams per liter
S.U. = standard units
pCi/l = picocuries per liter

TABLE 6

September 2020 Analytical Data Summary

| Parameter/Well | MW-10G | MW-10H | MW-10I | MW-10BG | MW-19BG1 | MW-19BG2 | MW-19BG3 | MW-19BG4 | MW-19BG5 |
|---------------------------------|---------|---------|---------|---------|----------|----------|----------|----------|----------|
| | 9/15/20 | 9/15/20 | 9/15/20 | 9/17/20 | 9/15/20 | 9/15/20 | 9/15/20 | 9/15/20 | 9/15/20 |
| Boron (mg/l) | 0.69 | 0.15 | 0.093 | 0.067 | 0.069 | 0.13 | 0.16 | 0.22 | 0.091 |
| Calcium (mg/l) | 103 | 146 | 95.4 | 71.7 | 83 | 119 | 88 | 126 | 93.5 |
| Chloride (mg/l) | 72.7 | 52.1 | 22.5 | 5.3 | 17.1 | 4.4 | 6 | 13.5 | 3.8 |
| pH (S.U.) | 6.66 | 6.63 | 6.61 | 6.92 | 6.51 | 6.9 | 6.81 | 6.78 | 6.84 |
| Sulfate (mg/l) | 127 | 24.3 | 2.3 | <1 | 5.2 | <1 | 12.4 | 2.7 | <1 |
| TDS (mg/l) | 620 | 610 | 355 | 380 | 340 | 450 | 405 | 450 | 335 |
| Arsenic (mg/l) | 0.0019 | 0.0095 | <0.001 | 0.048 | 0.0017 | 0.034 | 0.035 | 0.068 | 0.024 |
| Barium (mg/l) | 0.41 | 0.44 | 0.36 | 0.23 | 0.31 | 0.53 | 0.25 | 0.52 | 0.21 |
| Chromium (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0092 | <0.001 | 0.014 | <0.001 |
| Cobalt (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.004 | 0.0012 | 0.0054 | <0.001 |
| Fluoride (mg/l) | 0.35 | 0.32 | 0.55 | 0.52 | 0.35 | 0.29 | 0.35 | 0.23 | 0.4 |
| Lead (mg/l) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0061 | <0.001 | 0.009 | <0.001 |
| Lithium (mg/l) | 0.019 | 0.02 | 0.023 | 0.01 | 0.0099 | 0.015 | 0.0092 | 0.018 | 0.0078 |
| Molybdenum (mg/l) | <0.003 | <0.003 | <0.003 | 0.0031 | <0.003 | <0.003 | 0.0031 | <0.003 | <0.003 |
| Combined Radium-226,228 (pCi/l) | 1.5 | 1.45 | 1.26 | 0.926 | 0.773 | 0.758 | 0.7 | 0.284 | 0.635 |

Notes:

mg/l = milligrams per liter
S.U. = standard units
pCi/l = picocuries per liter