

EXHIBIT 29



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MEMORANDUM

1 September 2021
File No. 201285-000

TO: Southern Illinois Power Cooperative
Wendell Watson

FROM: Haley & Aldrich, Inc.
Jacob Chu, Technical Expert
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SUBJECT: Pond Investigation Report of Certain Ponds at Southern Illinois Power Company's ("SIPC") Marion Station ("Marion")

Haley & Aldrich, Inc. has prepared this memorandum that documents our assessment related to the amount of coal combustion residual (CCR) materials in pond sediments in the South Fly Ash Pond, Pond 3 (including Pond 3A), Pond 4, and Pond S-6 (collectively, the "Ponds", and each a "Pond") within the Southern Illinois Power Cooperative (SIPC) Marion Station property located near Lake of Egypt, Illinois (Site). The general setting of the Site is shown in Figure 1. This memorandum provides information collected pursuant to the agreed protocol between the Illinois Environmental Protection Agency (IEPA) and SIPC related to investigation of certain ponds at the Site in connection with prior violation notices (VNs) issued by IEPA.

The purpose of this investigation was two-fold: to evaluate the nature and extent of CCR in the Ponds, and to evaluate the potential impact that the contents of the Ponds may have on groundwater.

This assessment of the Ponds' content was based on:

- Results of a bathymetric survey that characterizes the volumes and sediment thicknesses of the Ponds;
- Results of carbon analysis for Pond sediments;
- Results of major cation and anion concentrations for Pond sediments;
- Pond usage and design information; and
- Results of polarized light microscopy (PLM) that characterizes the fraction of CCR materials in Pond sediments.

In addition, Pond berm samples were collected at IEPA's request and were evaluated to determine the presence of CCR materials. Sediment samples were collected for assessment from the berm associated with the former Pond B-3, which has been drained of water and is not an active pond. In addition, per the investigation protocol between IEPA and SIPC, sampling was attempted within the area of the former Pond A-1, but no materials could be collected given the presence of bedrock near the surface, confirming the absence of any significant amount of CCR material in former Pond A-1.

The assessment of potential impacts of sediments in the Ponds on groundwater quality was based on:

- Results of shake extraction tests with water (shake tests) of Pond sediments;
- Results of shake tests of coal and known coal combustion by-products, including a scrubber sludge sample obtained in 2018 and a coal ash sample of the now retired Unit 4 boiler, collected from SIPC's operations but not from the Ponds; these samples are used as control samples to provide a baseline for comparative evaluation of the results of Pond sediments; and
- Results of groundwater quality monitoring.

Each of these assessments is provided in the sections below.

Determination of CCR Materials in Pond Bottom Sediments and Berms: Approach and Results

APPROACH

The evaluation of the amount of CCR materials in South Fly Ash Pond, Pond 3 (including Pond 3A), Pond 4, and Pond S-6 was conducted based on the data obtained using the following approach:

- A bathymetric survey of the Ponds was done to characterize the top and bottom elevations of sediments in each Pond and estimate the thickness of Pond sediments for each Pond.

The bathymetric survey was conducted by Prairie Engineers, P. C., on March 9, 10, 11, 24, and 25, 2021. The surveys were performed using an Odom CV-200 dual frequency single-beam echosounder mounted on a small boat. The elevation and locations of the low and high frequency bathymetric survey points were referenced to three control points located at the Site. The data obtained through the high frequency survey was used to characterize the top of the sediment layer within each Pond. The data obtained through the low frequency survey was used to characterize the bottom of each Pond. Hanson Professional Services Inc. (Hanson) processed the survey data and generated maps to determine the top and bottom elevations, as well as the thicknesses of the sediments in each Pond. [Those maps are attached as Attachment A.] Note that both Pond 4 and the South Fly Ash Pond water levels were lowered for operational reasons just before the surveys were performed. The lower water levels prevented the survey boat from reaching what would normally be the edge of those Ponds. Approximately 60% of the Pond 4 area and 73% of the South Fly Ash Pond area were surveyed.



Figure 1: Pond locations and general Site settings. The light blue dashed lines show the water transfer process at the facility through the following sequence: (1) Storm Water Basin, (2) South Fly Ash Pond, (3) Pond 3A/3, (4) Pond S-6, (5) Pond 4, and (6) Outfall 002. Yellow color is used to denote the names of the Ponds included in the petition.

The estimated sediment volumes for Pond 4 and the South Fly Ash Pond include the areas outside the survey grids. Extrapolation was performed by the Surfer software directly for the areas outside the survey grid to ensure total sediment volumes are conservatively estimated for these two ponds (see Attachment A for more detail). Pond 3, Pond 3A, and Pond S-6, as shown in Attachment A, were constrained to the areas where there were both low and high frequency data. This is discussed in more detail in Attachment A.

- Carbon content analysis was used to help identify whether CCR or coal fines are present in the Pond sediments.

The sediment sampling locations for the Ponds are shown in Figure 2. The analytical method used for this analysis is ASTM D5372, which determines the content of carbon, hydrogen, and nitrogen in a sample using an elemental analyzer. [The results for this assessment are provided in Attachment B.]

- Characterization of major cation and anion concentrations using the shake test method (ASTM D-3987-12(2020)) was used to assess the soluble components of potential CCR materials in Pond sediments and berm samples.

The Pond sediment sampling locations are shown in Figure 2 and the berm sampling locations are shown in Figure 3. Among all cations and anions, calcium, chloride, fluoride, and sulfate are included in the Appendix III list of constituents for CCR detection monitoring (which are considered to be potential indicators for CCR).¹ [The laboratory results for major cations and anions for Pond sediments, berm samples, and control samples are provided in Attachment C, which also includes results for Appendix IV constituents.² Berm boring logs are also provided in Attachment C.]

- Polarized light microscopy (PLM) analyses of Pond sediments and berm samples was used to assess the relative percentage of identifiable CCR content in each sample.

The bathymetric survey results provide sediment thickness, but do not identify the contents of the sediments. The PLM technique was used to estimate the fractions of fly ash, bottom (or bed) ash, slag, and coal in the sediment samples collected from the Ponds. Each sample was homogenized before analysis. The PLM analyses were performed by the RJ Lee Group. Note that the PLM analysis was not included in the investigation protocol. However, since this analysis method is capable of directly quantifying several known CCR materials (e.g., fly ash, bed ash, bottom ash, and slag), the use of the PLM analysis provides an additional line of evidence for this evaluation and was added to this assessment.

To provide a basis of comparison, the PLM analysis was conducted on control samples of known Site CCR materials and coal, including fly ash obtained from the Unit 4 boiler (a conventional coal combustion boiler; now retired), scrubber sludge collected in 2018, and coal from the on-site coal pile. Note that the fly ash sample from Unit 4 was collected from fly ash piles that were stored in a closed building for a period of approximately nine months after being collected from the Unit 4 boiler. The fly ash generated at that time was likely during the last few days of Unit 4's operation, and thus may not contain only fly ash. Fly ash produced by the Unit 4 boiler (now retired) was mainly managed dry, mixed with the scrubber sludge, and transported to the former CCR Landfill Area; therefore, there had been no direct discharge of any significant amount of Unit 4 fly ash into the Ponds at issue. [Results of the PLM analysis are provided as Attachment D.] Note that the PLM analysis is considered a more precise technique to assess the

¹ <https://www.federalregister.gov/documents/2015/04/17/2015-00257/hazardous-and-solid-waste-management-system-disposal-of-coal-combustion-residuals-from-electric> – EPA-HQ-RCRA-2009-0640-11970 – Federal CCR Rule.

² Ibid.

presence of CCR materials and approximate the fraction of CCR materials in a sample in comparison with typical grain size analysis, since the PLM method identifies CCR materials through visually recognizable particle characteristics that are different from natural sediments. In addition, natural variations of fine-grained content in sediments can make it difficult to positively identify the presence of CCR materials through grain-size analysis alone.

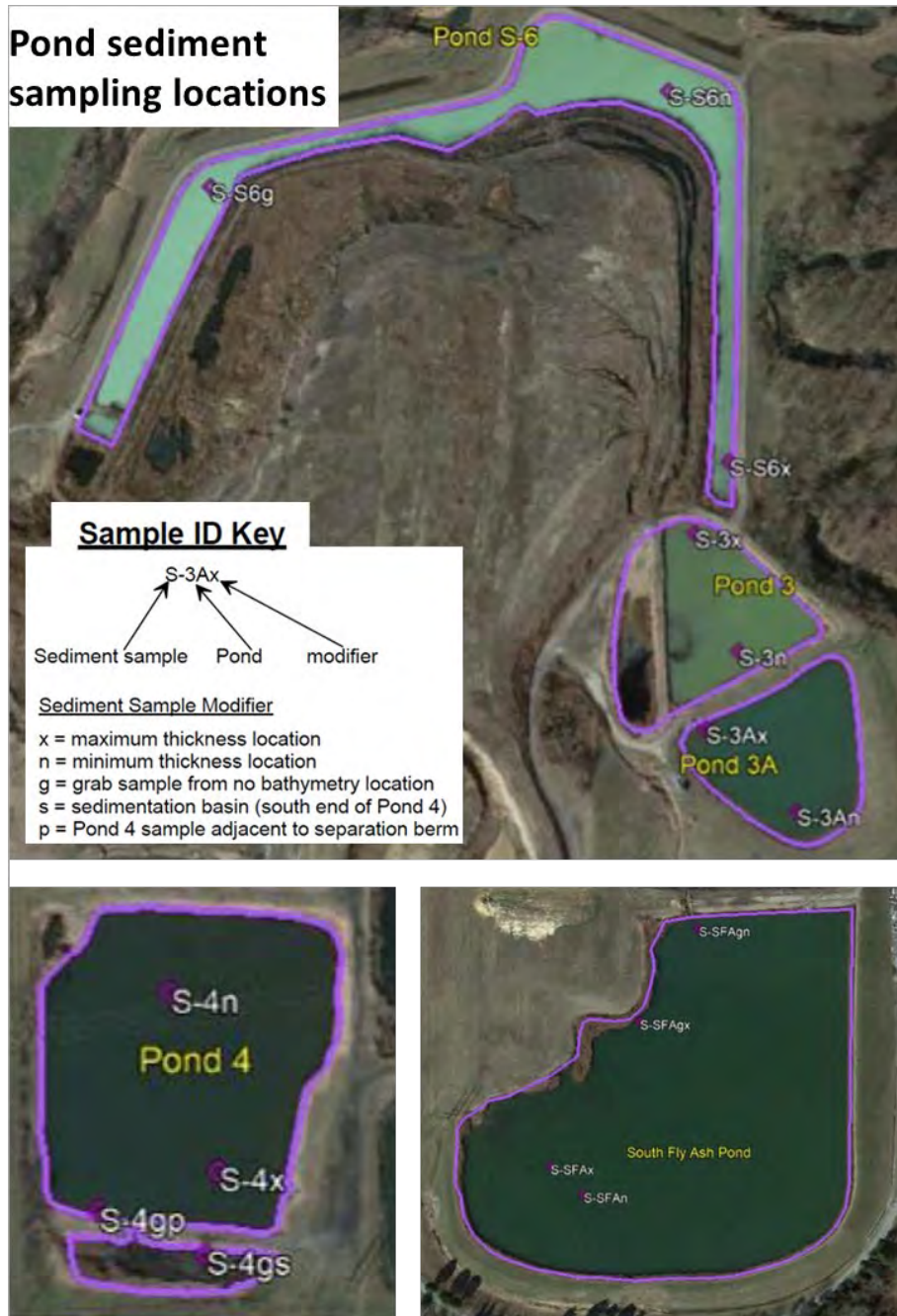


Figure 2: Pond sediment sampling locations. (Source: Hanson Professional Services Inc.)



Figure 3: Proposed berm boring locations for the Ponds and Ponds B-3 and A-1. Note that five of the proposed borings were not drilled, either because they were inaccessible, or the proposed boring location was bedrock. Specifically, the bottom of former Pond A-1 is bedrock, and no significant thickness of soil was observed. Boring B-B3c was inaccessible due to steep side-slopes and ponded water, and Borings B-S6a and B-S6c were also inaccessible (B-S6a due to steep landfill slopes and B-S6c due to wet soil conditions). (Source: Hanson Professional Services Inc.)

RESULTS**Bathymetric survey results**

The surveyed top and bottom elevations of Pond sediments in each Pond are provided in Attachment A. The estimated sediment volume, Pond volume, mean sediment thickness, and the ratio of the sediment volume to Pond volume for each Pond are summarized in Table 1 below.

Table 1: Estimated sediment and Pond volumes, mean sediment thickness, and volume ratio.⁽¹⁾

Pond	Sediment Volume (ft. ³)	Pond Volume (ft. ³)	Mean Sed. Thickness (ft.)	Sed. as % Pond Volume
Pond 3	83,987.99	936,162.11	1.38	9.0%
Pond 3A	95,666.48	717,739.28	1.45	13.3%
Pond 4 ⁽²⁾	91,076.96	1,370,058.58	1.67	10.9%
Pond S-6	103,452.90	1,264,398.31	0.84	8.2%
South Fly Ash Pond ⁽³⁾	563,054.99	2,944,552.50	1.57	21.8% [11%] ⁽⁴⁾

Notes: (1) Table from Hanson (Attachment A).

(2) Additional sensitivity analysis was conducted to assess the degree of uncertainty in the pond sediment volume estimate for Pond 4. The sensitivity analysis incorporated the observed sediment thickness (generally less than 3 feet) in the southern area outside the surveyed area). It was found that incorporation of this field observation resulted in a slightly lower estimate of the mean sediment thickness (1.52 ft) and sediment as % Pond volume (9.9%), indicating that the uncertainty associated with sediment thickness outside the survey grid has little impact on the estimate of sediment as % Pond volume.

(3) Additional sensitivity analysis was also conducted to assess the degree of uncertainty in estimated sediment thickness for the South Fly Ash Pond. Excluding the approximate area where the bathymetry survey could not be conducted (i.e., only considering the surveyed area), the estimated mean sediment thickness is 1.57 feet, the same as the value estimated through extrapolation in Table 1. Extrapolation has little impact on the estimated mean sediment thickness, and thus the approximate thickness outside the survey grid through extrapolation is consistent with the thickness measured in the surveyed area. During the bathymetry survey, Hanson Professional Services Inc. observed that the exposed land area outside the survey grid was covered by a thin layer (less than an inch) of sediments overlying the bedrock. A thin sediment layer in the exposed land area were also observed during the pond bottom cleaning by the SIPC. Therefore, the sediment thickness obtained through extrapolation is conservatively larger than the actual thickness. In addition, the sediments in the exposed area appear to resemble the native soil material at the site and do not show the color and texture of CCR-impacted soil.

(4) Estimation of the Pond volumes is based on the Pond water elevations shown on Google Earth; as-built drawings were not available to estimate volume. The Pond water elevation indicated by Google Earth for the South Fly Ash Pond (535 ft) is considerably lower than the water elevation measured in 2007 (541.5 ft)³ because of operational changes. Therefore, the Pond volume estimates are considered conservative. Using the 2007 water level, the volume of the South Fly Ash Pond is conservatively estimated to be approximately 5,276,000 ft³ and the sediment fraction as percentage of Pond volume is 11%.

Based on United States Environmental Protection Agency (USEPA) information, CCR disposal typically occurs at more than 735 active on-site CCR surface impoundments, which average more than 50 acres in size and have an estimated average depth of 20 feet of ash (Figure 4(a)).⁴ In contrast, the results above indicate that the mean thicknesses of Pond sediments of the Ponds investigated here are less than 2 feet.

³ SIPC, 2007. Marion Power Plant / Disposal Ponds & Holding Ponds Site Plan and Ground Water Monitoring / Discharge and Control Point Data, Sheet E-187. August 25.

⁴ USEPA, 2020. Frequent Questions about the 2015 Coal Ash Disposal Rule. Last updated on September 4, 2020. <https://www.epa.gov/coalash/frequent-questions-about-2015-coal-ash-disposal-rule>

In Haley & Aldrich's experience, for typical CCR impoundments, the volume of CCR materials is often a major portion (>50%) of the overall impoundment volume (see examples in Figure 4(b) and 4(c)). In contrast, the amount of the Pond sediment in Ponds 3, 3A, 4, S-6, and the South Fly Ash Pond is only a minor fraction of total Pond volume. The results are consistent with what we understand to be the function of these Ponds, which generally did not receive direct discharges of CCR materials, were not designed to hold an accumulation of CCR and water, and have not been used for the treatment, storage and disposal of CCR.

Results of carbon, hydrogen, and nitrogen content analysis

The carbon contents of the Pond sediment samples are summarized in Table 2 below; the data reports are provided in Attachment B. The typical unburned carbon content in fly ash before 1990 ranges from 2% to 12%.⁵ After the introduction of the 1990 Clean Air Act Amendments to control the emission of nitrogen oxides (NO_x), the unburned carbon content in fly ash significantly increased, up to 20% in some cases.⁶ Note that, between 2012 and 2015, eight fly ash samples were collected from Unit 4 and analyzed for the unburned carbon content using the loss on ignition (LOI) method. The laboratory reports associated with these LOI analyses are also provided in Attachment B. The range of these eight LOI values was between 1.31% and 5.25% and the average LOI value was 2.79%. However, no historical LOI data were provided for the older boilers (Units 1, 2, 3). Therefore, the 20% literature reported value was used as a conservative reference level for the evaluation of unburned carbon content in fly ash below.

The carbon content in the sediment samples collected from Ponds 3A and 4, as well as one sample collected from the South Fly Ash Pond, are higher than this reference level, indicating that an organic matter source other than CCR materials is likely present in these samples. A correlation assessment was conducted to examine whether the Pond samples with a higher carbon content (>20%) have a similar carbon-hydrogen-nitrogen composition, which also would suggest a common organic matter source. Figure 5(a) shows a very linear correlation between the carbon and hydrogen contents and Figure 5(b) shows a very linear correlation between the hydrogen and nitrogen contents. Because the highest carbon content sample of the Pond sediment (S-3Ax) has a very similar carbon/hydrogen/nitrogen composition to that of the coal used at the Site, coal is identified as the likely common contributor to the organic content in the Pond sediment samples with a high carbon content. The finding is consistent with the fact that Pond 3 (including Pond 3A) and Pond 4 have historically received some coal pile runoff. When the carbon content is less than 20%, as it is in samples collected from Ponds 3 and S-6 and some samples from the South Fly Ash Pond, it is not possible to differentiate the relative abundance of coal vs. CCR materials by the carbon content analysis alone. Accordingly, we have looked to other lines of evidence.

⁵ Ahmaruzzaman, M., 2010. A review on the utilization of fly ash. *Progress in energy and combustion science*, 36(3), pp.327-363.

⁶ Ibid.

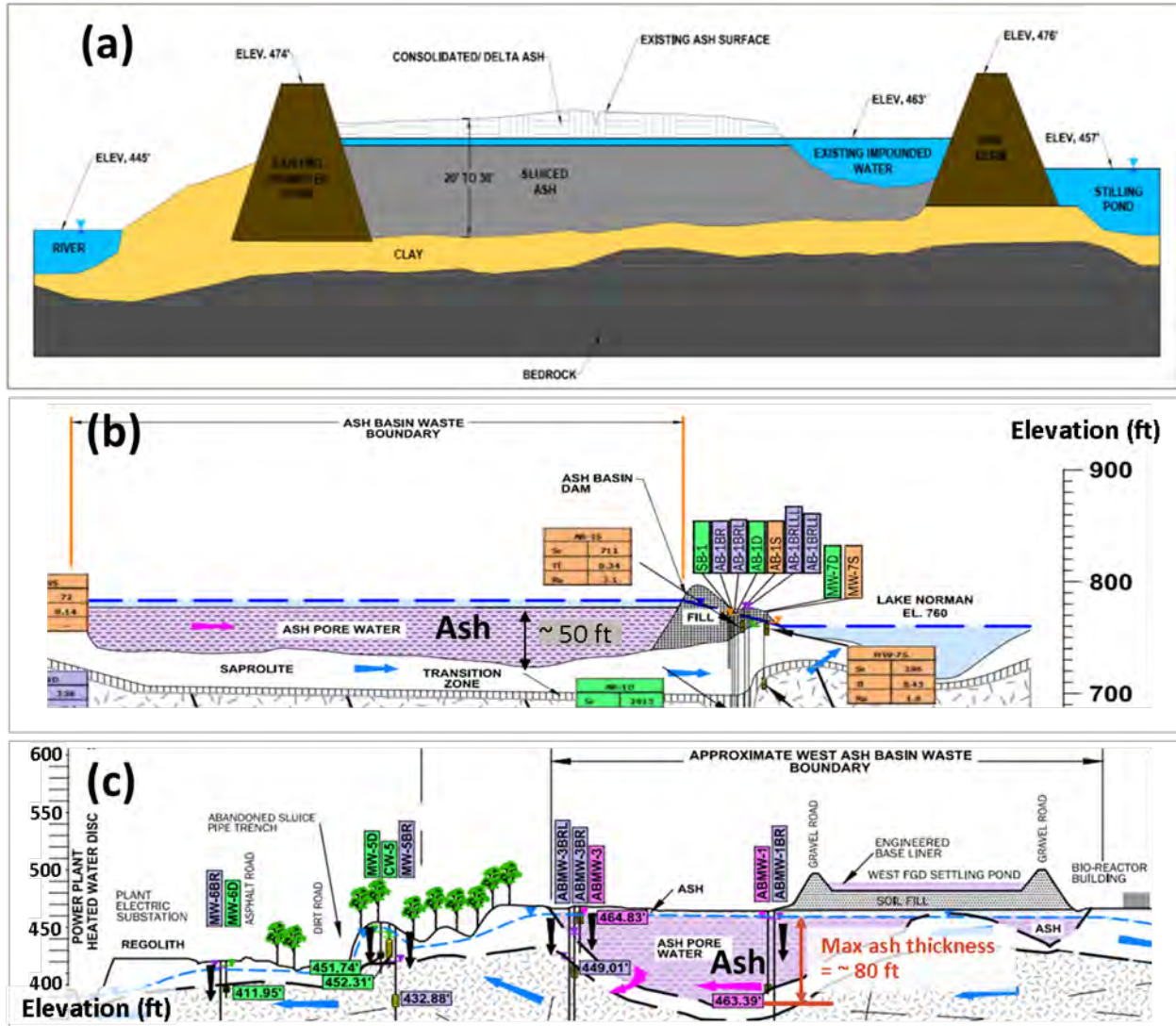


Figure 4: Typical CCR impoundment settings and CCR material thicknesses in impoundments. Panel (a) shows the vertical cross section view of a typical CCR surface impoundment configuration⁷, Panel (b) is a vertical cross-section for the CCR impoundment at the Marshall Steam Station Site in North Carolina⁸, and Panel (c) is a vertical cross-section for the Roxboro Steam Electric Plant in North Carolina⁹.

⁷ Heyman et al., 2017. CCR Pond Dewatering – Critical Planning and Characterization Tasks. 2017 World of Coal Ash (WOCA) Conference in Lexington, KY. (<http://www.flyash.info/2017/214-Heyman-14-woca2017p.pdf>)

⁸ Adapted from synTerra. Corrective Action Plan Update, Marshall Steam Station. (https://files.nc.gov/ncdeq/Coal%20Ash/2019-caps/01_Marshall_CAPUpdate_FullReport_20191231.pdf)

⁹ Adapted from SynTerra, Corrective Action Plan Update, Roxboro Steam Electric Plant. (https://files.nc.gov/ncdeq/Coal Ash/2019-caps/01_Roxboro_CAPUpdate_FullReport_20191231.pdf)

Table 2: Carbon, hydrogen, and nitrogen contents for Pond sediment and coal samples.

Pond	Sample	Dry weight %			Pond	Sample	Dry weight %		
		Carbon	Hydrogen	Nitrogen			Carbon	Hydrogen	Nitrogen
Pond 3A	S-3Ax	64.08	4.32	1.35	Pond 3	S-3n	11.17	0.9	0.27
	S-3An	27.05	1.99	0.53		S-3x	15.11	0.97	0.26
Pond 4	S-4gs	47.62	3.03	0.94	Pond 6	S-S6x	7.35	0.51	0.1
	S-4gp	36.44	2.39	0.72		S-S6n	4.19	0.6	0.1
	S-4x	28.92	1.98	0.62	South Fly Ash Pond	S-SFAn	23.99	1.66	0.49
	S-4n	34.14	2.22	0.69		S-SFAx	16.52	1.27	0.27
Coal (average)	64.1	4.4	1.3	S-SFAgx		8.49	0.93	0.31	
					S-SFAgn	6.19	0.7	0.22	

Note: Average carbon, hydrogen, nitrogen contents in coal samples are provided by the SIPC.

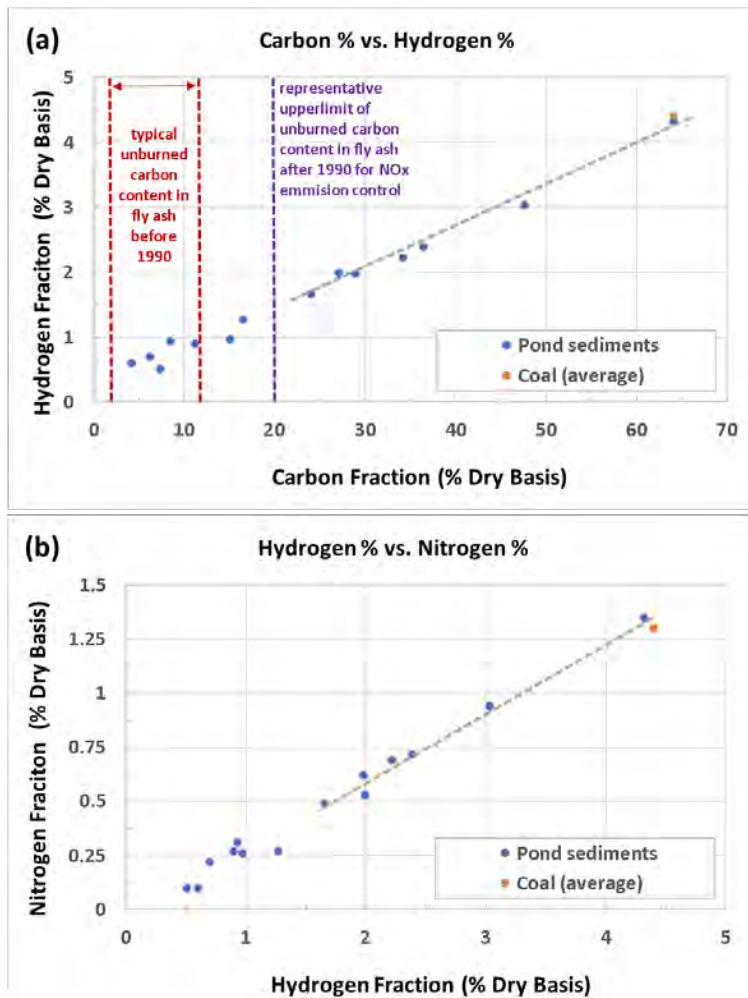


Figure 5: Correlation between (a) the carbon and hydrogen contents and (b) hydrogen and nitrogen contents in Pond sediment samples and coal (average) collected from the Site.

Results of major cation and anion concentrations using the shake test method

The results of major cation and anion concentrations for control samples, Pond sediments, and berm samples are summarized in Tables 3, 4, and 5, respectively. The analytical data are provided in Attachment C. For the control samples, all CCR materials (including scrubber sludge and fly ash from the retired Unit 4 conventional cyclone boiler) show a sulfate concentration greater than the Part 620 Groundwater Quality Class I standard, and calcium as the most abundant cation. For the Pond sediment and berm sample shake test results, the only constituent that has a concentration higher than the Part 620 Groundwater Quality Class I standard is sulfate (Tables 4 and 5). It was found that the Pond samples that have a higher sulfate concentration also show a higher calcium concentration (> 200 mg/L), suggesting that calcium sulfate related minerals may be present in these samples and that some of the Pond sediment and berm samples may contain some CCR materials. Note that the sediment samples obtained from Pond 3A and Pond 4 show low sulfate and calcium concentrations, suggesting little CCR in these two Ponds. This is consistent with the conclusion above that the high carbon contents found in the Pond sediments of Pond 3A and Pond 4 are likely related to coal and not related to CCR materials.

Table 3: Summary of major cation and anion concentrations for control samples obtained using the shake test results.

Parameter	Units	Groundwater Quality Class I Potable Resource Groundwater (a)	Groundwater Quality Class II General Resource Groundwater (b)	Control Sample Shake Test Results		
				Scrubber Sludge 05/25/2021	Unit 4 Fly Ash 07/08/2021	Coal 05/25/2021
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L	NA	NA	15	56	9
Alkalinity, Carbonate (as CaCO ₃)	mg/L	NA	NA	0	27	12
Calcium	mg/L	NA	NA	618	750	24.7
Chloride	mg/L	200	200	< 4	623	17
Fluoride	mg/L	4	4	1.37	7.33	0.11
Magnesium	mg/L	NA	NA	0.265	25.7	0.59
Potassium	mg/L	NA	NA	< 0.100	140	0.445
Sodium	mg/L	NA	NA	< 0.0500	136.00	10.20
Sulfate	mg/L	400	400	1400	1400	100

Note: Concentrations greater than both the Part 620 Groundwater Quality Class I Potable Resource Groundwater and Groundwater Quality Class II General Resource Groundwater standards are highlighted in yellow.

Based on the results in Tables 4 and 5, the Pond sediment and berm samples collected from Pond 3, Pond S-6 and the South Fly Ash Pond may contain some CCR materials that could potentially result in concentrations higher than the Class I groundwater standard for sulfate.¹⁰ However, as will be discussed below, the long-term Site groundwater monitoring data show that the sulfate concentration levels at the Site are generally below the Class I groundwater standard, indicating that the influence of any CCR

¹⁰ Illinois Administrative Code. (July 2013). Title 35: Environmental Protection. Subtitle F: Public Water Supplies. Chapter I: Pollution Control Board. Part 620: Groundwater Quality. Subpart D: Groundwater Quality Standards. Section 620.410 Groundwater Quality Standards for Class I: Potable Resource Groundwater.

SIPC

1 September 2021

Page 12

materials in the Pond sediments and berms on the overall groundwater quality is limited, and confirming that the amount of CCR in the Pond system, if any, is minimal.

Table 4: Summary of major cation and anion concentrations for Pond sediments obtained using the shake test.

		Pond Sediment Shake Test Results													
Parameter	Units	S-3Ax 04/27/2021	S-3An 04/27/2021	S-3n 04/27/2021	S-3x 04/27/2021	S-56x 04/27/2021	S-56n 04/27/2021	S-4gs 04/27/2021	S-4gp 04/27/2021	S-4x 04/27/2021	S-4n 04/27/2021	S-SFAn 04/27/2021	S-SFAx 04/27/2021	S-SFAgx 04/27/2021	S-SFAgn 04/27/2021
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L	53	54	12	28	20	10	66	70	58	56	16	13	12	22
Alkalinity, Carbonate (as CaCO ₃)	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calcium	mg/L	37.3	44.4	315	612	629	617	28.7	30.6	45.1	46.2	470	654	34.5	43.9
Chloride	mg/L	13	19	14	9	6	10	2	6	25	11	42	81	22	30
Fluoride	mg/L	0.84	3.44	1.63	1.56	1.48	1.24	1.1	0.68	0.9	1.1	2.61	1.21	3.59	3.67
Magnesium	mg/L	2.85	8.01	8.2	3.09	2.9	4.37	1.66	2.34	3.71	3.15	10.2	2.55	4.03	4.56
Potassium	mg/L	1.19	1.74	2.21	2.61	2.94	5.06	0.992	1.55	1.56	1.69	1.36	1.64	1.51	1.23
Sodium	mg/L	1.99	2.65	2.93	1.84	1.55	2.44	1.07	3.98	3.07	1.74	3.14	1.32	1.47	1.58
Sulfate	mg/L	42	50	861	1360	1370	1350	31	11	49	22	1160	1340	59	69

Note: Concentrations greater than both the Part 620 Groundwater Quality Class I Potable Resource Groundwater and Groundwater Quality Class II General Resource Groundwater standards (see Table 3) are highlighted in yellow. Sample locations are shown on Figure 2.

Table 5: Summary of major cation and anion concentrations for berm samples obtained using shake the test.

		Ponds 3, 3A, 4, and S-6, and South Fly Ash Pond Berm Results										Former Pond B-3 Berm Results	
Parameter	Units	B-3a 4-6 ft 03/22/2021	B-3b 4-6ft 3/22/2021	B-3Aa 2-4 ft 03/22/2021	B-3Aa 8-10 ft 03/22/2021	B-4a 0-2 ft 03/22/2021	B-4a 2-4 ft 03/22/2021	B-6b 4-6ft 3/22/2021	B-SFAb 4-6ft 3/22/2021	B-SFAa 2-4ft 3/22/2021	B-B3a 4-6ft 3/22/2021	B-B3b 4-6ft 3/22/2021	
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L	0	16	20	34	23	26	14	6	34	22	26	
Alkalinity, Carbonate (as CaCO ₃)	mg/L	29	0	0	0	0	0	0	0	0	0	0	
Calcium	mg/L	209	13.1	5.26	17.1	257	5.35	0.878	0.145	20.9	0.699	<0.100	
Chloride	mg/L	4	<1	<1	<1	1	2	5	8	7	<1	7	
Fluoride	mg/L	0.15	0.32	0.80	1.12	0.59	0.62	0.18	0.29	0.46	0.57	0.37	
Magnesium	mg/L	0.257	3.10	1.20	0.308	4.84	1.890	0.277	0.140	3.49	0.397	<0.0500	
Potassium	mg/L	13.0	0.326	3.71	1.97	2.54	0.651	0.361	0.818	1.64	<0.100	<0.100	
Sodium	mg/L	3.42	0.430	0.465	0.648	3.54	3.60	1.06	3.33	6.47	2.44	4.56	
Sulfate	mg/L	1330	19	<10	25	374	15	<10	<10	41	<10	15	

Note: Concentrations greater than both the Part 620 Groundwater Quality Class I Potable Resource Groundwater and Groundwater Quality Class II General Resource Groundwater standards (see Table 3) are highlighted in yellow. Sample locations are shown on Figure 3.

For former Pond B-3, the berm samples (B-B3a and B-B3b) taken in 2021 all show low sulfate and calcium concentrations (Table 5). These results are consistent with the results of shake tests SIPC conducted in 2017 using nine sediment samples collected from former Pond B-3 (Attachment E), in which sulfate and calcium concentrations were also low. Out of the nine sediment samples taken from the former Pond B-3 in 2017, only one had an arsenic concentration slightly higher than the Class I groundwater standard, and one had a pH value slightly higher than 9. These are considered anomalies among the samples. Based on the results obtained from 2017 and this investigation, it is concluded that the Pond sediments and berm samples from former Pond B-3 have little, if any, CCR material.

PLM results

PLM is an optical microscopy method that uses polarized light to classify materials based on particle shape and opacity, and known variations in optical indices. PLM can be used to distinguish particles of coal ash from other dust particles, and has the added advantage of being able to estimate the abundance of CCR materials in a sample.

The PLM results for the control samples are summarized in Table 6. The PLM results for the Pond sediment and berm samples are summarized in Tables 7 and 8, respectively. The sampling locations are shown in Figures 2 and 3 and the PLM laboratory reports are provided in Attachment D.

The PLM results for the control samples (including fly ash from the now retired Unit 4 boiler, scrubber sludge, and coal) show a fly ash content of 36% for the fly ash sample generated by the Unit 4 (Table 6). However, because the fly ash content in this sample is only 36% and the rest in the sample is comprised of primarily of quartz and clay particles (see laboratory report in Attachment D), this sample may not contain pure Unit 4 fly ash. As described in the bottom paragraph of Page 4, the sample was obtained during the last few days of operation of Unit 4. At this time, the combustion efficiency of the boiler might not have been at its best.

The scrubber sludge sample has no identifiable fly ash, bed ash, bottom ash, and slag components; all particles are classified in the 'Other' category. Therefore, for Pond sediment and berm samples, the "Other" category could potentially include some scrubber sludge. However, we understand that scrubber sludge at the Site was not generally stored, treated or disposed of in the Pond system but was initially sent to the on-site former CCR landfill or, more recently, shipped off site for beneficial reuse. Accordingly, we would not expect to see significant amounts of sludge in the Pond sediments. Particles in the coal sample are all identified in the 'Coal' category.

Table 6: Summary of CCR materials and coal fractions in control samples. ⁽¹⁾

Control Sample Name	Fly Ash	Bottom Ash	Bed Ash	Slag	Fly Ash + Bottom Ash + Bed Ash + Slag	Coal	Other	Total
SIPC Fly Ash ^(2,3)	36%	2%	0%	0%	38%	0%	62%	100%
SIPC Sludge	0%	0%	0%	0%	0%	0%	100%	100%
SIPC Coal	0%	0%	0%	0%	0%	100%	0%	100%

Notes: (1) Table adapted from RJ Lee Group (Attachment D).

(2) Fly ash sample reported in this table was collected from Unit 4 before the unit was retired.

(3) Fly ash and bed ash were also collected from Unit 123 (a fluidized bed boiler). The data are provided in Attachment D, but not shown in this table because fly ash and bed ash generated by the Unit 123 have been handled dry by SIPC, and they have not been discharged to the Pond system. Note that bed ash often hardens to a cementitious material and is therefore a useful construction material for beneficial use.

The average fraction of CCR materials (including 'Fly Ash,' 'Bottom Ash,' and 'Slag') for all Pond sediment samples is approximately 40%, indicating that the Pond sediment samples are not primarily composed of CCR materials (Table 7). The average fly ash content in the Pond sediment samples is only 12%, which is substantially lower than the fly ash content (36%) in the Unit 4 fly ash sample (note the fly ash content

in the Unit 4 sample is considered biasedly low potentially due to its lack of purity). This provides another line of evidence to show that CCR materials are a minor component of the Pond sediments.

Table 7: Summary of CCR material and coal fractions in Pond sediment samples.

Pond Name	Sample Name	Fly Ash	Bottom Ash	Slag	Slag + Fly Ash + Bottom Ash	Coal	Other	Total
Pond 3A	S-3An	1%	8%	11%	20%	13%	67%	100%
	S-3Ax	1%	6%	27%	34%	48%	18%	100%
Pond 3	S-3n	17%	5%	1%	23%	7%	70%	100%
	S-3x	22%	7%	5%	34%	4%	62%	100%
Pond S-6	S-S6n	27%	3%	0%	30%	2%	68%	100%
	S-S6x	32%	10%	11%	53%	0%	47%	100%
Pond 4	S-4n	1%	1%	23%	25%	23%	52%	100%
	S-4x	13%	19%	32%	64%	0%	36%	100%
	S-4gp	8%	22%	38%	68%	0%	32%	100%
	S-4gs	10%	16%	32%	58%	1%	41%	100%
South Fly Ash Pond	S-SFAn	18%	26%	20%	64%	2%	34%	100%
	S-SFAX	11%	4%	13%	28%	5%	67%	100%
	S-SFagn	2%	6%	2%	10%	6%	84%	100%
	S-SFagx	9%	32%	17%	58%	1%	41%	100%

Note: Table adapted from RJ Lee Group (Attachment D).

While two berm samples collected from Pond 3A show a fly ash content of greater than 90%, the corresponding shake test results for these two samples do not show higher calcium and sulfate concentrations than those for other Pond sediment and berm samples (Table 5). This confirms that a high content of CCR materials does not necessarily significantly impact groundwater quality. This may be because there may be only a negligible amount of soluble constituents present in aged CCR materials. Since the shake test results for both the Pond sediments and berm samples for Pond 3A do not show a significantly higher concentration of major ions (Tables 4 and 5), negligible water quality impact is expected from the CCR materials detected by the PLM in these samples. For other berm samples, the maximum fly ash content is 23% (B-3a), indicating minimal CCR materials in the berms.

Table 8: Summary of CCR material fractions in berm samples.

Pond Name	Berm Sample Name	Fly Ash
Pond 3	B-3a 4'-6'	23%
Pond 3A	B-3Aa 2'-4'	90%
Pond 3A	B-3Aa 8'-10'	91%
Pond 4	B-4a 0'-2'	11%
Pond 4	QC_B-4a 0'-2'	15%
Pond 4	B-4a 2'-4'	7%

Note: QC_B-4a 0'-2' is a quality control sample.

SUMMARY

The bathymetric survey results show that the thicknesses of Pond sediments are very small in comparison with typical CCR surface impoundments that are designed to hold an accumulation of CCR and water and are used for CCR storage, treatment, or disposal. The amount of sediments in the Ponds is also small in relation to the Pond volumes, which is also different from what is seen in a typical CCR surface impoundment. Further, the PLM results confirm that the minor quantity of CCR materials present in the majority of the Pond sediment samples are not the primary component in Pond sediments. This, again, is different from solid/sediment samples expected from typical CCR surface impoundments, where CCR materials typically make up the majority of the sediments. Therefore, the amounts of CCR material in each of these Ponds are very small in comparison with typical CCR surface impoundments. In other words, the Ponds contain a relatively small amount of sediment, and only a relatively small amount of the sediment is CCR material. In addition, the PLM results were found to be consistent with the historical usage of the Ponds – i.e., not for the treatment, storage, and disposal of CCR.

This conclusion is bolstered by other lines of evidence. Specifically, the carbon content results coupled with the PLM results indicate that the samples with a high carbon content are not due to a higher content of CCR materials and are more likely influenced by the presence of coal particles. The results of major cation and anion concentrations obtained from the shake tests for the Pond sediments and berm samples from Pond 3A and Pond 4 indicate the CCR materials detected by the PLM do not result in higher concentrations of calcium and sulfate, which are indicators for CCR impacted water. The potential impacts of the soluble CCR components in Pond sediments and berm samples on overall groundwater quality at the Site are further evaluated below.

Groundwater Quality Impacts Due to CCR Materials in Pond Sediments and Berm Samples

To better understand what, if any, impact the presence of Pond sediments may have on groundwater quality, the leachability of CCR constituents from Pond sediment samples was evaluated. Results from the berm samples are also included in this evaluation. The leachability of SIPC-generated scrubber sludge, Unit 4 fly ash, and coal used on-site was also evaluated. In addition, an evaluation of Pond sediments on local groundwater quality was conducted.

SHAKE TEST APPROACH

Pond sediment, berm samples, and control samples (including fly ash, bottom (bed) ash, scrubber sludge, and coal) were used to evaluate the leachability of the samples using shake tests, following the ASTM D3987 Method. For Pond sediment samples, the total solid concentrations of CCR constituents were also analyzed. The laboratory shake test reports for control samples and Pond/berm samples along with a summary table of the results are provided in Attachment C. The total concentrations of various constituents in Pond sediment samples are also provided in Attachment C. The shake test results of several Pond sediment and control samples showed higher sulfate and total dissolved solids (TDS) concentrations. Note that in any given sample, TDS principally consists of calcium, magnesium, potassium, sodium, bicarbonates, chlorides, and sulfates. TDS concentrations generally correlate with the sum of these constituent concentrations in a given sample.

SHAKE TEST RESULTS

Shake test results for Pond sediment samples

The full data summary table of the shake test results for Pond sediment samples are provided in Attachment C. The Attachment C table compares the results to Part 620 Groundwater Class I and Class II standards. A simplified summary that only shows the constituents/parameters that have a concentration/value higher than the relevant standard for Class I Potable Resource Groundwater, along with some additional constituents (boron and calcium) which can be CCR indicators, is provided in Table 9. The discussion of the constituents detected above the Class I Groundwater Standards is provided below.

Antimony, Boron, Chloride, and Fluoride: All concentrations for these constituents in Pond sediment samples are below Class I standards (Table 9). Among the control samples, only the Unit 4 fly ash sample showed a concentration of these constituents higher than the Class I standard. The results indicate that CCR materials and coal in Pond sediments do not result in elevated antimony, boron, chloride, and fluoride concentrations in water that is in contact with the sediments. Note that fly ash produced by the Unit 4 boiler (now retired) was mainly managed dry, mixed with the scrubber sludge, and transported to the former CCR Landfill Area; therefore, there has been no direct discharge of any significant amount of Unit 4 fly ash into the Ponds at issue.

Arsenic: Only one arsenic concentration above the Class I standard was found among Pond sediment samples (S-3n); all other arsenic concentrations were below the Class I standard, including the control

samples (Table 9). The results indicate that CCR materials and coal in Pond sediments are not a source that can consistently result in elevated arsenic concentrations in water that is in contact with the sediments. The elevated arsenic concentration at S-3n is considered a local anomaly because arsenic concentrations in control samples and other Pond sediment samples are all below the Class I standard.

Table 9: Simplified summary of the shake test results for Pond sediments and control samples.

Parameter	Units	Part 620 – Groundwater Quality Class I Potable Resource Groundwater (a)	Part 620 – Groundwater Quality Class II General Resource Groundwater (b)	Control Sample Shake Test Results (c)				Sediment Shake Test Results (c)					
				Scrubber Sludge 05/25/2021	Unit 4 Fly Ash 07/08/2021	Coal 05/25/2021	S-3Ax 04/27/2021	S-3An 04/27/2021	S-3n 04/27/2021	S-3x 04/27/2021	S-S6x 04/27/2021	S-S6n 04/27/2021	
Antimony	mg/L	0.006	0.024	< 0.0010 B	0.0216	< 0.0010 B	< 0.0010	< 0.0010	0.0011	0.002	0.0028	0.0044	
Arsenic	mg/L	0.010	0.2	< 0.0100	< 0.0100	< 0.0100	0.0017	< 0.0010	0.0214	0.0037	0.0028	0.0048	
Boron	mg/L	2	2	< 0.0200	16.2 S	0.044	0.851	1.13	0.977	0.594	0.497	0.739	
Chloride	mg/L	200	200	< 4	623	17	13 H	19 H	14 H	9 H	6 H	10 H	
Fluoride	mg/L	4	4	1.37	7.33	0.11	0.84 H	3.44 H	1.63 H	1.56 H	1.48 H	1.24 H	
Selenium	mg/L	0.05	0.05	< 0.0400	1.45	< 0.0400	0.0067	0.0059	0.0013	0.0084	0.0048	0.004	
Sulfate	mg/L	400	400	1400	1400	100	42 H	50 H	861 H	1360 H	1370 H	1350 H	
Thallium	mg/L	0.002	0.02	0.0024 X	0.0495	< 0.0020	< 0.0020	< 0.0020	< 0.0020 B	< 0.0020	< 0.0020	< 0.0020 B	
Total Dissolved Solids	mg/L	1200	1200	1950 H	3730 H	166 H	162 H	184 H	1310 H	2110 H	2090 H	2100 H	
Parameter	Units	Part 620 – Groundwater Quality Class I Potable Resource Groundwater (a)	Part 620 – Groundwater Quality Class II General Resource Groundwater (b)	Sediment Shake Test Results (c)									
				S-4gs 04/27/2021	S-4gp 04/27/2021	S-4x 04/27/2021	S-4n 04/27/2021	S-SFAn 04/27/2021	S-SFAx 04/27/2021	S-SFAGx 04/27/2021	S-SFAGn 04/27/2021		
Antimony	mg/L	0.006	0.024	< 0.0010	0.0017	< 0.0010	< 0.0010	0.0014	0.0022	0.0022	0.0021		
Arsenic	mg/L	0.010	0.2	0.001	0.0045	0.0059	0.0056	0.0014	0.0019	0.005	0.0013		
Boron	mg/L	2	2	0.197	0.426	0.546	0.639	1.41	1.14	1.08	1.1		
Chloride	mg/L	200	200	2 H	6 H	25 H	11 H	42 SH	81 H	22 H	30 H		
Fluoride	mg/L	4	4	1.1 H	0.68 H	0.9 H	1.1 H	2.61 H	1.21 H	3.59 H	3.67 H		
Selenium	mg/L	0.05	0.05	0.0028	0.0039	< 0.0010	< 0.0010	0.0044	0.127	0.0487	0.0262		
Sulfate	mg/L	400	400	31 H	11 H	49 H	22 H	1160 H	1340 H	59 H	69 H		
Thallium	mg/L	0.002	0.02	< 0.0020 B	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020		
Total Dissolved Solids	mg/L	1200	1200	132 H	100 H	178 H	118 H	1920 H	2200 H	168 H	216 H		
Notes:													
< - Not detected above the indicated reporting limit.				B - Analyte detected in associated Method Blank.				mg/L - Milligrams per liter.					
- Not sampled.				H - Holding times exceeded.				S - Spike Recovery outside recovery limits.					
(a) - Illinois Administrative Code. (July 2013). Title 35: Environmental Protection. Subtitle F: Public Water Supplies. Chapter I: Pollution Control Board. Part 620: Groundwater Quality. Subpart D: Groundwater Quality Standards. Section 620.410 Groundwater Quality Standards for Class I: Potable Resource Groundwater. https://pcb.illinois.gov/documents/dsweb/Get/Document-33425/													
(b) - Illinois Administrative Code. (July 2013). Title 35: Environmental Protection. Subtitle F: Public Water Supplies. Chapter I: Pollution Control Board. Part 620: Groundwater Quality. Subpart D: Groundwater Quality Standards. Section 620.420 Groundwater Quality Standards for Class II: General Resource Groundwater. https://pcb.illinois.gov/documents/dsweb/Get/Document-33425/													
(c) - Data from Teklab, Inc. Environmental Laboratory. June 7, 2021. Analysis by ASTM D3987, SW-846 3005A, 6010B, 6020A, Metals in Shake Extract by ICPMS, and ASTM D3987, SW-846 7470A in Shake Extract.													
Greater than the Groundwater Quality Class I Potable Resource Groundwater													
Greater than both the Groundwater Quality Class I Potable Resource Groundwater and Groundwater Quality Class II General Resource Groundwater													

Selenium: Only one selenium concentration above the Class I standard was found among Pond sediment samples (S-SFAx). Among the control samples, only the Unit 4 fly ash sample exhibits a selenium concentration above the Class I standard. All other selenium concentrations were below the Class I

standard (Table 9). As noted above, fly ash produced by Unit 4 (now retired) was mainly managed dry, mixed with the scrubber sludge, and transported to the former CCR Landfill Area; therefore, there had been no direct discharge of any significant amount of Unit 4 fly ash into the Ponds at issue. Accordingly, the elevated selenium concentration at S-SFAX is considered a local anomaly. The results indicate that CCR materials and coal in Pond sediments are not a source that consistently result in elevated selenium concentrations in water that is in contact with the sediments.

Thallium: All thallium concentrations in Pond sediment samples are below the Class I standard (Table 9). Among the control samples, only the scrubber sludge and Unit 4 fly ash samples showed a thallium concentration slightly higher than the Class I standard. The results indicate that CCR materials and coal in Pond sediments are not a source that can result in elevated thallium concentrations in water that is in contact with the sediments.

Sulfate and TDS: Sulfate and TDS concentrations above Class I standards were found in several Pond sediment samples (S-3n, S-3x, S-6n, S-6x, S-SFAn, and S-SFAX). The control samples, with the exception of the coal sample, showed sulfate and TDS concentrations above the Class I standards. The results indicate that Site fly ash, and scrubber sludge can serve as a source of elevated sulfate and TDS concentrations in water that is contact with these CCR materials, as shown in Table 9.

Because Pond 3 and Pond S-6 are adjacent to the former CCR Landfill Area (Figure 1), storm water runoff originating from the former Landfill Area may have carried CCR particles along with runoff and settled inside these Ponds. These CCR particles may have a greater potential to release TDS and sulfate into contact water.

Pond 4 and Pond 3A are not directly adjacent to the former CCR Landfill Area, and thus it is less likely that there would have been any frequent input of CCR particles into these two Ponds. Note that the shake test results of the Pond sediment samples from Pond 4 and Pond 3A show low sulfate and TDS concentrations and fully comply with the Class I groundwater standards, indicating that CCR materials in the sediments of these two Ponds would not have significant impacts on groundwater quality.

Shake test results for berm samples

The full data summary table for the berm sample shake tests are provided in Attachment C. The Attachment C table compares the results to Part 620 Groundwater Class I and Class II standards. A simplified summary table is provided in Table 10 below. For the sample B-3A (8-10 ft), the shake test concentrations for antimony and arsenic are higher than the Class II standards. These elevated concentrations are considered local anomalies since none of the other samples have a shake test concentration for antimony higher than the Class I standard; there is only one other Pond sediment sample that exhibits a shake test concentration for arsenic higher than the Class II standard (Table 9). The elevated pH value above 9 for the sample B-3a (4-6 ft) is also considered an anomaly since no other samples have an elevated pH above the Class I standard. The elevated sulfate and TDS concentrations for the sample B-3a (4-6 ft) are likely influenced by the CCR materials in the sample, which also has a high calcium and boron concentration (Table 5). For the samples for B-4a (0-2 ft), B-SFAB (4-6 ft), B-6b (4-6 ft), B-B3a (4-6 ft) and B-B3b (4-6 ft), the elevated TDS concentrations are potentially laboratory errors because the major cation and anion concentrations, as well as the conductivity values, for these

samples are low, indicating that the correct TDS concentrations should have been substantially lower than the concentrations reported. Note that only one sample out of 11 berm samples shows the influence of CCR based on the magnitude of calcium and sulfate concentrations. It is thus concluded that CCR materials in the berm samples do not likely result in significant impacts on groundwater quality.

Table 10: Simplified summary of the shake test results for berm samples.

Parameter	Units	Part 620 – Groundwater Quality Class I Potable Resource Groundwater (a)	Part 620 – Groundwater Quality Class II General Resource Groundwater (b)	Ponds 3, 3A, 4, and 5-6 and South Fly Ash Pond Berm Results										Former Pond B-3 Berm Results	
				B-3a 4-6 ft	B-3b 4-6ft	B-3Aa 2-4 ft	B-3Aa 8-10 ft	B-4a 0-2 ft	B-4a 2-4 ft	B-6b 4-6ft	B-SFAB 4-6ft	B-SFAa 2-4ft	B-B3a 4-6ft	B-B3b 4-6ft	
				03/22/2021	3/22/2021	03/22/2021	03/22/2021	03/22/2021	03/22/2021	03/22/2021	03/22/2021	03/22/2021	03/22/2021	03/22/2021	03/22/2021
Antimony	mg/L	0.006	0.024	< 0.0010	<0.0010	0.0018	0.0081	< 0.0010	< 0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	mg/L	0.010	0.2	0.0027	<0.0010	0.0025	0.0254	0.0015	< 0.0010	0.0030	<0.0010	0.0011	<0.0010	<0.0010	
Boron	mg/L	2	2	0.517	0.0939	0.165	0.196	0.124	0.0847	0.0459	<0.0200	0.0282	<0.0200	<0.0200	
Chloride	mg/L	200	200	4	<1	< 1	< 1	1	2	5	8	7	<1	7	
Fluoride	mg/L	4	4	0.15	0.32	0.80	1.12	0.59	0.62	0.18	0.29	0.46	0.57	0.37	
Selenium	mg/L	0.05	0.05	0.002	<0.0010	0.0107	0.0035	0.0035	< 0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Sulfate	mg/L	400	400	1330	19	< 10	25	374	15	<10	<10	41	<10	15	
Thallium	mg/L	0.002	0.02	< 0.0020	<0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Total Dissolved Solids	mg/L	1200	1200	2200	55	52	88	604	2080	1540	4770	466	5370	5030	

- Notes: (1) Definitions of blue and yellow colors are the same as those used in Table 9.
 (2) Total dissolved concentrations for B-4a (0-2 ft), B-SFAB (4-6 ft), B-6b (4-6 ft), B-B3a (4-6 ft) and B-B3b (4-6 ft) are considered not reliable because low conductivity values and low major cation and anion concentrations were also observed in these samples (Table 5).

Shake test results for former Pond B-3 sediments

Former Pond B-3 is not included in this overall evaluation because it does not hold water and was earlier closed; however, samples were collected from the area of this former pond in 2017 and are included here. The full data summary table for the berm sample shake tests for this former pond are provided in Attachment E. The Attachment E table compares the results to Part 620 Groundwater Class I and Class II standards. A simplified summary table is provided in Table 11 below. For Sample 1 in Table 11, the shake test concentration for arsenic is higher than the Class II standard. This elevated concentration is considered a local anomaly since none of the other 2017 samples have a shake test concentration for arsenic higher than the Class I standard. For Sample 3, the shake test pH value was found to be slightly higher than 9. This is also considered an anomaly since there is only one other sample (B-3a (4-6 ft)) that exhibits a shake test pH value higher than the Class I standard (Table 10). The results indicates that any sediments in the former Pond B-3 area are not likely to result in unacceptable CCR impacts on groundwater quality.

Table 11: Simplified summary of the shake test results for former Pond B-3 sediments samples.

Parameter	Units	Groundwater Quality Class I Potable Resource Groundwater (a)	Groundwater Quality Class II General Resource Groundwater (b)	Pond B-3 – Group 1					Pond B-3 – Group 2			
				West Bank	East Bank	South End	Middle	Sample 1	Sample 4	Sample 3	Sample 4	Sample 5
				09/18/2017	09/18/2017	09/18/2017	09/18/2017	07/28/2017	07/28/2017	03/08/2017	03/08/2017	03/08/2017
Arsenic	mg/L	0.010	0.2	< 0.0010	0.0088	0.0031	< 0.0010	0.0244	< 0.0010	0.0062	0.0010	< 0.0010
pH	S.U.	6.5-9	6.5-9	--	--	--	--	--	--	9.09	7.58	7.64

SIPC

1 September 2021

Page 20

Summary of the shake test results

The concentrations obtained from the shake tests using the Pond sediment samples from Pond 3A and Pond 4 are all below the Class I groundwater standards. Based on the results, CCR materials in the Pond sediments/berm samples of these two Ponds are not expected to result in groundwater impacts above the Part 620 Class I groundwater standards.

Based on the shake test results for the Pond sediments and control samples for Pond 3, Pond S-6, and the South Fly Ash Pond, the only constituents that have potential to affect groundwater quality beneath these Ponds are sulfate and TDS.

In addition, the shake test results for the sediment samples from former Pond B-3 in 2017 indicate that residual CCR materials in former Pond B-3 sediments are not expected to result in groundwater impacts above the Part 620 Class I groundwater standards.

BIVARIATE ANALYSIS

To evaluate whether the sulfate concentrations above Part 620 Class I standards observed in the shake tests results originated from the Pond sediment solids, the relationship between the total solid concentrations (see Attachment C) and shake test concentrations for sulfate was assessed using a bivariate plot. Note that the total solid concentration analytical method uses a wet chemistry analytical method similar to the shake test method. The bivariate plot shows that the sulfate concentrations in the shake tests correlate well with the sulfate total concentration in solids (Figure 6A), indicating that the high sulfate concentrations in Pond sediments found through the shake tests are consistent with the analysis of the total sulfate concentrations in sediment solids.

As shown in Tables 4 and 9, the major cations and anions for the Pond sediment samples (from Pond 3, Pond S-6, and South Fly Ash Pond) exhibiting high sulfate and TDS concentrations are calcium and sulfate. The bivariate plot of the TDS concentrations and the sums of the calcium and sulfate concentrations at these locations shows that the TDS concentration data fall along the 1:1 diagonal line (Figure 6B), indicating that the high TDS concentrations primarily result from the calcium and sulfate concentrations in these Pond sediment samples.

SIPC

1 September 2021

Page 21

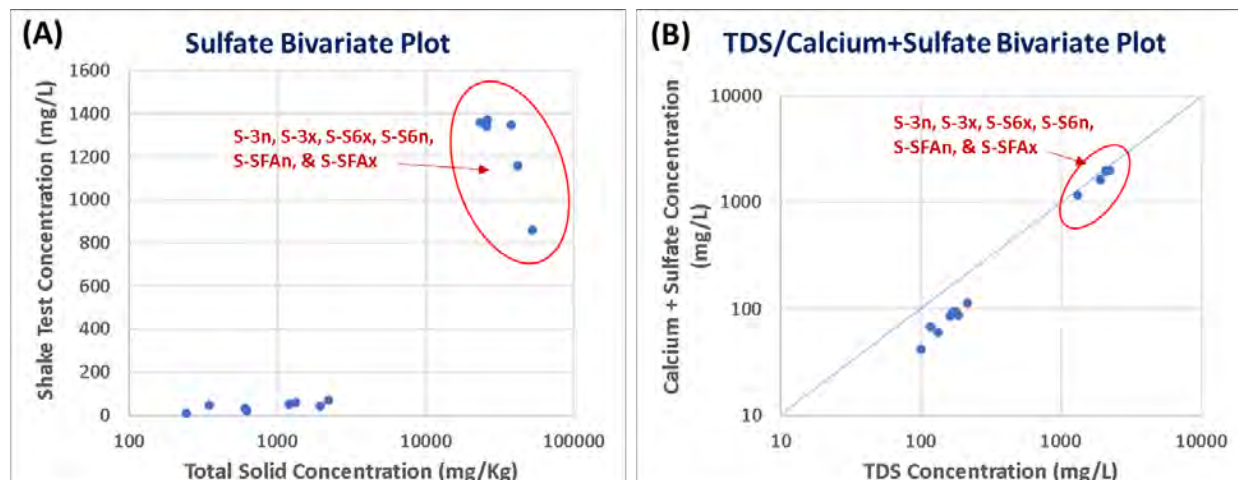


Figure 6: Bivariate plots for (A) total solid concentrations and shake test concentrations of sulfate and (B) TDS shake test concentrations and the sums of sulfate and calcium shake test concentrations.

CONSISTENCY WITH GROUNDWATER MONITORING DATA

The results presented above indicate that sediments in Ponds 3A and 4 would not be expected to adversely impact groundwater. Further, any potential effects of the sediments in Pond 3, Pond S-6, and the South Fly Ash Pond on groundwater quality should be limited to elevated sulfate and TDS concentrations. Water in Pond sediments that contain sulfate and TDS is expected to mix with or be diluted by Pond water when it travels outside the Pond and by ambient groundwater. Therefore, the sulfate concentrations measured in the Site monitoring wells are expected to be considerably lower than the sulfate concentrations observed through the shake tests. This hypothesis was tested by comparing the Pond sediment shake test data to data from Site groundwater monitoring wells.

The shake test results of Pond 3, Pond S-6, and the South Fly Ash Pond sediment samples show sulfate and TDS levels higher than the standards for Class I Potable Resource Groundwater. Water impacted by the Pond sediments that contain high sulfate and TDS concentrations are expected to mix with or be diluted by Pond water when it travels outside a Pond and by ambient groundwater. Therefore, Site groundwater monitoring data were assessed to further evaluate the potential impacts of these Pond sediments on groundwater quality. Sulfate has been monitored by Site monitoring wells C1, C2, C3, S1, S2, S3, S4, S5, and S6 for more than 10 years. The historical sulfate concentration data and boring logs of these wells are provided in Attachment F. The locations of these wells are shown in Figure 1.

The boxplot method was used to characterize the variations of sulfate concentrations in groundwater observed at these monitoring wells. The comparison of the concentration magnitude among different monitoring wells for sulfate concentration data were made using the box plots produced by the ProUCL software.¹¹ Figure 7 provides an example boxplot to show definitions of various components of a box

¹¹ USEPA. 2013. Statistical Software ProUCL 5.0.00 for Environmental Applications for Data Sets with and without Nondetect Observations. U.S. Environmental Protection Agency. Software: <http://www2.epa.gov/land-research/proucl-software>, and User's Guide:

SIPC

1 September 2021

Page 22

plot. The location of the upper whisker fence line is the lesser of 1.5 times the interquartile range (IQR) above the 75 percentile or the maximum value; the location of the lower whisker fence line is the greater of 1.5 times the IQR below the 25 percentile or the minimum value.

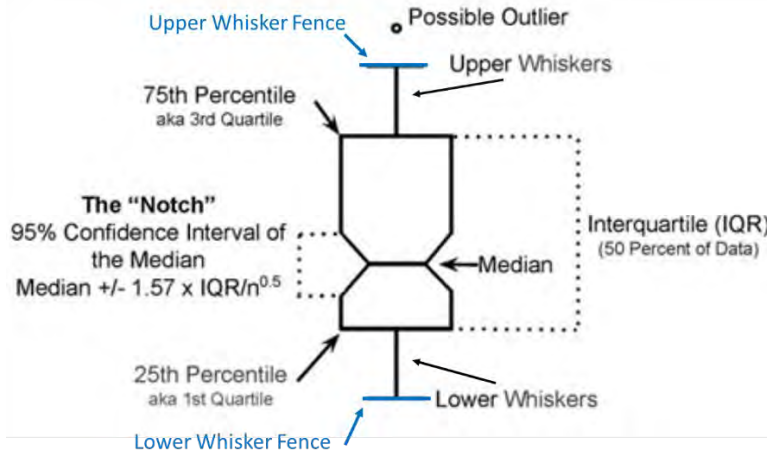


Figure 7: Definitions of various components of a box plot.

The historical sulfate concentrations observed at the Site monitoring wells are shown in Figure 8 below. Note that the boxplot for each well has at least 45 data points and covers the timeframe between March 2001 and December 2020. All data points are below the Part 620 Class I groundwater standard for sulfate except for five data points; these five data points are also identified as outliers for their respective wells, indicating that these data points are likely anomalies in each data set. As shown on Figure 8, the dates of the outlier data also support their identification as outliers, and do not represent a trend in the data.

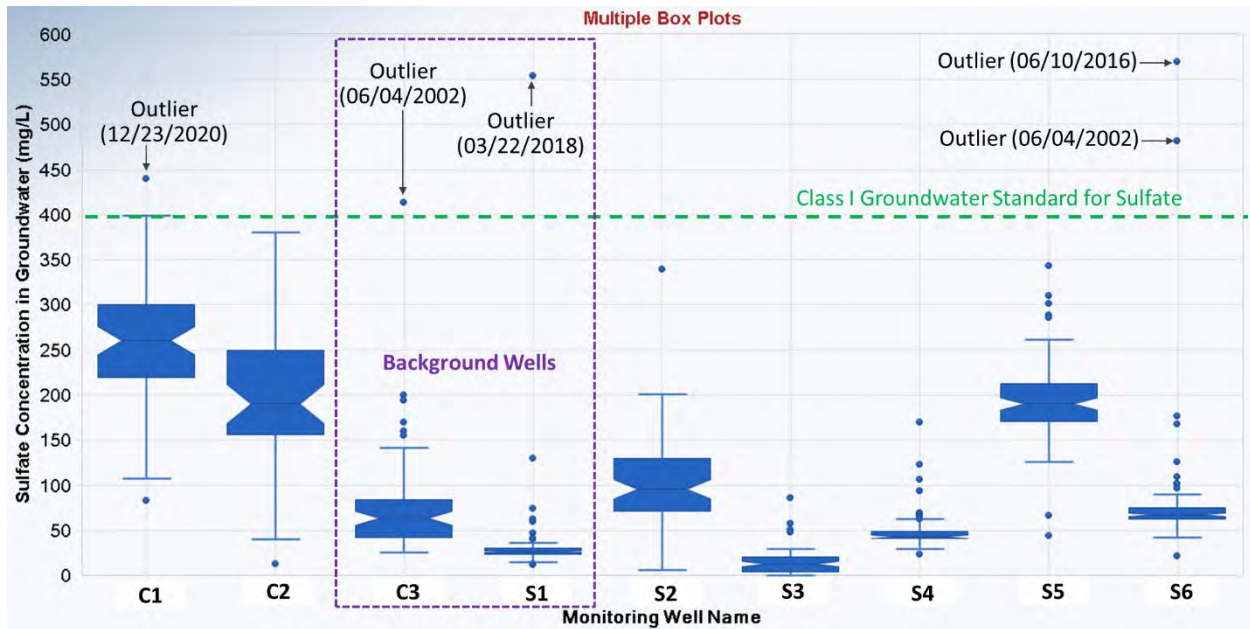


Figure 8: Sulfate concentrations in groundwater observed at Site monitoring wells from March 2001 to December 2020.

The Site groundwater data are consistent with the expectation that water in Pond sediments will be diluted by Pond water and ambient groundwater, thereby resulting in a sulfate concentration significantly lower than the sulfate concentrations (ranging approximately from 860 mg/L to 1370 mg/L) observed in the shake tests. Note that the median concentrations of sulfate in groundwater for the monitoring wells are well below the Class I groundwater standard for sulfate; the range of the sulfate concentrations observed in groundwater monitoring wells, without including the outliers, are between 0.5 mg/L and 398 mg/L.

The sulfate concentrations obtained from the shake test results for a specific Pond can be compared with the sulfate concentrations observed at monitoring wells either within the vicinity or potentially downgradient of that Pond. This comparison is summarized in Table 12 below. The results of the comparison show that, for Pond S-6 and the South Fly Ash Pond, the high-end concentration values observed in the shake tests are approximately 3.5 to 4 times higher than the high-end sulfate concentrations in groundwater. The results support the hypothesis that water in Pond sediments that contain sulfate and TDS is expected to mix with or be diluted by Pond water when it travels outside the Pond and mixes with ambient groundwater. Note that the Pond 4 sediment shake test concentrations of all constituents are below Class I groundwater standards (Tables 4 and 9), which is consistent with the low concentrations of sulfate in the near-by well S6 (Figure 9).

Table 12: Differences in sulfate concentrations obtained from the shake tests and groundwater monitoring.

Pond	Shake Test Sulfate Concentrations (mg/L)	Groundwater Monitoring Well	Sulfate Concentrations in Groundwater (mg/L)
Pond 4	11 – 49	S6	21 – 177
Pond 3A	42 – 50	S3 or S4	0.5 – 86 or 23 – 170
Pond 3	861 – 1360		
Pond S-6	1350 – 1370	S2 or S3	7.3 – 340 or 0.5 – 86
South Fly Ash Pond	59 – 1340	C1 and C2	83 – 398
Background Groundwater	NA	C3 and S1	12 - 200

Note: The range of sulfate concentrations in groundwater excludes outliers.

The former Emery Pond is being regulated as a CCR impoundment under the federal CCR Rule and under Illinois regulations. Currently a new structure, designated as the Storm Water Basin (Figure 1), is located within the footprint of the former Emery Pond, from which CCR was recently removed as part of its closure. It should be noted that the groundwater monitoring data collected near the former Emery Pond frequently have shown observed sulfate and TDS concentrations higher than the Part 620 Class I groundwater standards.^{12, 13} The frequent high sulfate and TDS concentrations observed in groundwater in the vicinity of the former Emery Pond likely results from the historical usage of the pond to intermittently manage precipitator, air heater, boiler, and scrubber CCR material. If the Ponds evaluated in this memorandum (South Fly Ash Pond, Pond 3 (including Pond 3A), Pond 4, and Pond S-6) were also used to manage Site CCR materials, the impacts on groundwater quality near these Ponds would be expected to be similar to the groundwater quality observed near the former Emery Pond. Because they are not, specifically, the sulfate concentrations in the monitoring wells in the vicinity of these Ponds are well below the Part 620 Class I standards, this is further evidence that these Ponds did not generally receive direct discharges of any significant quantity of CCR and have not been used to treat, store and/or dispose of CCR materials.

In summary, the groundwater monitoring results indicate that the sulfate concentrations observed in the shake test results for Pond 3, Pond S-6, and the South Fly Ash Pond do not translate to concentrations of sulfate and TDS in groundwater above Part 620 Class I standards.

¹² Hanson Professional Services, Inc., 2019. Marion Power Plant – Emery Pond, 2019 Annual Groundwater Monitoring and Corrective Action Report.

¹³ Hanson Professional Services, Inc., 2020. Marion Power Plant – Emery Pond, 2020 Annual Groundwater Monitoring and Corrective Action Report.

Conclusions

The evaluation results are summarized in the table below.

Pond Name	Amount of CCR Materials Determination	Impacts of Pond sediments on sediment water	Sulfate impacts on groundwater quality at nearby or potentially downgradient well
Pond 4	<ul style="list-style-type: none"> • Shallow Pond sediment thicknesses based on bathymetric survey • The PLM results show a high fraction of non-CCR materials 	Meet all Part 620 Class I groundwater standards	Sulfate concentrations at Well S6 meet the Part 620 Class I groundwater standard except two outliers
Pond 3A			Sulfate concentrations at Wells S3 and S4 meet the Part 620 Class I groundwater standard
Pond 3		Sulfate and TDS shake test concentrations higher than the Class I groundwater standards for all Pond 3 and Pond S-6 samples and 50% of the South Fly Ash Pond samples; however, meet all other groundwater standards with only two anomalous exceptions	Sulfate concentrations at Wells S2 and S3 meet the part 620 Class I groundwater standard
Pond S-6			Sulfate concentrations at Wells C1 and C2 meet the Part 620 Class I groundwater standards except one outlier
South Fly Ash Pond			Sulfate concentrations at Well S6 meet the Part 620 Class I groundwater standard except two outliers
B-3	Not applicable	Meets all Class I groundwater standards except two anomalous exceptions	Sulfate concentrations at Well S6 meet the Part 620 Class I groundwater standard except two outliers

The results of the bathymetric survey and PLM analyses indicate that the amounts of CCR materials in Pond 3 (including Pond 3A), Pond 4, Pond S-6, and the South Fly Ash Pond are much smaller than what would be expected from a CCR surface impoundment that is designed to hold an accumulation of CCR and water and that is used to treat, store and/or dispose of CCR materials. Pond sediments in Pond 3A, Pond 4 (and in the area of former Pond B-3) have little potential for various CCR constituents in sediment solids to impact ambient groundwater and, thus, any CCR materials in these two Ponds are not expected to affect groundwater quality. Several Pond sediment samples from Pond 3, Pond S-6, and the South Fly Ash Pond show a potential to release sulfate and TDS when in contact with water. Although the potential influence of CCR particles from these Pond sediments could affect water in contact with

SIPC

1 September 2021

Page 26

these sediments, the long-term groundwater monitoring data show that historical sulfate concentrations in groundwater have been consistently below the Part 620 Class I groundwater standard. Therefore, the potential presence of CCR in the Pond sediments has not had an adverse impact on groundwater, which is consistent with the relatively small amounts of CCR detected in the Ponds.

Attachments:

Attachment A – Bathymetry Survey Results

Attachment B – Laboratory Reports for Carbon/Hydrogen/Nitrogen Analysis

Attachment C – Analytical Results for Pond Sediment Samples, Berm Samples, and Control Samples, Berm Boring Logs, and Photographs associated with Berm Investigation

Attachment D – Laboratory Results of Polarized Light Microscopy

Attachment E – Analytical Results for Pond B-3 Sediments Collected in 2017

Attachment F – Long-Term Sulfate Concentration Data for Site Monitoring Wells, Boring Logs of Site Monitoring Wells, and Analytical Reports for Site Monitoring Wells for the Period between 2010 and 2020

CH2:25125063.1

Attachment A

Bathymetry Survey Results



Date: 22 July 2021

To: Jacob Chu and Dave Hagen, Haley & Aldrich, Inc.

From: Rhonald Hasenyager, P.G., R.G.

Subject: SIPC Bathymetric Survey Results

A bathymetric survey was performed by Prairie Engineers, P.C. on five of the Marion Power Plant (Site) ponds on March 9, 10, 11, 24, and 25, 2021 to determine the sediment thickness on each of the following pond bottoms: Pond 3, Pond 3A, Pond 4, Pond S-6, and the South Fly Ash Pond (see the attached Location Map). The bathymetric survey results do not identify the contents of the pond material. The surveys were performed using an Odom CV-200 dual frequency single-beam echosounder mounted to a small boat. The elevation and locations of the low and high frequency bathymetric survey points were referenced to three control points located at the Site.

Hanson has taken the processed survey data and generated three sets of maps depicting the findings of the bathymetry using Golden Software's Surfer (version 20.2.218). The map sets were generated for Pond 3, Pond 3A, Pond 4, Pond S-6, and the South Fly Ash Pond and include:

1. Pond Sediment Surface – created from the high frequency sonar data. The high frequency sounds reflect off the top of the sediment layer within the pond without penetrating the sediments like the low frequency sonar.
2. Pond Bottom Surface – created from the low frequency sonar data. The low frequency sounds can penetrate the sediments found on the bottom of the ponds and then reflect off the firmer earthen materials beneath those sediments. This lower surface is presumed to be the bottom of the pond.
3. Sediment Thickness – created by subtracting the low frequency surface elevations from the high frequency surface elevations. This produces a thickness isopleth map showing where sediments are thicker or thinner on the bottom of the pond. Hanson has used a rainbow fill pattern for the contours, so the thinner sediments are represented as purple, and the thicker sediments range from blue, to green, to yellow, to orange with increasing thickness.

Accompanying the thickness isopleth maps, Hanson has included a set of univariate grid statistics for each pond's sediment thickness (Z values). Note that a couple of the thickness maps have negative thicknesses. These negative thicknesses are likely caused by extrapolation of the sonar data into map regions where there are data gaps due to physical constraints on where the survey boat was able to travel within each pond (i.e., the contouring method used by Surfer can extrapolate the surface outside the areas where there are sonar data. That contour trend is based on the trend identified with the existing sonar data). These negative values cannot be processed for some of the statistical calculations (e.g., geometric mean).

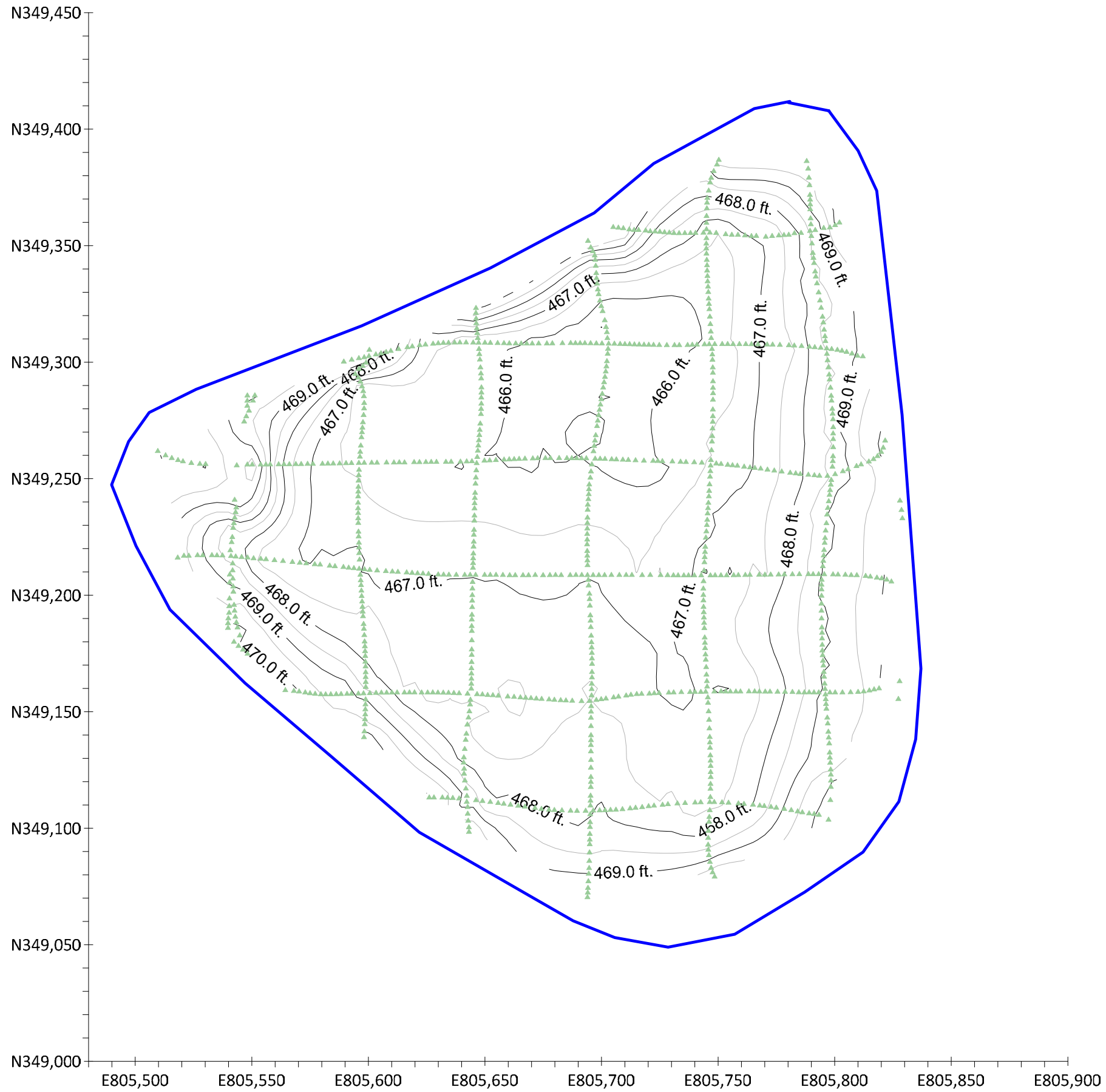


Additionally, for the reasons discussed below, both Pond 4 and the South Fly Ash Pond had their water levels lowered just before the surveys were performed. The Pond 4 water level was lowered to assist with SIPC's closure of the adjacent Pond 1 and Pond 2. The South Fly Ash Pond water levels had dropped because the Storm Water Basin construction (in the area of the former Emery Pond) caused the diversion of all the storm water typically pumped to the South Fly Ash Pond. As a result of these low water levels, the survey boat was unable to reach what would normally be the edge of the ponds. Maps for Pond 3, Pond 3A, and Pond S-6 were constrained to the areas where there were both low and high frequency data. Hanson did extrapolate elevations/thicknesses where there were data gaps (using the Surfer software) on portions of Pond 4 and South Fly Ash Pond maps.

Pond volumes were estimated using the low frequency elevations (pond bottom) and representative water elevations from Google Earth (satellite imagery dated February 2020). The pond elevations taken from Google Earth were used because pond water levels at the time of the survey were generally lower than historical levels, especially Pond 4 and South Fly Ash Ponds. Using the Google Earth pond elevations allowed Hanson to more closely match the historical pond volumes that will likely return once pond operations return to normal.

The following table lists the sediment volume, pond volume, mean sediment thickness, and the sediment volume as a percentage of total pond volume for each pond surveyed.

Pond	Sediment Volume (ft.³)	Pond Volume (ft.³)	Mean Sed. Thickness (ft.)	Sed. as % Pond Volume
Pond 3	83,987.99	936,162.11	1.38	9.0%
Pond 3A	95,666.48	717,739.28	1.45	13.3%
Pond 4	91,076.96	1,370,058.58	1.67	10.9%
Pond S-6	103,452.90	1,264,398.31	0.84	8.2%
South Fly Ash Pond	563,054.99	2,944,552.50	1.57	21.8%



Explanation

- ▲ High frequency data point
- ▲ Low frequency data point
- Perimeter of pond

Elevation (contour) lines are generated from the high frequency sonar data.

SCALE: 1 inch = 50 feet
CONTOUR INTERVAL = 0.5 ft.

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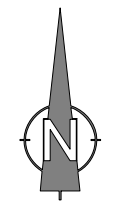
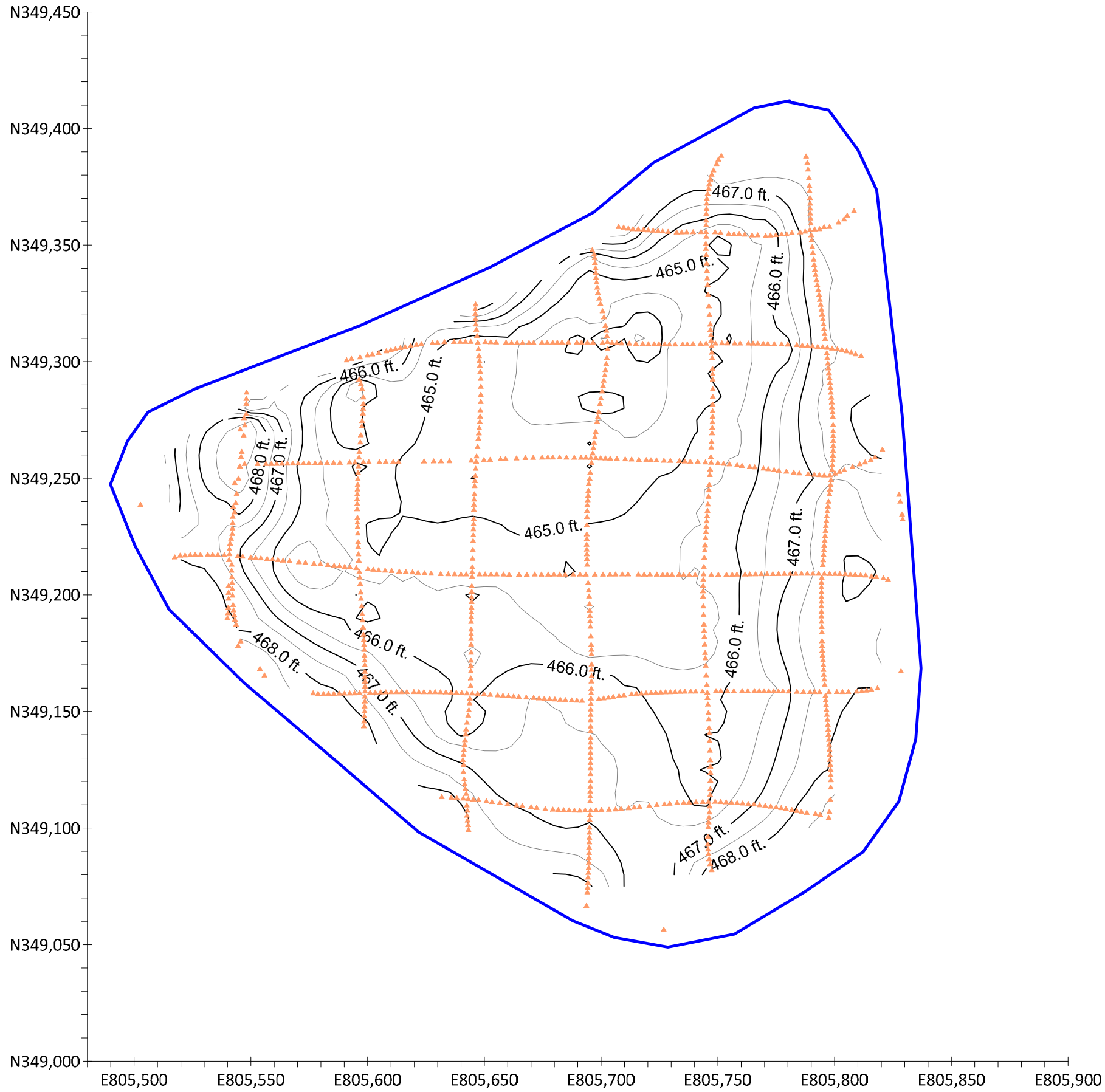


Pond 3A Sediment Surface Map

**POND BATHYMETRY
MARION POWER PLANT
MARION, WILLIAMSON CO., ILLINOIS**

20E0016B

FIGURE 1




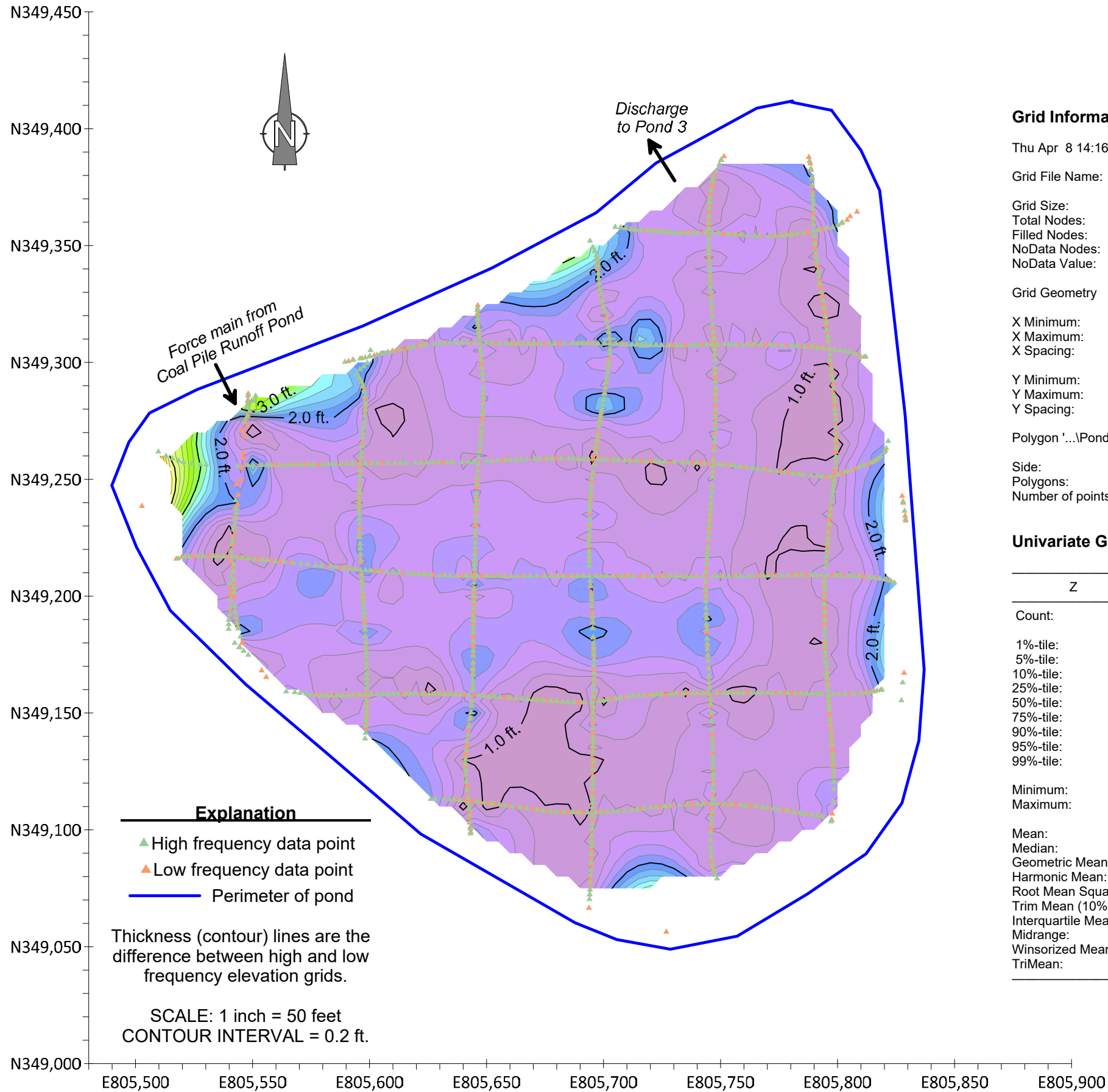
- Explanation**
- ▲ High frequency data point
 - ▲ Low frequency data point
 - Perimeter of pond

Elevation (contour) lines are generated from the low frequency sonar data.

SCALE: 1 inch = 50 feet
 CONTOUR INTERVAL = 0.5 ft.

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	Pond 3A Bottom Surface Map	
	POND BATHYMETRY MARION POWER PLANT MARION, WILLIAMSON CO., ILLINOIS	
	20E0016B	FIGURE 2



Explanation

- ▲ High frequency data point
- ▲ Low frequency data point
- Perimeter of pond

Thickness (contour) lines are the difference between high and low frequency elevation grids.

SCALE: 1 inch = 50 feet
 CONTOUR INTERVAL = 0.2 ft.

Grid Information

Thu Apr 8 14:16:00 2021

Grid File Name: I:\20jobs\20E0016B\Admin\15-Field-Laboratory Data\ Bathymetry\Pond 3A difference MC.grd

Grid Size: 81 rows x 81 columns
 Total Nodes: 6561
 Filled Nodes: 2647
 NoData Nodes: 0
 NoData Value: 1.70141E+38

Grid Geometry

X Minimum: 805500
 X Maximum: 805900
 X Spacing: 5

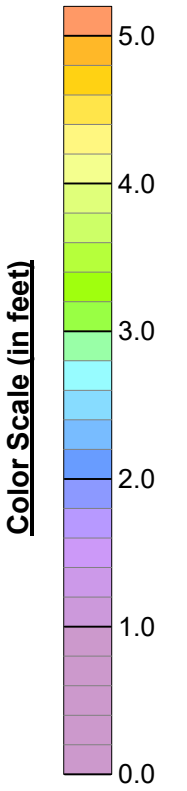
Y Minimum: 349000
 Y Maximum: 349400
 Y Spacing: 5

Polygon '...\Pond 3A surve...' used for statistics

Side: Inside
 Polygons: 1
 Number of points: 25

Univariate Grid Statistics

Z			
Count:	2647	Variance:	0.154512916614
1%-tile:	0.898872630727	Standard Deviation:	0.393081310436
5%-tile:	0.990231995873	Interquartile Range:	0.395305705841
10%-tile:	1.06533339522	Range:	4.10758892663
25%-tile:	1.2057574423	Mean Difference:	0.38827825798
50%-tile:	1.36719869035	Median Abs. Deviation:	0.187784843864
75%-tile:	1.60106314814	Average Abs. Deviation:	0.264963593058
90%-tile:	1.84691906934	Quartile Dispersion:	0.140837539523
95%-tile:	2.1124854465	Relative Mean Diff.:	0.268582213553
99%-tile:	2.96287023292	Standard Error:	0.00764021226476
Minimum:	0.819056698582	Coef. of Variation:	0.271904610401
Maximum:	4.92664562521	Skewness:	2.34883671324
		Kurtosis:	13.3028021887
Mean:	1.44565886491	Sum:	3826.65901541
Median:	1.36719869035	Sum Absolute:	3826.65901541
Geometric Mean:	1.40300733351	Sum Squares:	5940.88470596
Harmonic Mean:	1.36688923621	Mean Square:	2.24438409745
Root Mean Square:	1.49812686294		
Trim Mean (10%):	1.40759230273		
Interquartile Mean:	1.38018656012		
Midrange:	2.8728511619		
Winsorized Mean:	1.40858332637		
TriMean:	1.38530449279		



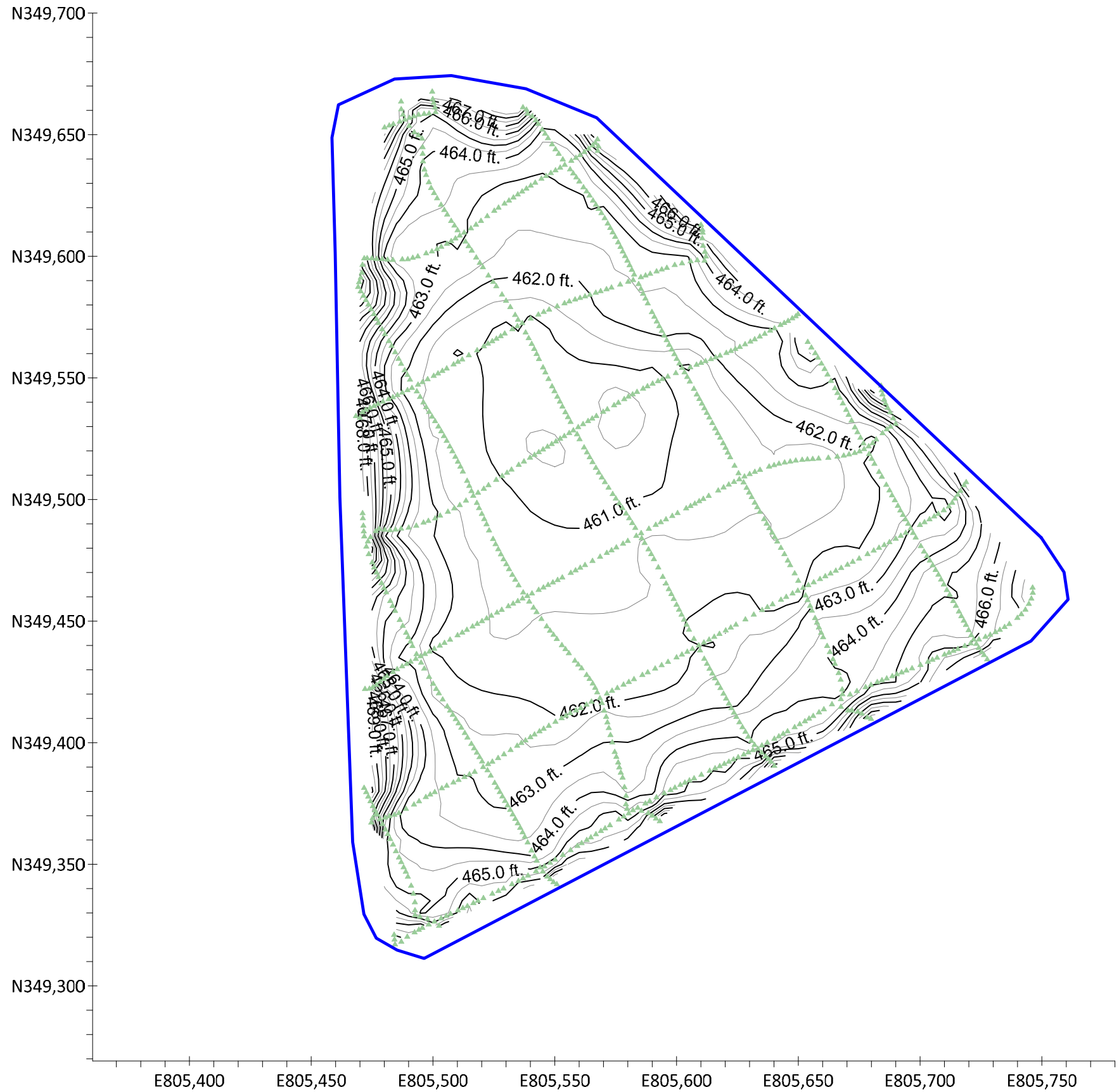
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Pond 3A Sediment Thickness Map

POND BATHYMETRY
 MARION POWER PLANT
 MARION, WILLIAMSON CO., ILLINOIS

20E0016B FIGURE 3




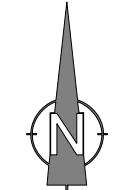
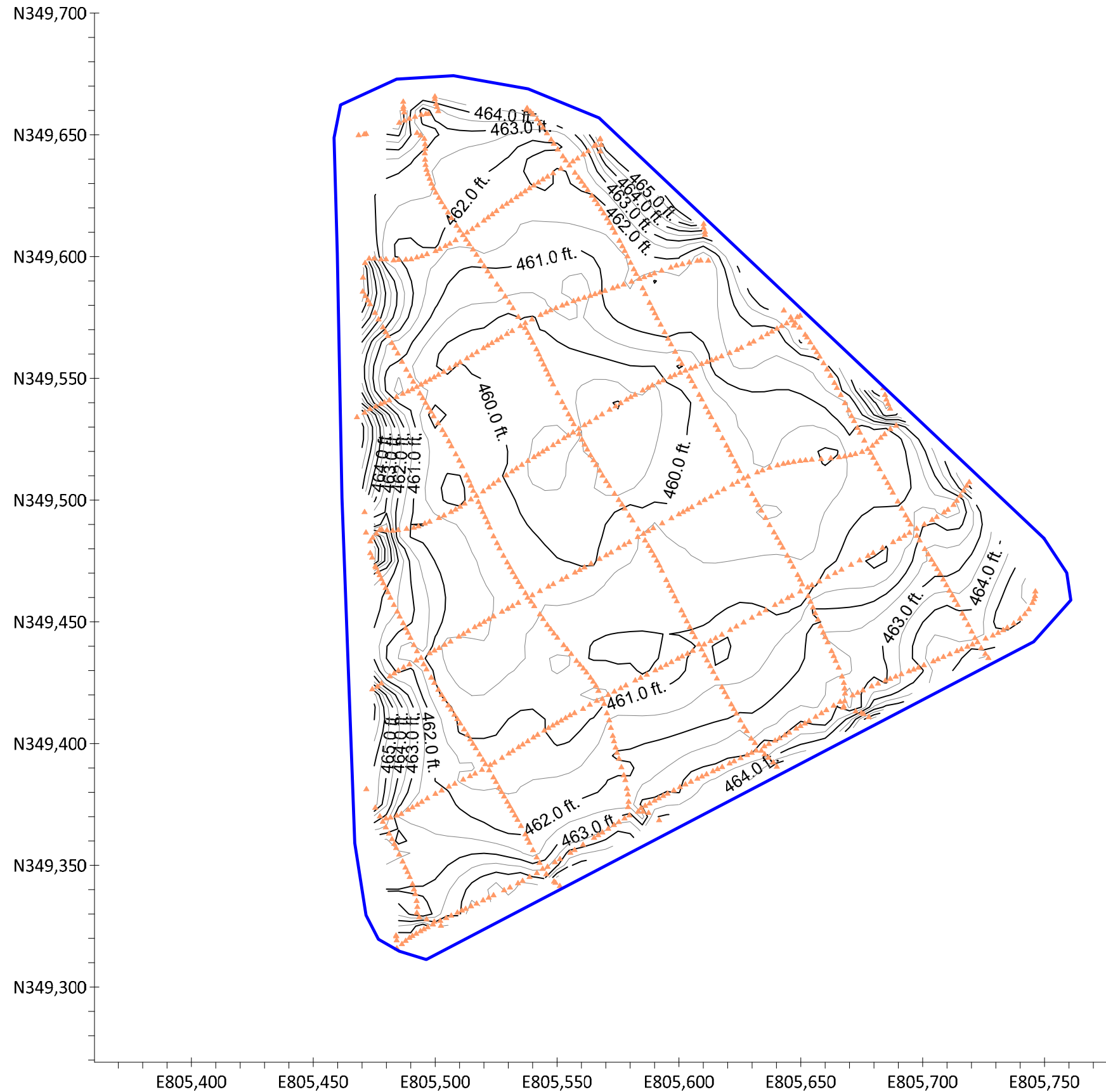
- Explanation**
- ▲ High frequency data point
 - ▲ Low frequency data point
 - Perimeter of pond

Elevation (contour) lines are generated from the high frequency sonar data.

SCALE: 1 inch = 50 feet
 CONTOUR INTERVAL = 0.5 ft.

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 Hanson Professional Services Inc.	Pond 3 Sediment Surface Map
	POND BATHYMETRY MARION POWER PLANT MARION, WILLIAMSON CO., ILLINOIS
	20E0016B FIGURE 4



- Explanation**
- ▲ High frequency data point
 - ▲ Low frequency data point
 - Perimeter of pond

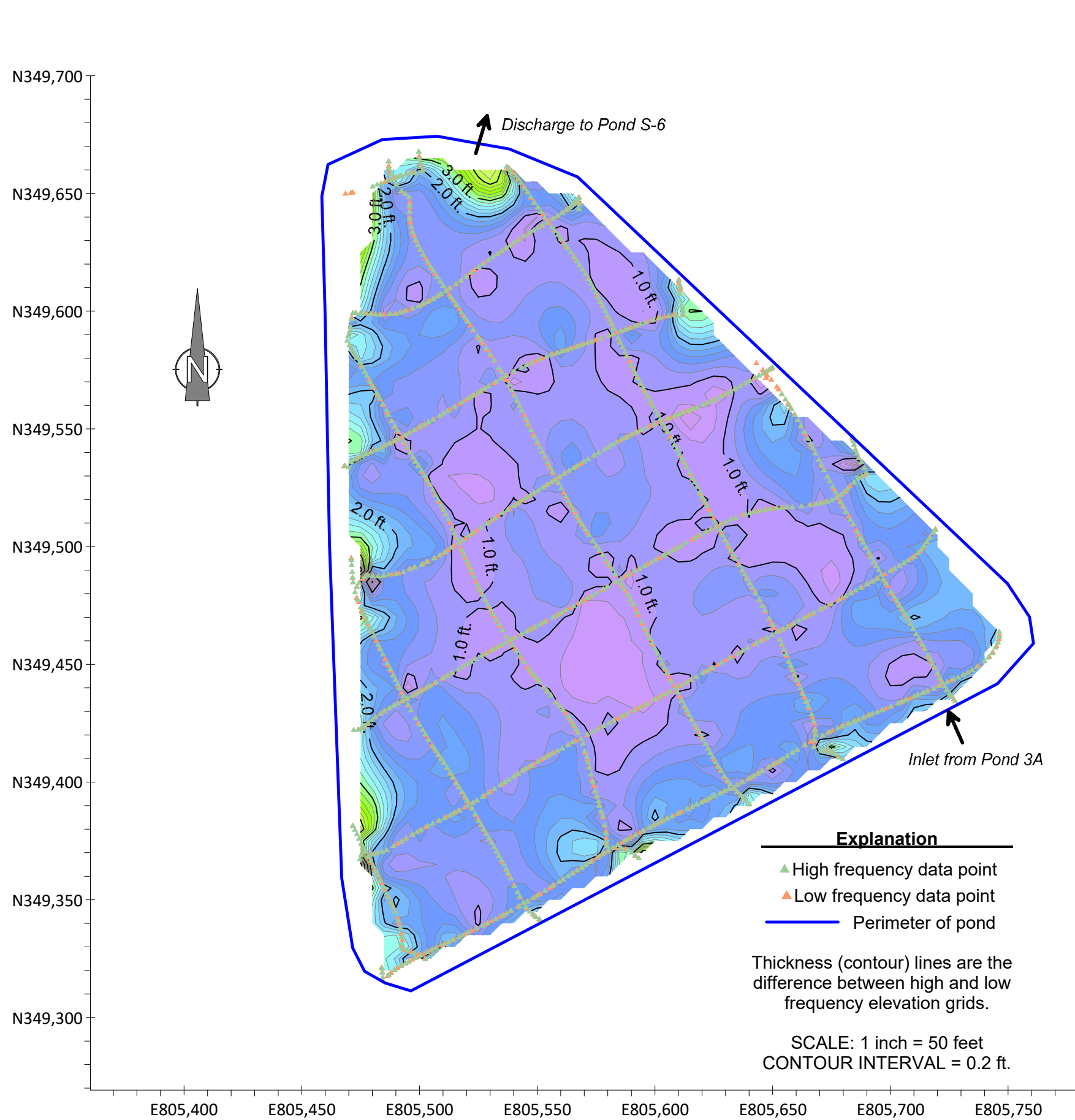
Elevation (contour) lines are generated from the low frequency sonar data.

SCALE: 1 inch = 50 feet
CONTOUR INTERVAL = 0.5 ft.

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Pond 3 Bottom Surface Map	
POND BATHYMETRY MARION POWER PLANT MARION, WILLIAMSON CO., ILLINOIS	
20E0016B	FIGURE 4



Grid Information

Thu Apr 8 14:09:04 2021

Grid File Name: I:\20jobs\20E0016B\Admin\15-Field-Laboratory Data\ Bathymetry\Pond 3 difference MC.grd
 Grid Size: 81 rows x 81 columns
 Total Nodes: 6561
 Filled Nodes: 2436
 NoData Nodes: 0
 NoData Value: 1.70141E+38

Grid Geometry

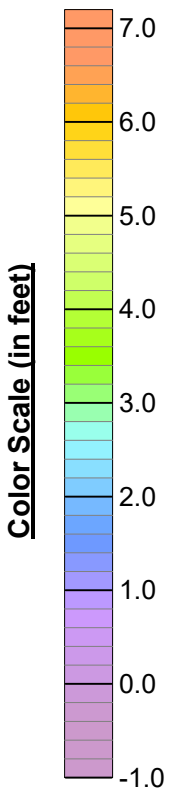
X Minimum: 805400
 X Maximum: 805800
 X Spacing: 5
 Y Minimum: 349300
 Y Maximum: 349700
 Y Spacing: 5

Polygon '...\Pond 3 surve...' used for statistics

Side: Inside
 Polygons: 1
 Number of points: 26

Univariate Grid Statistics

Z			
Count:	2436	Variance:	0.272925134428
1%-tile:	0.691026153377	Standard Deviation:	0.522422371677
5%-tile:	0.83273570508	Interquartile Range:	0.49809887302
10%-tile:	0.909626229625	Range:	6.334401524
25%-tile:	1.05548142232	Mean Difference:	0.511469167688
50%-tile:	1.25765958194	Median Abs. Deviation:	0.232801472429
75%-tile:	1.55358029534	Average Abs. Deviation:	0.344370653327
90%-tile:	1.94227795826	Quartile Dispersion:	-nan(ind)
95%-tile:	2.41442623866	Relative Mean Diff.:	-nan(ind)
99%-tile:	3.32126560232	Standard Error:	0.0105848114071
Minimum:	-0.0402553682603	Coef. of Variation:	-nan(ind)
Maximum:	6.29414615574	Skewness:	2.30072085234
		Kurtosis:	12.2177530104
Mean:	1.3791132033	Sum:	3359.51976324
Median:	1.25797911567	Sum Absolute:	3359.60027398
Geometric Mean:	-nan(ind)	Sum Squares:	5297.73076458
Harmonic Mean:	-nan(ind)	Mean Square:	2.17476632372
Root Mean Square:	1.47470889457		
Trim Mean (10%):	1.32392587901		
Interquartile Mean:	1.27045583582		
Midrange:	3.12694539374		
Winsorized Mean:	1.32530052781		
TriMean:	1.28109522039		

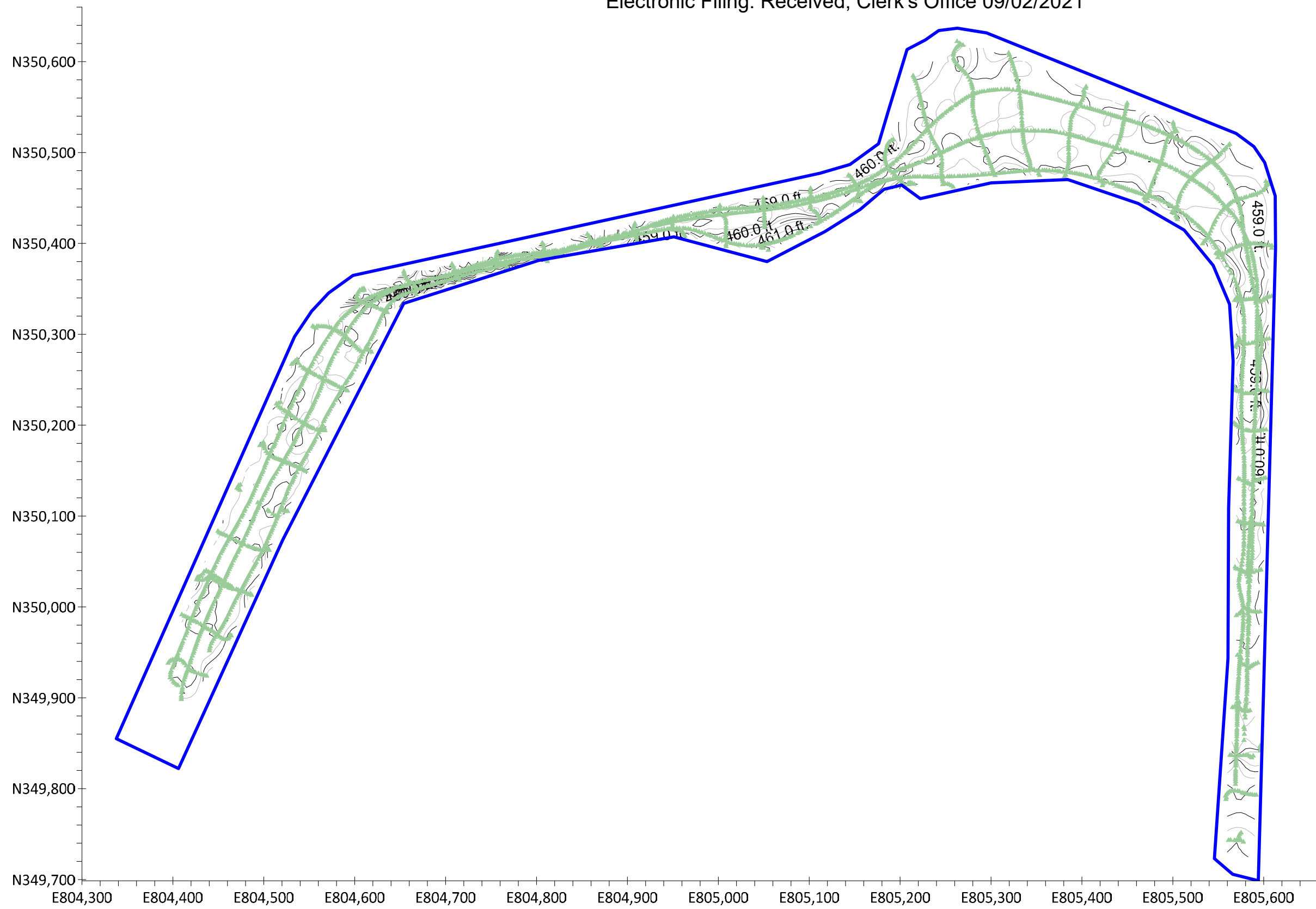


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Pond 3 Sediment Thickness Map

**POND BATHYMETRY
MARION POWER PLANT
MARION, WILLIAMSON CO., ILLINOIS**

20E0016B FIGURE 6



- Explanation**
- ▲ High frequency data point
 - ▲ Low frequency data point
 - Perimeter of pond

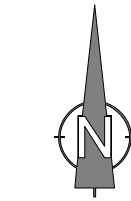
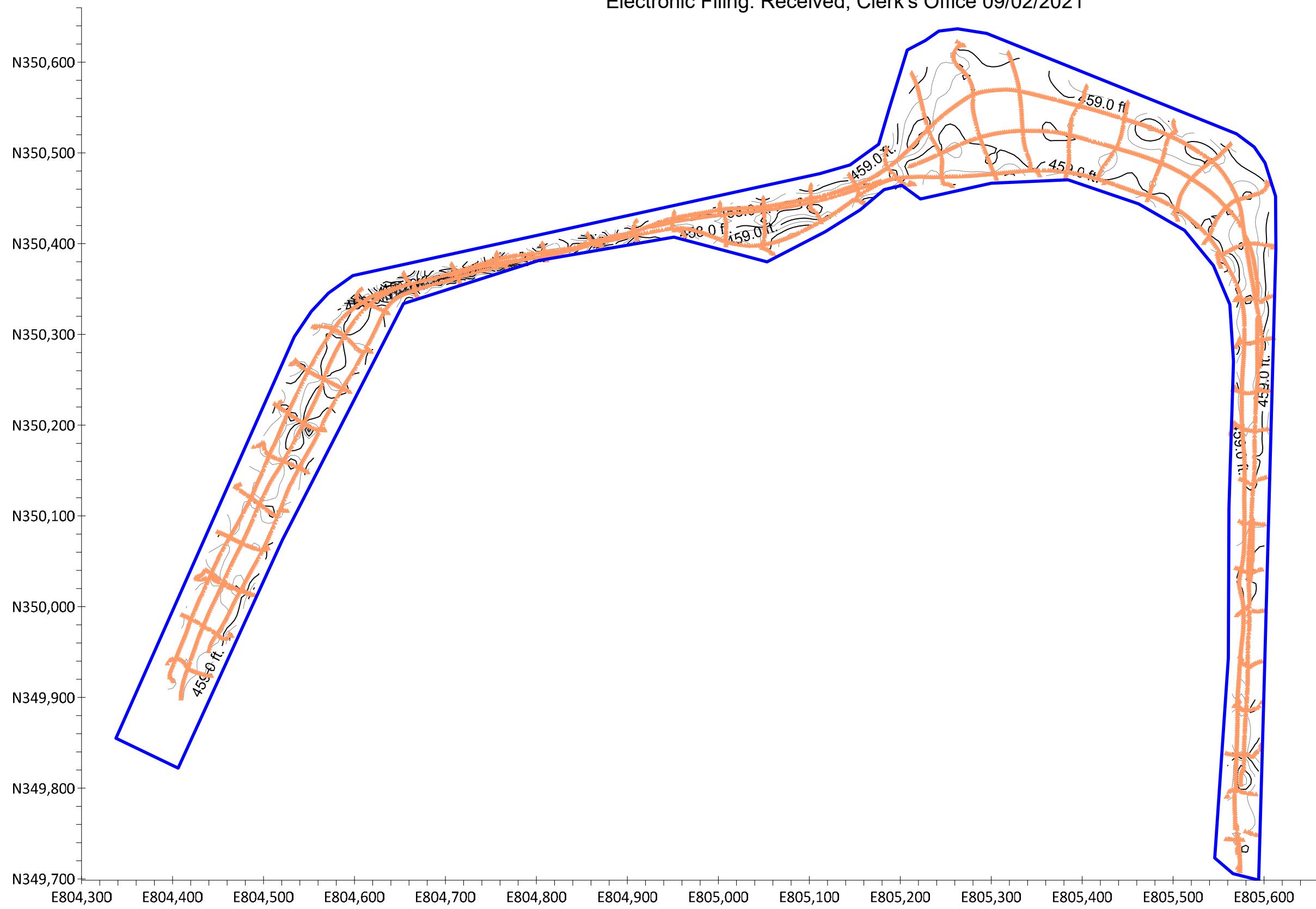
Elevation (contour) lines are generated from the high frequency sonar data.

SCALE: 1 inch = 115 feet
CONTOUR INTERVAL = 0.5 ft.



Pond S-6 Sediment Surface Map

**POND BATHYMETRY
MARION POWER PLANT
MARION, WILLIAMSON CO., ILLINOIS**



Explanation

- ▲ High frequency data point
- ▲ Low frequency data point
- Perimeter of pond

Elevation (contour) lines are generated from the low frequency sonar data.

SCALE: 1 inch = 115 feet
CONTOUR INTERVAL = 0.5 ft.

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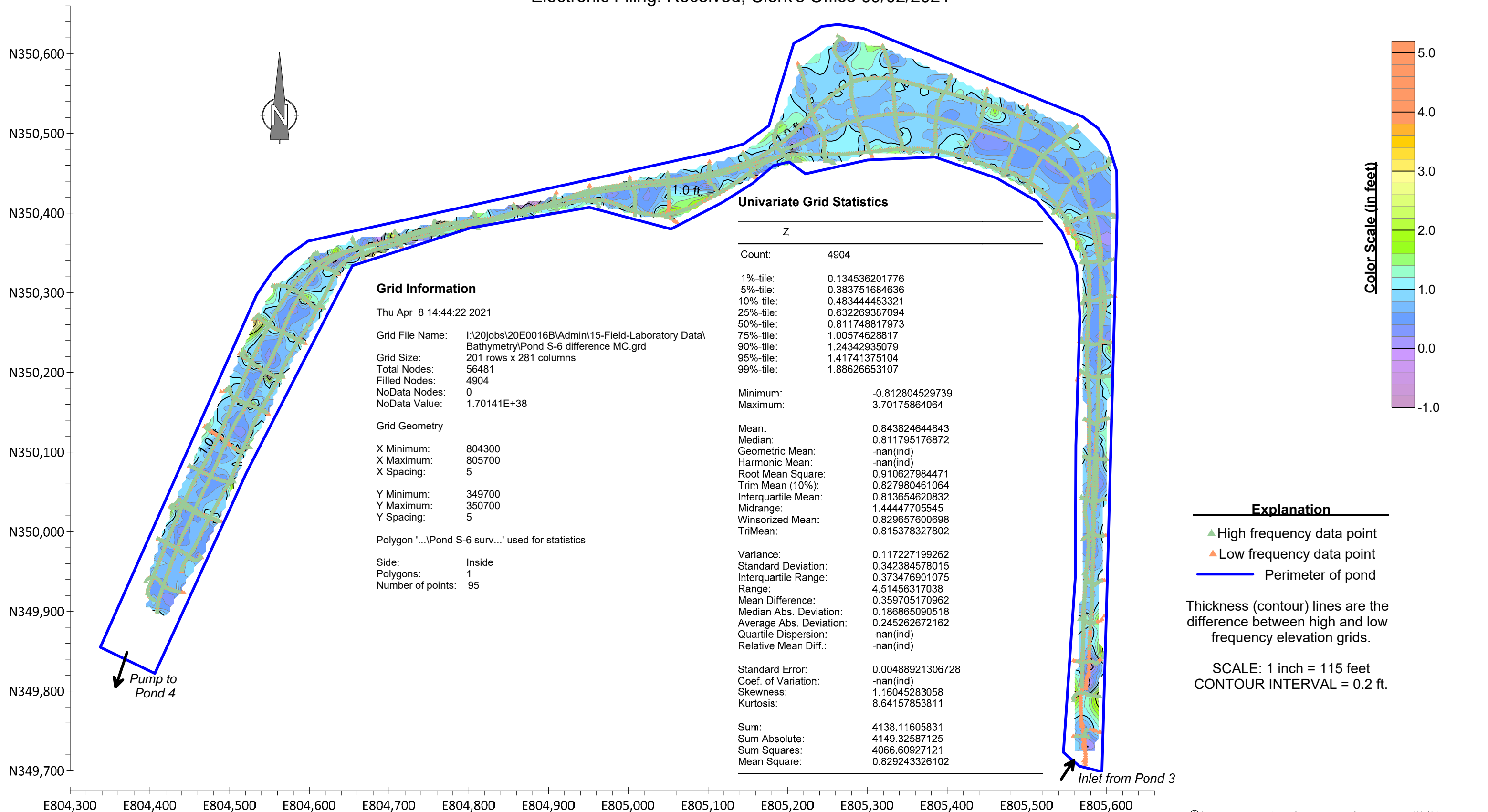


Pond S-6 Bottom Surface Map

POND BATHYMETRY
MARION POWER PLANT
MARION, WILLIAMSON CO., ILLINOIS

20E0016B

FIGURE 8



Grid Information

Thu Apr 8 14:44:22 2021

Grid File Name: I:\20jobs\20E0016B\Admin\15-Field-Laboratory Data\Bathymetry\Pond S-6 difference MC.grd

Grid Size:
 Total Nodes: 56481
 Filled Nodes: 4904
 NoData Nodes: 0
 NoData Value: 1.70141E+38

Grid Geometry

X Minimum: 804300
 X Maximum: 805700
 X Spacing: 5

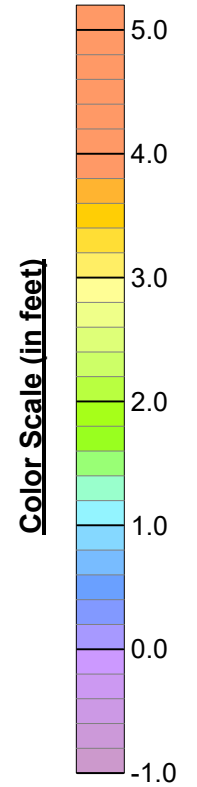
Y Minimum: 349700
 Y Maximum: 350700
 Y Spacing: 5

Polygon '...\Pond S-6 surv...' used for statistics

Side: Inside
 Polygons: 1
 Number of points: 95

Univariate Grid Statistics


Z	
Count:	4904
1%-tile:	0.134536201776
5%-tile:	0.383751684636
10%-tile:	0.483444453321
25%-tile:	0.632269387094
50%-tile:	0.811748817973
75%-tile:	1.00574628817
90%-tile:	1.24342935079
95%-tile:	1.41741375104
99%-tile:	1.88626653107
Minimum:	-0.812804529739
Maximum:	3.70175864064
Mean:	0.843824644843
Median:	0.811795176872
Geometric Mean:	-nan(ind)
Harmonic Mean:	-nan(ind)
Root Mean Square:	0.910627984471
Trim Mean (10%):	0.827980461064
Interquartile Mean:	0.813654620832
Midrange:	1.44447705545
Winsorized Mean:	0.829657600698
TriMean:	0.815378327802
Variance:	0.117227199262
Standard Deviation:	0.342384578015
Interquartile Range:	0.373476901075
Range:	4.51456317038
Mean Difference:	0.359705170962
Median Abs. Deviation:	0.186865090518
Average Abs. Deviation:	0.245262672162
Quartile Dispersion:	-nan(ind)
Relative Mean Diff.:	-nan(ind)
Standard Error:	0.00488921306728
Coef. of Variation:	-nan(ind)
Skewness:	1.16045283058
Kurtosis:	8.64157853811
Sum:	4138.11605831
Sum Absolute:	4149.32587125
Sum Squares:	4066.60927121
Mean Square:	0.829243326102



- Explanation**
- ▲ High frequency data point
 - ▲ Low frequency data point
 - Perimeter of pond

Thickness (contour) lines are the difference between high and low frequency elevation grids.

SCALE: 1 inch = 115 feet
 CONTOUR INTERVAL = 0.2 ft.

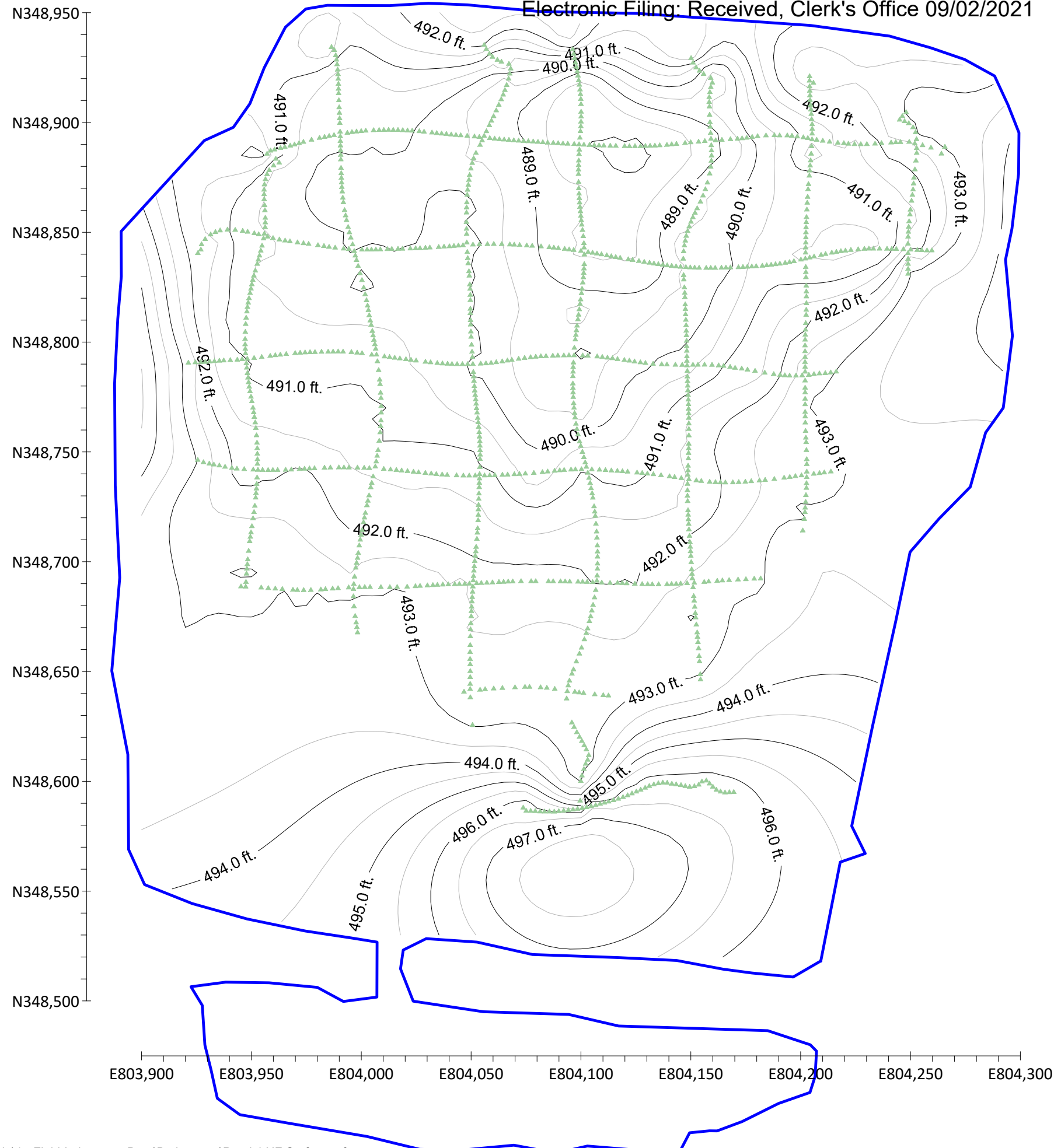


Hanson Professional Services Inc.

Pond 4 Sediment Thickness Map

POND BATHYMETRY
 MARION POWER PLANT
 MARION, WILLIAMSON CO., ILLINOIS

20E0016B FIGURE 9



Explanation

- ▲ High frequency data point
- ▲ Low frequency data point
- Perimeter of pond

Elevation (contour) lines are generated from the high frequency sonar data.

SCALE: 1 inch = 50 feet
CONTOUR INTERVAL = 0.5 ft.

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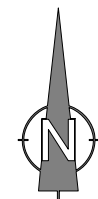
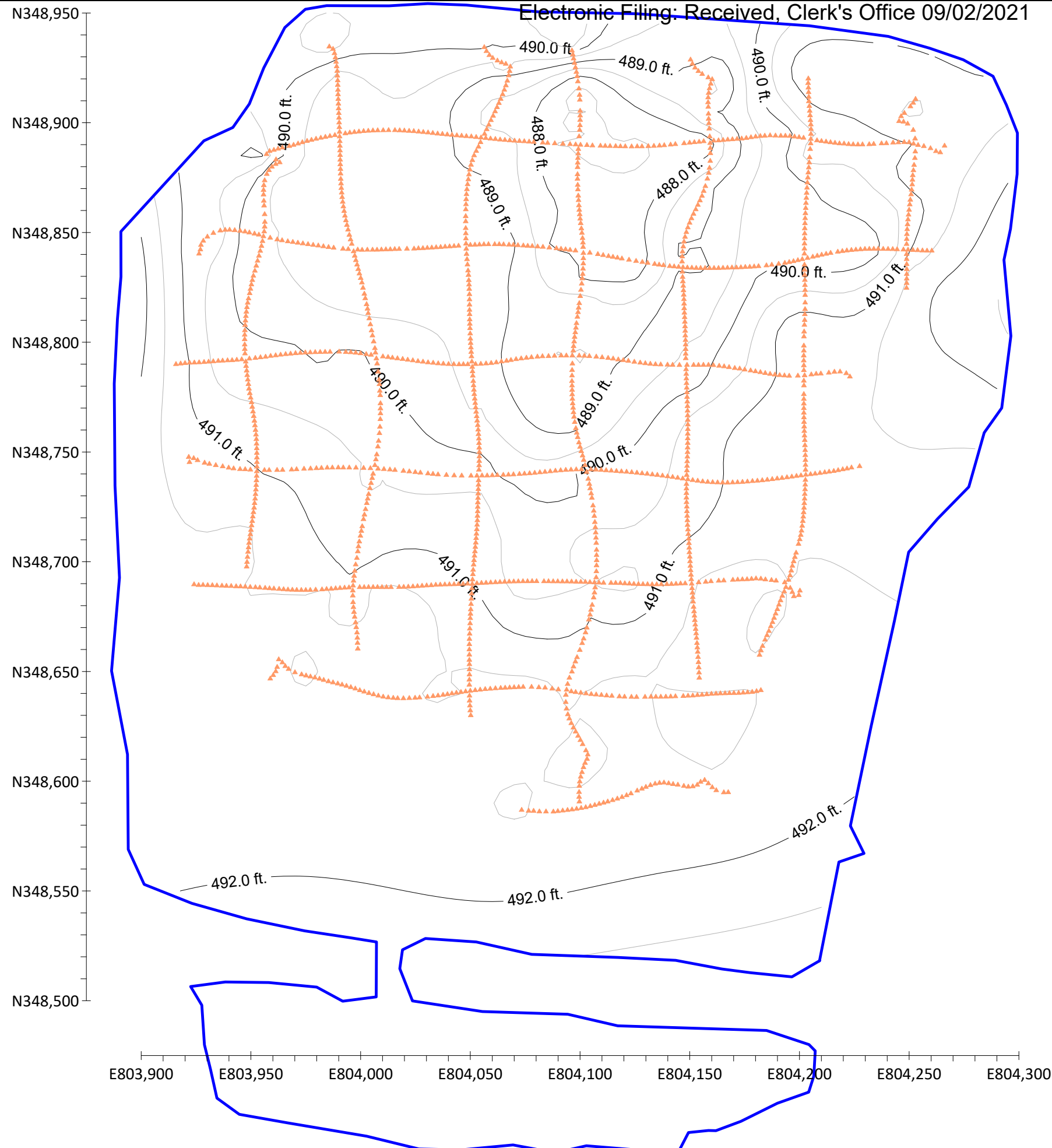
Pond 4 Sediment Surface Map

**POND BATHYMETRY
MARION POWER PLANT
MARION, WILLIAMSON CO., ILLINOIS**



20E0016B

FIGURE 10



Explanation

- ▲ High frequency data point
- ▲ Low frequency data point
- Perimeter of pond

Elevation (contour) lines are generated from the low frequency sonar data.

SCALE: 1 inch = 50 feet
CONTOUR INTERVAL = 0.5 ft.

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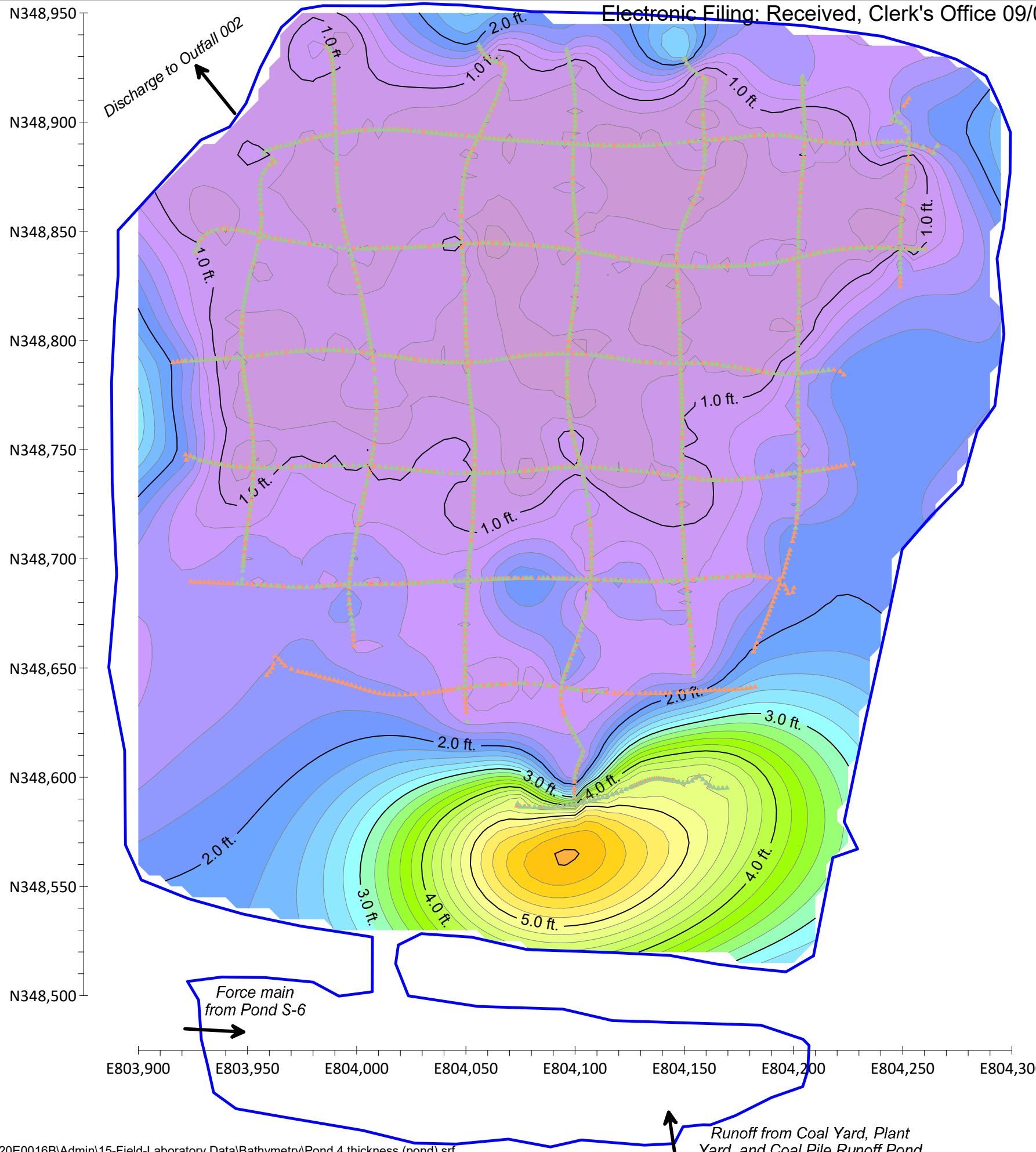
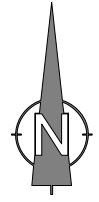
Pond 4 Bottom Surface Map

POND BATHYMETRY
MARION POWER PLANT
MARION, WILLIAMSON CO., ILLINOIS



20E0016B

FIGURE 11



Grid Information

Mon Apr 19 15:43:47 2021

Grid File Name: I:\20jobs\20E0016B\Admin\15-Field-Laboratory Data\ Bathymetry\Pond 4 difference MC pond only.grd

Grid Size: 101 rows x 81 columns
 Total Nodes: 8181
 Filled Nodes: 6021
 NoData Nodes: 0
 NoData Value: 1.70141E+38

Grid Geometry

X Minimum: 803900
 X Maximum: 804300
 X Spacing: 5

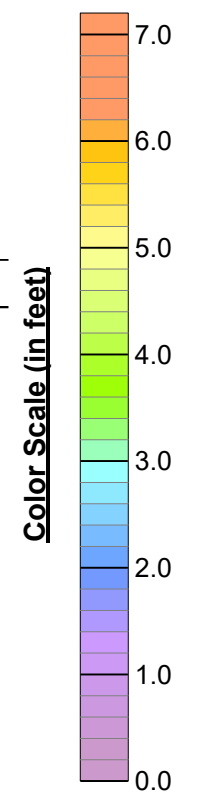
 Y Minimum: 348500
 Y Maximum: 349000
 Y Spacing: 5

Polygon 'I:\20jo...\Pond 4.blm' used for statistics

Side: Inside
 Polygons: 1
 Number of points: 44

Univariate Grid Statistics

Z			
Count:	6021	Variance:	1.34594377214
1%-tile:	0.508396628062	Standard Deviation:	1.16014816818
5%-tile:	0.608501368963	Interquartile Range:	1.07070869594
10%-tile:	0.669493273682	Range:	5.76464314636
25%-tile:	0.835453873322	Mean Difference:	1.15347971674
50%-tile:	1.37646671244	Median Abs. Deviation:	0.538046350285
75%-tile:	1.90616256927	Average Abs. Deviation:	0.782155388329
90%-tile:	3.44122967976	Quartile Dispersion:	0.390539201368
95%-tile:	4.55435339584	Relative Mean Diff.:	0.691154608793
99%-tile:	5.57305295946	Standard Error:	0.0149513065162
Minimum:	0.261418125938	Coef. of Variation:	0.695150284556
Maximum:	6.0260612723	Skewness:	1.72471335675
Mean:	1.6689170586	Kurtosis:	5.56274830556
Median:	1.37646671244	Sum:	10048.5496098
Geometric Mean:	1.37976501643	Sum Absolute:	10048.5496098
Harmonic Mean:	1.17678528654	Sum Squares:	24872.7773663
Root Mean Square:	2.03248723958	Mean Square:	4.13100437905
Trim Mean (10%):	1.53837266364		
Interquartile Mean:	1.35319493634		
Midrange:	3.14373969912		
Winsorized Mean:	1.56450424582		
TriMean:	1.37363746687		



Explanation

- ▲ High frequency data point
- ▲ Low frequency data point
- Perimeter of pond

Thickness (contour) lines are the difference between high and low frequency elevation grids.

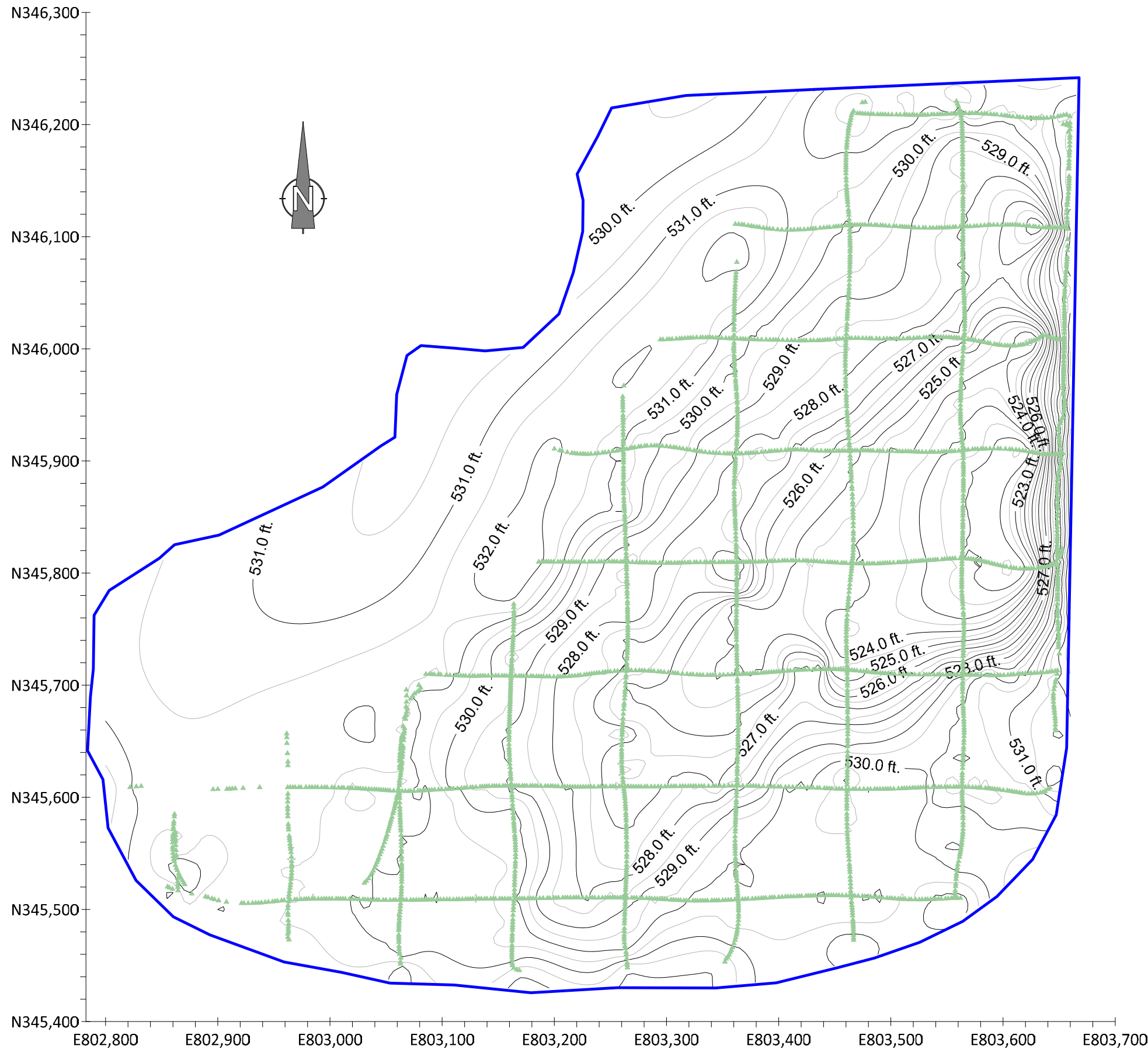
SCALE: 1 inch = 50 feet
 CONTOUR INTERVAL = 0.2 ft.



Pond 4 Sediment Thickness Map

POND BATHYMETRY
 MARION POWER PLANT
 MARION, WILLIAMSON CO., ILLINOIS

20E0016B FIGURE 12



Explanation

- ▲ High frequency data point
- ▲ Low frequency data point
- Perimeter of pond

SFAP = South Fly Ash Pond

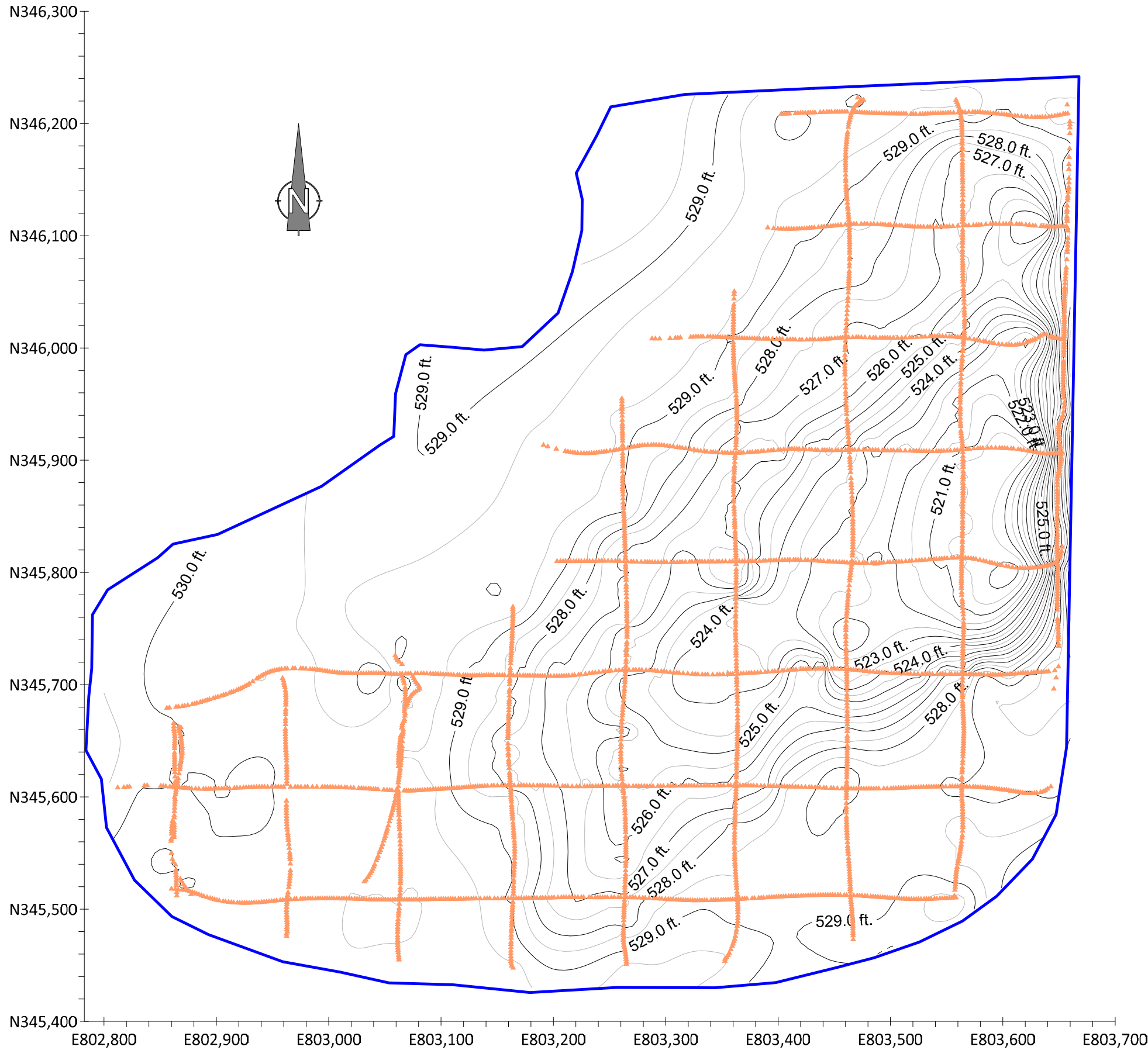
Elevation (contour) lines are generated from the high frequency sonar data.

SCALE: 1 inch = 100 feet
CONTOUR INTERVAL = 0.5 ft.

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SFAP Sediment Surface Map
POND BATHYMETRY
MARION POWER PLANT
MARION, WILLIAMSON CO., ILLINOIS



Explanation


- ▲ High frequency data point
- ▲ Low frequency data point
- Perimeter of pond

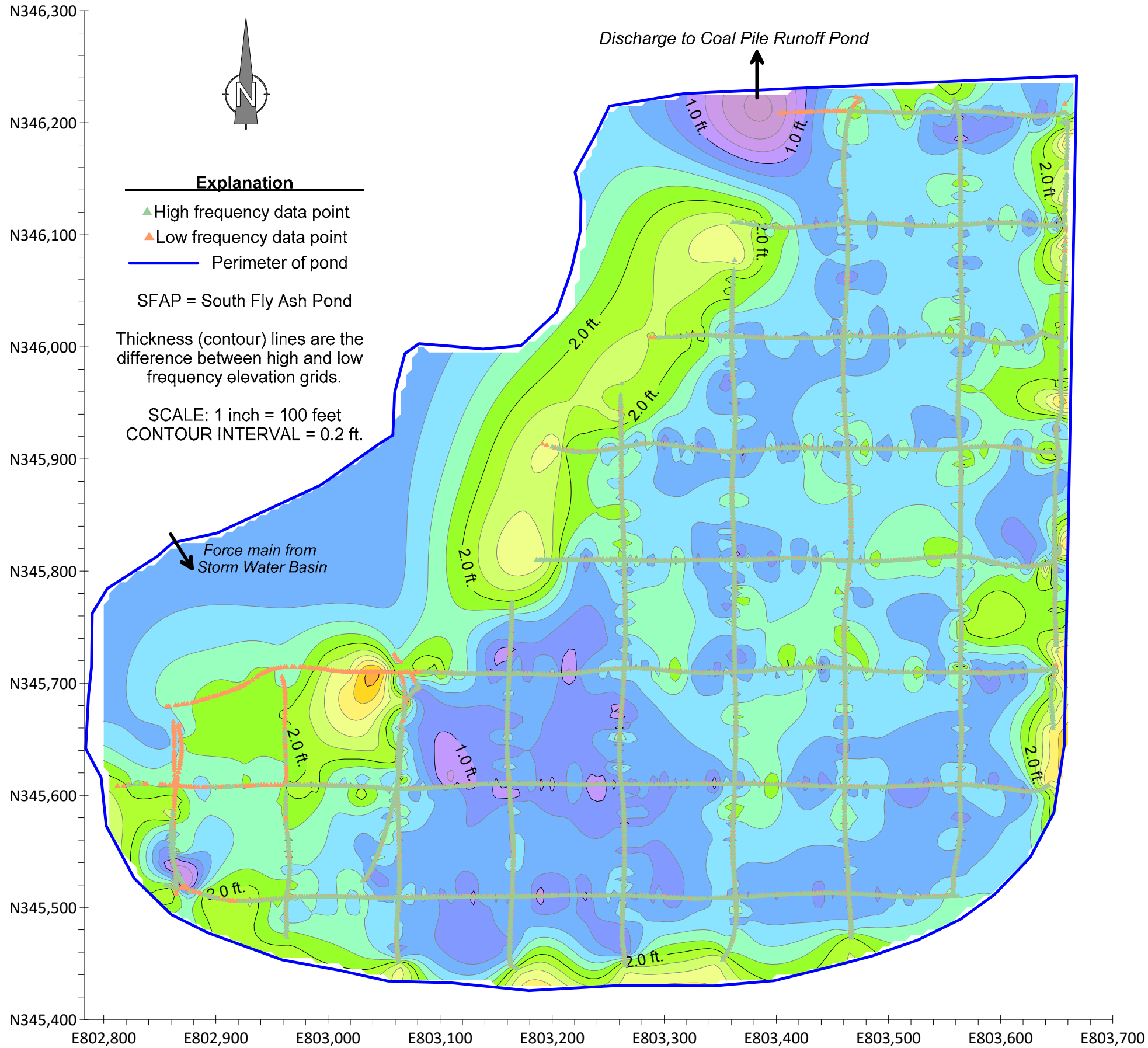
SFAP = South Fly Ash Pond

Elevation (contour) lines are generated from the low frequency sonar data.

SCALE: 1 inch = 100 feet
CONTOUR INTERVAL = 0.5 ft.

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 Hanson Professional Services Inc.	SFAP Bottom Surface Map	
	POND BATHYMETRY MARION POWER PLANT MARION, WILLIAMSON CO., ILLINOIS	
	20E0016B	FIGURE 14



Explanation

- ▲ High frequency data point
- ▲ Low frequency data point
- Perimeter of pond

SFAP = South Fly Ash Pond

Thickness (contour) lines are the difference between high and low frequency elevation grids.

SCALE: 1 inch = 100 feet
CONTOUR INTERVAL = 0.2 ft.

Grid Information

Mon Apr 19 15:19:49 2021

Grid File Name: I:\20jobs\20E0016B\Admin\15-Field-Laboratory Data\ Bathymetry\SFA difference MC pond only.grd

Grid Size: 181 rows x 181 columns
Total Nodes: 32761
Filled Nodes: 21064
NoData Nodes: 0
NoData Value: 1.70141E+38

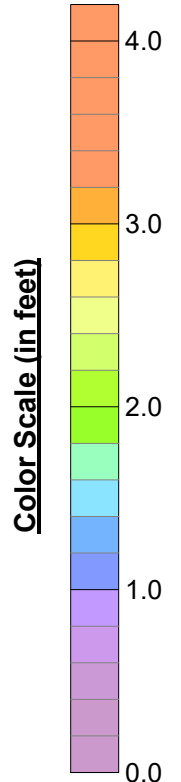
Grid Geometry

X Minimum: 802800
X Maximum: 803700
X Spacing: 5

Y Minimum: 345400
Y Maximum: 346300
Y Spacing: 5

Polygon '...\SouthFlyAsh...' used for statistics

Side: Inside
Polygons: 1
Number of points: 40



Univariate Grid Statistics

Z	
Count:	21064
1%-tile:	0.865867701976
5%-tile:	1.14253823024
10%-tile:	1.21917412385
25%-tile:	1.34110802766
50%-tile:	1.50558164481
75%-tile:	1.74878433567
90%-tile:	2.07446905667
95%-tile:	2.23493081003
99%-tile:	2.5408682886
Minimum:	0.346031225034
Maximum:	3.06883840218
Mean:	1.57332008226
Median:	1.50558571167
Geometric Mean:	1.53607291577
Harmonic Mean:	1.49691221101
Root Mean Square:	1.61086332672
Trim Mean (10%):	1.55884366498
Interquartile Mean:	1.51884743709
Midrange:	1.70743481361
Winsorized Mean:	1.56533247773
TriMean:	1.52526391324
Variance:	0.119550251691
Standard Deviation:	0.34576039636
Interquartile Range:	0.407676308014
Range:	2.72280717715
Mean Difference:	0.37592708488
Median Abs. Deviation:	0.193710353291
Average Abs. Deviation:	0.259983495766
Quartile Dispersion:	0.131938676199
Relative Mean Diff.:	0.238938718903
Standard Error:	0.0023823459334
Coef. of Variation:	0.219764814711
Skewness:	0.713360079444
Kurtosis:	4.00529195111
Sum:	33140.4142128
Sum Absolute:	33140.4142128
Sum Squares:	54658.5661669
Mean Square:	2.59488065737

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SFAP Sediment Thickness Map

POND BATHYMETRY
MARION POWER PLANT
MARION, WILLIAMSON CO., ILLINOIS

20E0016B FIGURE 15

Attachment B

Laboratory Reports for Carbon/Hydrogen/Nitrogen Analysis

Lab No : 202100997-001
 Date Rec'd : 4/28/2021
 Date Sampled 4/27/2021 to 4/27/2021
 Sampled By: CLIENT



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Certificate # L2179.02-1 Testing

TEKLAB INC.
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 ATTN: MARVIN DARLING

Page : 1 of 14
 Date : 5/4/2021 8:24:40 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-001

Comment:

			Weight %						
PROXIMATE ANALYSIS			As-Received	Dry Basis	ULTIMATE ANALYSIS				
% Moisture	D3302	48.39	*****	*****	% Moisture	D3302	48.39	*****	
% Ash	D3174	*****	*****	*****	% Carbon	D5373	33.07	64.08	
% Volatile	D3175	*****	*****	*****	% Hydrogen	D5373	2.23	4.32	
% Fixed Carbon	D3172	*****	*****	*****	% Nitrogen	D5373	0.70	1.35	
BTU	D5865	*****	*****	*****	% Chlorine	D6721	*****	*****	
MAF BTU	D3180	*****	*****	*****	% Sulfur	D4239	*****	*****	
% Total Sulfur	D4239	*****	*****	*****	% Ash	D3174	*****	*****	
SULFUR FORMS						% Oxygen (Diff.)	D3176	*****	*****
% Pyritic	D8214MOD	*****	*****	*****	(Chlorine D6721 Dry Basis ug/g	*****)			
% Sulfate	D8214MOD	*****	*****	*****	MINERAL ANALYSIS D6349	% Ignited Basis			
% Organic	D8214MOD	*****	*****	*****	Phos. Pentoxide, P2O5	*****			
% Total Sulfur	D4239	*****	*****	*****	Silica, SiO2	*****			
WATER SOLUBLE						Ferric Oxide, Fe2O3	*****		
% Na2O	D8010	*****	*****	*****	Alumina, Al2O3	*****			
% K2O	D8010	*****	*****	*****	Titania, TiO2	*****			
* % Chlorine	ASME1974	*****	*****	*****	Lime, CaO	*****			
* Alkalies as Na2O	ASME1974	*****	*****	*****	Magnesia, MgO	*****			
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing	Sulfur Trioxide, SO3	*****			
I.D.		*****	*****	*****	Potassium Oxide, K2O	*****			
H=W		*****	*****	*****	Sodium Oxide, Na2O	*****			
H=1/2W		*****	*****	*****	Barium Oxide, BaO	*****			
FLUID		*****	*****	*****	Strontium Oxide, SrO	*****			
GRINDABILITY INDEX D409	***** @ *****	% Moist.				Manganese Dioxide, MnO2	*****		
FREE SWELLING INDEX D720	*****				* Undetermined	*****			
* Apparent Specific Gravity of Coal	ModIC7113	*****				* Type of Ash	ASME1974	*****	
% Equilibrium Moisture D1412		*****				* Silica Value	ASME1974	*****	
* % Loss on Ignition @ 950C D7348		*****				* T250 Deg F	BW	*****	
						* Base/Acid Ratio	ASME1974	*****	
						* lb Ash/mm BTU		*****	
						* lb SO2/mm BTU		*****	
						Using 20000 as SO2 calculation factor			
						* Fouling Index	ASME1974	*****	
						* Slagging Index	ASME1974	*****	
						(Mercury D6722 Dry Basis ug/g	*****)	

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 Date : 5/4/2021 8:24:40 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-002

Comment:

				Weight %			
		As-Received	Dry Basis				
PROXIMATE ANALYSIS				As-Received	Dry Basis		
% Moisture	D3302	64.65	*****	As-Received	Dry Basis	64.65	*****
% Ash	D3174	*****	*****	% Carbon	D5373	9.56	27.05
% Volatile	D3175	*****	*****	% Hydrogen	D5373	0.70	1.99
% Fixed Carbon	D3172	*****	*****	% Nitrogen	D5373	0.19	0.53
BTU	D5865	*****	*****	% Chlorine	D6721	*****	*****
MAF BTU	D3180	*****	*****	% Sulfur	D4239	*****	*****
% Total Sulfur	D4239	*****	*****	% Ash	D3174	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS				(Chlorine D6721 Dry Basis ug/g	*****)		
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYSIS D6349			
% Sulfate	D8214MOD	*****	*****	% Ignited Basis			
% Organic	D8214MOD	*****	*****	Phos. Pentoxide, P2O5			
% Total Sulfur	D4239	*****	*****	Silica, SiO2			
				Ferric Oxide, Fe2O3			
				Alumina, Al2O3			
				Titania, TiO2			
				Lime, CaO			
				Magnesia, MgO			
				Sulfur Trioxide, SO3			
				Potassium Oxide, K2O			
				Sodium Oxide, Na2O			
				Barium Oxide, BaO			
				Strontium Oxide, SrO			
				Manganese Dioxide, MnO2			
				* Undetermined			
				* Type of Ash ASME1974			
				* Silica Value ASME1974			
				* T250 Deg F BW			
				* Base/Acid Ratio ASME1974			
				* lb Ash/mm BTU			
				* lb SO2/mm BTU			
				Using 20000 as SO2 calculation factor			
				* Fouling Index ASME1974			
				* Slagging Index ASME1974			
				(Mercury D6722 Dry Basis ug/g *****)			
WATER SOLUBLE							
% Na2O	D8010	*****	*****				
% K2O	D8010	*****	*****				
* % Chlorine	ASME1974	*****	*****				
* Alkalies as Na2O	ASME1974	*****	*****				
FUSION TEMP. OF ASH D1857 °F							
I.D.		Reducing *****	Oxidizing *****				
H=W		*****	*****				
H=1/2W		*****	*****				
FLUID		*****	*****				
GRINDABILITY INDEX	D409	***** @	***** % Moist.				
FREE SWELLING INDEX	D720	*****					
* Apparent Specific Gravity of Coal	ModIC7113		*****				
% Equilibrium Moisture	D1412		*****				
* % Loss on Ignition @ 950C	D7348		*****				

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Page : 3 of 14
 Date : 5/4/2021 8:24:40 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-003

Comment:

			Weight %		
PROXIMATE ANALYSIS			ULTIMATE ANALYSIS		
	As-Received	Dry Basis		As-Received	Dry Basis
% Moisture	D3302	78.53	% Moisture	D3302	78.53
% Ash	D3174	*****	% Carbon	D5373	2.40
% Volatile	D3175	*****	% Hydrogen	D5373	0.19
% Fixed Carbon	D3172	*****	% Nitrogen	D5373	0.06
BTU	D5865	*****	% Chlorine	D6721	*****
MAF BTU	D3180	*****	% Sulfur	D4239	*****
% Total Sulfur	D4239	*****	% Ash	D3174	*****
			% Oxygen (Diff.)	D3176	*****
			(Chlorine D6721 Dry Basis ug/g	*****)	
SULFUR FORMS			MINERAL ANALYSIS D6349 % Ignited Basis		
% Pyritic	D8214MOD	*****	Phos. Pentoxide, P2O5		*****
% Sulfate	D8214MOD	*****	Silica, SiO2		*****
% Organic	D8214MOD	*****	Ferric Oxide, Fe2O3		*****
% Total Sulfur	D4239	*****	Alumina, Al2O3		*****
WATER SOLUBLE			Titania, TiO2		*****
% Na2O	D8010	*****	Lime, CaO		*****
% K2O	D8010	*****	Magnesia, MgO		*****
* % Chlorine	ASME1974	*****	Sulfur Trioxide, SO3		*****
* Alkalies as Na2O	ASME1974	*****	Potassium Oxide, K2O		*****
FUSION TEMP. OF ASH D1857 °F			Sodium Oxide, Na2O		*****
I.D.	Reducing	Oxidizing	Barium Oxide, BaO		*****
H=W	*****	*****	Strontium Oxide, SrO		*****
H=1/2W	*****	*****	Manganese Dioxide, MnO2		*****
FLUID	*****	*****	* Undetermined		*****
GRINDABILITY INDEX D409	***** @	***** % Moist.	* Type of Ash	ASME1974	*****
FREE SWELLING INDEX D720	*****		* Silica Value	ASME1974	*****
* Apparent Specific Gravity of Coal	ModIC7113	*****	* T250 Deg F	BW	*****
% Equilibrium Moisture D1412		*****	* Base/Acid Ratio	ASME1974	*****
* % Loss on Ignition @ 950C D7348		*****	* lb Ash/mm BTU		*****
			* lb SO2/mm BTU		*****
			Using 20000 as SO2 calculation factor		
			* Fouling Index	ASME1974	*****
			* Slagging Index	ASME1974	*****
			(Mercury D6722 Dry Basis ug/g	*****)	

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 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-004

Comment:

			Weight %						
PROXIMATE ANALYSIS			As-Received	Dry Basis	ULTIMATE ANALYSIS				
% Moisture	D3302	55.36	*****	*****	% Moisture	D3302	55.36	*****	
% Ash	D3174	*****	*****	*****	% Carbon	D5373	6.75	15.11	
% Volatile	D3175	*****	*****	*****	% Hydrogen	D5373	0.43	0.97	
% Fixed Carbon	D3172	*****	*****	*****	% Nitrogen	D5373	0.12	0.26	
BTU	D5865	*****	*****	*****	% Chlorine	D6721	*****	*****	
MAF BTU	D3180	*****	*****	*****	% Sulfur	D4239	*****	*****	
% Total Sulfur	D4239	*****	*****	*****	% Ash	D3174	*****	*****	
SULFUR FORMS						% Oxygen (Diff.)	D3176	*****	*****
% Pyritic	D8214MOD	*****	*****	*****	(Chlorine D6721 Dry Basis ug/g	*****)			
% Sulfate	D8214MOD	*****	*****	*****	MINERAL ANALYSIS D6349	% Ignited Basis			
% Organic	D8214MOD	*****	*****	*****	Phos. Pentoxide, P2O5	*****			
% Total Sulfur	D4239	*****	*****	*****	Silica, SiO2	*****			
WATER SOLUBLE						Ferric Oxide, Fe2O3	*****		
% Na2O	D8010	*****	*****	*****	Alumina, Al2O3	*****			
% K2O	D8010	*****	*****	*****	Titania, TiO2	*****			
* % Chlorine	ASME1974	*****	*****	*****	Lime, CaO	*****			
* Alkalies as Na2O	ASME1974	*****	*****	*****	Magnesia, MgO	*****			
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing	Sulfur Trioxide, SO3	*****			
I.D.		*****	*****	*****	Potassium Oxide, K2O	*****			
H=W		*****	*****	*****	Sodium Oxide, Na2O	*****			
H=1/2W		*****	*****	*****	Barium Oxide, BaO	*****			
FLUID		*****	*****	*****	Strontium Oxide, SrO	*****			
GRINDABILITY INDEX D409	***** @ *****	% Moist.				Manganese Dioxide, MnO2	*****		
FREE SWELLING INDEX D720	*****				* Undetermined	*****			
* Apparent Specific Gravity of Coal	ModIC7113	*****				* Type of Ash	ASME1974	*****	
% Equilibrium Moisture D1412	*****				* Silica Value	ASME1974	*****		
* % Loss on Ignition @ 950C D7348	*****				* T250 Deg F	BW	*****		
						* Base/Acid Ratio	ASME1974	*****	
						* lb Ash/mm BTU	*****		
						* lb SO2/mm BTU	*****		
						Using 20000 as SO2 calculation factor			
						* Fouling Index	ASME1974	*****	
						* Slagging Index	ASME1974	*****	
						(Mercury D6722 Dry Basis ug/g	*****)	

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 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-005

Comment:

			Weight %			
PROXIMATE ANALYSIS			As-Received	Dry Basis		
% Moisture	D3302	50.16	*****	*****		
% Ash	D3174	*****	*****	*****		
% Volatile	D3175	*****	*****	*****		
% Fixed Carbon	D3172	*****	*****	*****		
BTU	D5865	*****	*****	*****		
MAF BTU	D3180	*****	*****	*****		
% Total Sulfur	D4239	*****	*****	*****		
SULFUR FORMS						
% Pyritic	D8214MOD	*****	*****	*****		
% Sulfate	D8214MOD	*****	*****	*****		
% Organic	D8214MOD	*****	*****	*****		
% Total Sulfur	D4239	*****	*****	*****		
WATER SOLUBLE						
% Na2O	D8010	*****	*****	*****		
% K2O	D8010	*****	*****	*****		
* % Chlorine	ASME1974	*****	*****	*****		
* Alkalies as Na2O	ASME1974	*****	*****	*****		
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing		
I.D.		*****	*****	*****		
H=W		*****	*****	*****		
H=1/2W		*****	*****	*****		
FLUID		*****	*****	*****		
GRINDABILITY INDEX	D409	***** @	*****	% Moist.		
FREE SWELLING INDEX	D720	*****				
* Apparent Specific Gravity of Coal	ModIC7113		*****			
% Equilibrium Moisture	D1412		*****			
* % Loss on Ignition @ 950C	D7348		*****			
ULTIMATE ANALYSIS					As-Received	Dry Basis
% Moisture	D3302	50.16	*****	*****		
% Carbon	D5373	3.66	*****	*****		7.35
% Hydrogen	D5373	0.25	*****	*****		0.51
% Nitrogen	D5373	0.05	*****	*****		0.10
% Chlorine	D6721	*****	*****	*****		*****
% Sulfur	D4239	*****	*****	*****		*****
% Ash	D3174	*****	*****	*****		*****
% Oxygen (Diff.)	D3176	*****	*****	*****		*****
(Chlorine D6721 Dry Basis ug/g		*****)				
MINERAL ANALYSIS D6349					% Ignited Basis	
Phos. Pentoxide, P2O5					*****	
Silica, SiO2					*****	
Ferric Oxide, Fe2O3					*****	
Alumina, Al2O3					*****	
Titania, TiO2					*****	
Lime, CaO					*****	
Magnesia, MgO					*****	
Sulfur Trioxide, SO3					*****	
Potassium Oxide, K2O					*****	
Sodium Oxide, Na2O					*****	
Barium Oxide, BaO					*****	
Strontium Oxide, SrO					*****	
Manganese Dioxide, MnO2					*****	
* Undetermined					*****	
* Type of Ash	ASME1974				*****	
* Silica Value	ASME1974				*****	
* T250 Deg F	BW				*****	
* Base/Acid Ratio	ASME1974				*****	
* lb Ash/mm BTU					*****	
* lb SO2/mm BTU					*****	
Using 20000 as SO2 calculation factor						
* Fouling Index	ASME1974				*****	
* Slagging Index	ASME1974				*****	
(Mercury D6722 Dry Basis ug/g		*****)				

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 Date : 5/4/2021 8:24:41 AM
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 Sample Weight :

Sample ID: 21041640-006

Comment:

			Weight %			
PROXIMATE ANALYSIS			As-Received	Dry Basis		
% Moisture	D3302		64.46	*****		
% Ash	D3174		*****	*****		
% Volatile	D3175		*****	*****		
% Fixed Carbon	D3172		*****	*****		
BTU	D5865		*****	*****		
MAF BTU	D3180		*****	*****		
% Total Sulfur	D4239		*****	*****		
SULFUR FORMS						
% Pyritic	D8214MOD		*****	*****		
% Sulfate	D8214MOD		*****	*****		
% Organic	D8214MOD		*****	*****		
% Total Sulfur	D4239		*****	*****		
WATER SOLUBLE						
% Na2O	D8010		*****	*****		
% K2O	D8010		*****	*****		
* % Chlorine	ASME1974		*****	*****		
* Alkalies as Na2O	ASME1974		*****	*****		
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing		
I.D.			*****	*****		
H=W			*****	*****		
H=1/2W			*****	*****		
FLUID			*****	*****		
GRINDABILITY INDEX	D409	***** @	*****	% Moist.		
FREE SWELLING INDEX	D720		*****			
* Apparent Specific Gravity of Coal	ModIC7113		*****			
% Equilibrium Moisture	D1412		*****			
* % Loss on Ignition @ 950C	D7348		*****			
ULTIMATE ANALYSIS						
% Moisture	D3302		64.46	*****		
% Carbon	D5373		1.49	4.19		
% Hydrogen	D5373		0.21	0.60		
% Nitrogen	D5373		0.03	0.10		
% Chlorine	D6721		*****	*****		
% Sulfur	D4239		*****	*****		
% Ash	D3174		*****	*****		
% Oxygen (Diff.)	D3176		*****	*****		
(Chlorine D6721 Dry Basis ug/g			*****)			
MINERAL ANALYSIS D6349			% Ignited Basis			
Phos. Pentoxide, P2O5			*****			
Silica, SiO2			*****			
Ferric Oxide, Fe2O3			*****			
Alumina, Al2O3			*****			
Titania, TiO2			*****			
Lime, CaO			*****			
Magnesia, MgO			*****			
Sulfur Trioxide, SO3			*****			
Potassium Oxide, K2O			*****			
Sodium Oxide, Na2O			*****			
Barium Oxide, BaO			*****			
Strontium Oxide, SrO			*****			
Manganese Dioxide, MnO2			*****			
* Undetermined			*****			
* Type of Ash			ASME1974 *****			
* Silica Value			ASME1974 *****			
* T250 Deg F			BW *****			
* Base/Acid Ratio			ASME1974 *****			
* lb Ash/mm BTU			*****			
* lb SO2/mm BTU			*****			
Using 20000 as SO2 calculation factor						
* Fouling Index			ASME1974 *****			
* Slagging Index			ASME1974 *****			
(Mercury D6722 Dry Basis ug/g			*****)			

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Lab No : 202100997-007
 Date Rec'd : 4/28/2021
 Date Sampled 4/27/2021 to 4/27/2021
 Sampled By: CLIENT



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Certificate # L2179.02-1 Testing

TEKLAB INC.
 5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, IL 62234-7425
 ATTN: MARVIN DARLING

Page : 7 of 14
 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-007

Comment:

			Weight %			
PROXIMATE ANALYSIS			As-Received	Dry Basis		
% Moisture	D3302		37.39	*****	As-Received	Dry Basis
% Ash	D3174		*****	*****	37.39	*****
% Volatile	D3175		*****	*****	29.81	47.62
% Fixed Carbon	D3172		*****	*****	1.90	3.03
BTU	D5865		*****	*****	0.59	0.94
MAF BTU	D3180		*****	*****	*****	*****
% Total Sulfur	D4239		*****	*****	*****	*****
SULFUR FORMS					*****	*****
% Pyritic	D8214MOD		*****	*****) % Ignited Basis	
% Sulfate	D8214MOD		*****	*****	*****	
% Organic	D8214MOD		*****	*****	*****	
% Total Sulfur	D4239		*****	*****	*****	
WATER SOLUBLE					*****	
% Na2O	D8010		*****	*****	*****	
% K2O	D8010		*****	*****	*****	
* % Chlorine	ASME1974		*****	*****	*****	
* Alkalies as Na2O	ASME1974		*****	*****	*****	
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing		
I.D.			*****	*****		
H=W			*****	*****		
H=1/2W			*****	*****		
FLUID			*****	*****		
GRINDABILITY INDEX	D409	***** @	*****	% Moist.		
FREE SWELLING INDEX	D720		*****			
* Apparent Specific Gravity of Coal	ModIC7113		*****			
% Equilibrium Moisture	D1412		*****			
* % Loss on Ignition @ 950C	D7348		*****			
ULTIMATE ANALYSIS						
% Moisture	D3302					
% Carbon	D5373					
% Hydrogen	D5373					
% Nitrogen	D5373					
% Chlorine	D6721					
% Sulfur	D4239					
% Ash	D3174					
% Oxygen (Diff.)	D3176					
(Chlorine D6721 Dry Basis ug/g) % Ignited Basis	
MINERAL ANALYSIS D6349					*****	
Phos. Pentoxide, P2O5					*****	
Silica, SiO2					*****	
Ferric Oxide, Fe2O3					*****	
Alumina, Al2O3					*****	
Titania, TiO2					*****	
Lime, CaO					*****	
Magnesia, MgO					*****	
Sulfur Trioxide, SO3					*****	
Potassium Oxide, K2O					*****	
Sodium Oxide, Na2O					*****	
Barium Oxide, BaO					*****	
Strontium Oxide, SrO					*****	
Manganese Dioxide, MnO2					*****	
* Undetermined					*****	
* Type of Ash	ASME1974				*****	
* Silica Value	ASME1974				*****	
* T250 Deg F	BW				*****	
* Base/Acid Ratio	ASME1974				*****	
* lb Ash/mm BTU					*****	
* lb SO2/mm BTU					*****	
Using 20000 as SO2 calculation factor						
* Fouling Index	ASME1974				*****	
* Slagging Index	ASME1974				*****	
(Mercury D6722 Dry Basis ug/g) *****	

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Lab No : 202100997-008
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 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-008

Comment:

			Weight %						
PROXIMATE ANALYSIS			As-Received	Dry Basis	ULTIMATE ANALYSIS				
					As-Received	Dry Basis			
% Moisture	D3302		43.26	*****	% Moisture	D3302	43.26	*****	
% Ash	D3174		*****	*****	% Carbon	D5373	20.68	36.44	
% Volatile	D3175		*****	*****	% Hydrogen	D5373	1.36	2.39	
% Fixed Carbon	D3172		*****	*****	% Nitrogen	D5373	0.41	0.72	
BTU	D5865		*****	*****	% Chlorine	D6721	*****	*****	
MAF BTU	D3180		*****	*****	% Sulfur	D4239	*****	*****	
% Total Sulfur	D4239		*****	*****	% Ash	D3174	*****	*****	
						% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS						(Chlorine D6721 Dry Basis ug/g	*****)		
% Pyritic	D8214MOD		*****	*****	MINERAL ANALYSIS D6349		% Ignited Basis		
% Sulfate	D8214MOD		*****	*****	Phos. Pentoxide, P2O5		*****		
% Organic	D8214MOD		*****	*****	Silica, SiO2		*****		
% Total Sulfur	D4239		*****	*****	Ferric Oxide, Fe2O3		*****		
WATER SOLUBLE						Alumina, Al2O3		*****	
% Na2O	D8010		*****	*****	Titania, TiO2		*****		
% K2O	D8010		*****	*****	Lime, CaO		*****		
* % Chlorine	ASME1974		*****	*****	Magnesia, MgO		*****		
* Alkalies as Na2O	ASME1974		*****	*****	Sulfur Trioxide, SO3		*****		
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing	Potassium Oxide, K2O		*****		
I.D.			*****	*****	Sodium Oxide, Na2O		*****		
H=W			*****	*****	Barium Oxide, BaO		*****		
H=1/2W			*****	*****	Strontium Oxide, SrO		*****		
FLUID			*****	*****	Manganese Dioxide, MnO2		*****		
GRINDABILITY INDEX D409			***** @	***** % Moist.	* Undetermined		*****		
FREE SWELLING INDEX D720			*****		* Type of Ash	ASME1974	*****		
* Apparent Specific Gravity of Coal	ModIC7113		*****		* Silica Value	ASME1974	*****		
% Equilibrium Moisture D1412			*****		* T250 Deg F	BW	*****		
* % Loss on Ignition @ 950C D7348			*****		* Base/Acid Ratio	ASME1974	*****		
						* lb Ash/mm BTU		*****	
						* lb SO2/mm BTU		*****	
						Using 20000 as SO2 calculation factor			
						* Fouling Index	ASME1974	*****	
						* Slagging Index	ASME1974	*****	
						(Mercury D6722 Dry Basis ug/g	*****)		

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Page : 9 of 14
 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-009

Comment:

			Weight %			
PROXIMATE ANALYSIS			As-Received	Dry Basis	ULTIMATE ANALYSIS	
					As-Received	Dry Basis
% Moisture	D3302		54.13	*****	54.13	*****
% Ash	D3174		*****	*****	13.27	28.92
% Volatile	D3175		*****	*****	0.91	1.98
% Fixed Carbon	D3172		*****	*****	0.28	0.62
BTU	D5865		*****	*****	*****	*****
MAF BTU	D3180		*****	*****	*****	*****
% Total Sulfur	D4239		*****	*****	*****	*****
SULFUR FORMS					(Chlorine D6721 Dry Basis ug/g *****)	
% Pyritic	D8214MOD		*****	*****	MINERAL ANALYSIS D6349 % Ignited Basis	
% Sulfate	D8214MOD		*****	*****	Phos. Pentoxide, P2O5 *****	
% Organic	D8214MOD		*****	*****	Silica, SiO2 *****	
% Total Sulfur	D4239		*****	*****	Ferric Oxide, Fe2O3 *****	
WATER SOLUBLE					Alumina, Al2O3 *****	
% Na2O	D8010		*****	*****	Titania, TiO2 *****	
% K2O	D8010		*****	*****	Lime, CaO *****	
* % Chlorine	ASME1974		*****	*****	Magnesia, MgO *****	
* Alkalies as Na2O	ASME1974		*****	*****	Sulfur Trioxide, SO3 *****	
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing	Potassium Oxide, K2O *****	
I.D.			*****	*****	Sodium Oxide, Na2O *****	
H=W			*****	*****	Barium Oxide, BaO *****	
H=1/2W			*****	*****	Strontium Oxide, SrO *****	
FLUID			*****	*****	Manganese Dioxide, MnO2 *****	
GRINDABILITY INDEX D409	***** @ *****	% Moist.			* Undetermined *****	
FREE SWELLING INDEX D720	*****				* Type of Ash ASME1974 *****	
* Apparent Specific Gravity of Coal ModIC7113					* Silica Value ASME1974 *****	
% Equilibrium Moisture D1412					* T250 Deg F BW *****	
* % Loss on Ignition @ 950C D7348					* Base/Acid Ratio ASME1974 *****	
					* lb Ash/mm BTU *****	
					* lb SO2/mm BTU *****	
					Using 20000 as SO2 calculation factor	
					* Fouling Index ASME1974 *****	
					* Slagging Index ASME1974 *****	
					(Mercury D6722 Dry Basis ug/g *****)	

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Date Rec'd : 4/28/2021
Date Sampled 4/27/2021 to 4/27/2021
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Page : 10 of 14
 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-010

Comment:

				Weight %	
PROXIMATE ANALYSIS		As-Received	Dry Basis	ULTIMATE ANALYSIS	
				As-Received	Dry Basis
% Moisture	D3302	64.37	*****	% Moisture	D3302 64.37 *****
% Ash	D3174	*****	*****	% Carbon	D5373 12.16 34.14
% Volatile	D3175	*****	*****	% Hydrogen	D5373 0.79 2.22
% Fixed Carbon	D3172	*****	*****	% Nitrogen	D5373 0.25 0.69
BTU	D5865	*****	*****	% Chlorine	D6721 *****
MAF BTU	D3180	*****	*****	% Sulfur	D4239 *****
% Total Sulfur	D4239	*****	*****	% Ash	D3174 *****
				% Oxygen (Diff.)	D3176 *****
				(Chlorine D6721 Dry Basis ug/g	*****)
SULFUR FORMS				MINERAL ANALYSIS D6349 % Ignited Basis	
% Pyritic	D8214MOD	*****	*****	Phos. Pentoxide, P2O5	*****
% Sulfate	D8214MOD	*****	*****	Silica, SiO2	*****
% Organic	D8214MOD	*****	*****	Ferric Oxide, Fe2O3	*****
% Total Sulfur	D4239	*****	*****	Alumina, Al2O3	*****
				Titania, TiO2	*****
WATER SOLUBLE				Lime, CaO	*****
% Na2O	D8010	*****	*****	Magnesia, MgO	*****
% K2O	D8010	*****	*****	Sulfur Trioxide, SO3	*****
* % Chlorine	ASME1974	*****	*****	Potassium Oxide, K2O	*****
* Alkalies as Na2O	ASME1974	*****	*****	Sodium Oxide, Na2O	*****
				Barium Oxide, BaO	*****
FUSION TEMP. OF ASH D1857 °F		Reducing	Oxidizing	Strontium Oxide, SrO	*****
I.D.		*****	*****	Manganese Dioxide, MnO2	*****
H=W		*****	*****	* Undetermined	*****
H=1/2W		*****	*****	* Type of Ash	ASME1974 *****
FLUID		*****	*****	* Silica Value	ASME1974 *****
				* T250 Deg F	BW *****
GRINDABILITY INDEX D409	***** @ *****	% Moist.		* Base/Acid Ratio	ASME1974 *****
FREE SWELLING INDEX D720	*****			* lb Ash/mm BTU	*****
* Apparent Specific Gravity of Coal	ModIC7113	*****		* lb SO2/mm BTU	*****
% Equilibrium Moisture D1412		*****		Using 20000 as SO2 calculation factor	
* % Loss on Ignition @ 950C D7348		*****		* Fouling Index	ASME1974 *****
				* Slagging Index	ASME1974 *****
				(Mercury D6722 Dry Basis ug/g	*****)

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 Date Rec'd : 4/28/2021
 Date Sampled 4/27/2021 to 4/27/2021
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Page : 11 of 14
 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-011

Comment:

			Weight %						
PROXIMATE ANALYSIS			As-Received	Dry Basis	ULTIMATE ANALYSIS				
% Moisture	D3302	68.64	*****	*****	% Moisture	D3302	68.64	*****	
% Ash	D3174	*****	*****	*****	% Carbon	D5373	7.52	23.99	
% Volatile	D3175	*****	*****	*****	% Hydrogen	D5373	0.52	1.66	
% Fixed Carbon	D3172	*****	*****	*****	% Nitrogen	D5373	0.15	0.49	
BTU	D5865	*****	*****	*****	% Chlorine	D6721	*****	*****	
MAF BTU	D3180	*****	*****	*****	% Sulfur	D4239	*****	*****	
% Total Sulfur	D4239	*****	*****	*****	% Ash	D3174	*****	*****	
SULFUR FORMS						% Oxygen (Diff.)	D3176	*****	*****
% Pyritic	D8214MOD	*****	*****	*****	(Chlorine D6721 Dry Basis ug/g	*****)			
% Sulfate	D8214MOD	*****	*****	*****	MINERAL ANALYSIS D6349	% Ignited Basis			
% Organic	D8214MOD	*****	*****	*****	Phos. Pentoxide, P2O5	*****			
% Total Sulfur	D4239	*****	*****	*****	Silica, SiO2	*****			
WATER SOLUBLE						Ferric Oxide, Fe2O3	*****		
% Na2O	D8010	*****	*****	*****	Alumina, Al2O3	*****			
% K2O	D8010	*****	*****	*****	Titania, TiO2	*****			
* % Chlorine	ASME1974	*****	*****	*****	Lime, CaO	*****			
* Alkalies as Na2O	ASME1974	*****	*****	*****	Magnesia, MgO	*****			
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing	Sulfur Trioxide, SO3	*****			
I.D.		*****	*****	*****	Potassium Oxide, K2O	*****			
H=W		*****	*****	*****	Sodium Oxide, Na2O	*****			
H=1/2W		*****	*****	*****	Barium Oxide, BaO	*****			
FLUID		*****	*****	*****	Strontium Oxide, SrO	*****			
GRINDABILITY INDEX D409	***** @ *****	% Moist.				Manganese Dioxide, MnO2	*****		
FREE SWELLING INDEX D720	*****				* Undetermined	*****			
* Apparent Specific Gravity of Coal	ModIC7113	*****				* Type of Ash	ASME1974	*****	
% Equilibrium Moisture D1412	*****				* Silica Value	ASME1974	*****		
* % Loss on Ignition @ 950C D7348	*****				* T250 Deg F	BW	*****		
						* Base/Acid Ratio	ASME1974	*****	
						* lb Ash/mm BTU	*****		
						* lb SO2/mm BTU	*****		
						Using 20000 as SO2 calculation factor			
						* Fouling Index	ASME1974	*****	
						* Slagging Index	ASME1974	*****	
						(Mercury D6722 Dry Basis ug/g	*****)	

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Page : 12 of 14
 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-012

Comment:

			Weight %			
			As- Received	Dry Basis		
PROXIMATE ANALYSIS					As- Received	Dry Basis
% Moisture	D3302		44.73	*****	44.73	*****
% Ash	D3174		*****	*****	9.13	16.52
% Volatile	D3175		*****	*****	0.70	1.27
% Fixed Carbon	D3172		*****	*****	0.15	0.27
BTU	D5865		*****	*****	*****	*****
MAF BTU	D3180		*****	*****	*****	*****
% Total Sulfur	D4239		*****	*****	*****	*****
SULFUR FORMS						
% Pyritic	D8214MOD		*****	*****		
% Sulfate	D8214MOD		*****	*****		
% Organic	D8214MOD		*****	*****		
% Total Sulfur	D4239		*****	*****		
WATER SOLUBLE						
% Na2O	D8010		*****	*****		
% K2O	D8010		*****	*****		
* % Chlorine	ASME1974		*****	*****		
* Alkalies as Na2O	ASME1974		*****	*****		
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing		
I.D.			*****	*****		
H=W			*****	*****		
H=1/2W			*****	*****		
FLUID			*****	*****		
GRINDABILITY INDEX	D409	***** @	*****	*****		% Moist.
FREE SWELLING INDEX	D720		*****			
* Apparent Specific Gravity of Coal	ModIC7113		*****			
% Equilibrium Moisture	D1412		*****			
* % Loss on Ignition @ 950C	D7348		*****			
ULTIMATE ANALYSIS						
% Moisture	D3302		44.73	*****	44.73	*****
% Carbon	D5373		9.13	16.52	9.13	16.52
% Hydrogen	D5373		0.70	1.27	0.70	1.27
% Nitrogen	D5373		0.15	0.27	0.15	0.27
% Chlorine	D6721		*****	*****	*****	*****
% Sulfur	D4239		*****	*****	*****	*****
% Ash	D3174		*****	*****	*****	*****
% Oxygen (Diff.)	D3176		*****	*****	*****	*****
(Chlorine D6721 Dry Basis ug/g			*****)		
MINERAL ANALYSIS D6349					% Ignited Basis	
Phos. Pentoxide, P2O5					*****	
Silica, SiO2					*****	
Ferric Oxide, Fe2O3					*****	
Alumina, Al2O3					*****	
Titania, TiO2					*****	
Lime, CaO					*****	
Magnesia, MgO					*****	
Sulfur Trioxide, SO3					*****	
Potassium Oxide, K2O					*****	
Sodium Oxide, Na2O					*****	
Barium Oxide, BaO					*****	
Strontium Oxide, SrO					*****	
Manganese Dioxide, MnO2					*****	
* Undetermined					*****	
* Type of Ash	ASME1974				*****	
* Silica Value	ASME1974				*****	
* T250 Deg F	BW				*****	
* Base/Acid Ratio	ASME1974				*****	
* lb Ash/mm BTU					*****	
* lb SO2/mm BTU					*****	
Using 20000 as SO2 calculation factor						
* Fouling Index	ASME1974				*****	
* Slagging Index	ASME1974				*****	
(Mercury D6722 Dry Basis ug/g			*****)		

The analysis, opinions or interpretations contained in this report have been prepared at the client's direction, are based upon observations of material provided by the client and express the best judgment of Standard Laboratories, Inc. Standard Laboratories, Inc. makes no other representation or warranty, expressed or implied, regarding this report. This Certificate of Analysis may not be reproduced except in full, without the written approval of Standard Laboratories, Inc. Invalid if altered

Respectfully Submitted,

* Not an Accredited Test

Lab No : 202100997-013
Date Rec'd : 4/28/2021
Date Sampled 4/27/2021 to 4/27/2021
Sampled By: CLIENT



STANDARD LABORATORIES, INC.

8451 River King Drive
 Freeburg, IL 62243



CERTIFICATE OF ANALYSIS

Certificate # L2179.02-1 Testing

TEKLAB INC.
 5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, IL 62234-7425
 ATTN: MARVIN DARLING

Page : 13 of 14
 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-013

Comment:

			Weight %		
PROXIMATE ANALYSIS			ULTIMATE ANALYSIS		
	As-Received	Dry Basis		As-Received	Dry Basis
% Moisture	D3302	47.86	% Moisture	D3302	47.86
% Ash	D3174	*****	% Carbon	D5373	4.43
% Volatile	D3175	*****	% Hydrogen	D5373	0.49
% Fixed Carbon	D3172	*****	% Nitrogen	D5373	0.16
BTU	D5865	*****	% Chlorine	D6721	*****
MAF BTU	D3180	*****	% Sulfur	D4239	*****
% Total Sulfur	D4239	*****	% Ash	D3174	*****
			% Oxygen (Diff.)	D3176	*****
			(Chlorine D6721 Dry Basis ug/g	*****)	
SULFUR FORMS			MINERAL ANALYSIS D6349 % Ignited Basis		
% Pyritic	D8214MOD	*****	Phos. Pentoxide, P2O5		*****
% Sulfate	D8214MOD	*****	Silica, SiO2		*****
% Organic	D8214MOD	*****	Ferric Oxide, Fe2O3		*****
% Total Sulfur	D4239	*****	Alumina, Al2O3		*****
WATER SOLUBLE			Titania, TiO2		*****
% Na2O	D8010	*****	Lime, CaO		*****
% K2O	D8010	*****	Magnesia, MgO		*****
* % Chlorine	ASME1974	*****	Sulfur Trioxide, SO3		*****
* Alkalies as Na2O	ASME1974	*****	Potassium Oxide, K2O		*****
FUSION TEMP. OF ASH D1857 °F			Sodium Oxide, Na2O		*****
I.D.	Reducing	Oxidizing	Barium Oxide, BaO		*****
H=W	*****	*****	Strontium Oxide, SrO		*****
H=1/2W	*****	*****	Manganese Dioxide, MnO2		*****
FLUID	*****	*****	* Undetermined		*****
GRINDABILITY INDEX D409 ***** @ ***** % Moist.			* Type of Ash	ASME1974	*****
FREE SWELLING INDEX D720 *****			* Silica Value	ASME1974	*****
* Apparent Specific Gravity of Coal	ModIC7113	*****	* T250 Deg F	BW	*****
% Equilibrium Moisture	D1412	*****	* Base/Acid Ratio	ASME1974	*****
* % Loss on Ignition @ 950C	D7348	*****	* lb Ash/mm BTU		*****
			* lb SO2/mm BTU		*****
			Using 20000 as SO2 calculation factor		
			* Fouling Index	ASME1974	*****
			* Slagging Index	ASME1974	*****
			(Mercury D6722 Dry Basis ug/g *****)		

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Respectfully Submitted,

Lab No : 202100997-014
Date Rec'd : 4/28/2021
Date Sampled 4/27/2021 to 4/27/2021
Sampled By: CLIENT



STANDARD LABORATORIES, INC.

8451 River King Drive
 Freeburg, IL 62243



CERTIFICATE OF ANALYSIS

Certificate # L2179.02-1 Testing

TEKLAB INC.
 5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, IL 62234-7425
 ATTN: MARVIN DARLING

Page : 14 of 14
 Date : 5/4/2021 8:24:41 AM
 P.O.# : 31111
 Sample Weight :

Sample ID: 21041640-014

Comment:

			Weight %						
PROXIMATE ANALYSIS			As-Received	Dry Basis	ULTIMATE ANALYSIS				
% Moisture	D3302	42.84	*****	*****	% Moisture	D3302	42.84	*****	
% Ash	D3174	*****	*****	*****	% Carbon	D5373	3.54	6.19	
% Volatile	D3175	*****	*****	*****	% Hydrogen	D5373	0.40	0.70	
% Fixed Carbon	D3172	*****	*****	*****	% Nitrogen	D5373	0.13	0.22	
BTU	D5865	*****	*****	*****	% Chlorine	D6721	*****	*****	
MAF BTU	D3180	*****	*****	*****	% Sulfur	D4239	*****	*****	
% Total Sulfur	D4239	*****	*****	*****	% Ash	D3174	*****	*****	
SULFUR FORMS						% Oxygen (Diff.)	D3176	*****	*****
% Pyritic	D8214MOD	*****	*****	*****	(Chlorine D6721 Dry Basis ug/g	*****)			
% Sulfate	D8214MOD	*****	*****	*****	MINERAL ANALYSIS D6349	% Ignited Basis			
% Organic	D8214MOD	*****	*****	*****	Phos. Pentoxide, P2O5	*****			
% Total Sulfur	D4239	*****	*****	*****	Silica, SiO2	*****			
WATER SOLUBLE						Ferric Oxide, Fe2O3	*****		
% Na2O	D8010	*****	*****	*****	Alumina, Al2O3	*****			
% K2O	D8010	*****	*****	*****	Titania, TiO2	*****			
* % Chlorine	ASME1974	*****	*****	*****	Lime, CaO	*****			
* Alkalies as Na2O	ASME1974	*****	*****	*****	Magnesia, MgO	*****			
FUSION TEMP. OF ASH D1857 °F			Reducing	Oxidizing	Sulfur Trioxide, SO3	*****			
I.D.		*****	*****	*****	Potassium Oxide, K2O	*****			
H=W		*****	*****	*****	Sodium Oxide, Na2O	*****			
H=1/2W		*****	*****	*****	Barium Oxide, BaO	*****			
FLUID		*****	*****	*****	Strontium Oxide, SrO	*****			
GRINDABILITY INDEX D409	***** @ *****	% Moist.				Manganese Dioxide, MnO2	*****		
FREE SWELLING INDEX D720	*****				* Undetermined	*****			
* Apparent Specific Gravity of Coal	ModIC7113	*****				* Type of Ash	ASME1974	*****	
% Equilibrium Moisture D1412	*****				* Silica Value	ASME1974	*****		
* % Loss on Ignition @ 950C D7348	*****				* T250 Deg F	BW	*****		
						* Base/Acid Ratio	ASME1974	*****	
						* lb Ash/mm BTU	*****		
						* lb SO2/mm BTU	*****		
						Using 20000 as SO2 calculation factor			
						* Fouling Index	ASME1974	*****	
						* Slagging Index	ASME1974	*****	
						(Mercury D6722 Dry Basis ug/g	*****)	

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Respectfully Submitted,

CHAIN OF CUSTODY

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client: Hanson Professional Services, Inc.
Address: 1525 South Sixth Street
City / State / Zip: Springfield, IL 62703
Contact: Rhon Hasenyager **Phone:** (217) 788-2450
E-Mail: rhasenyager@hanson-inc.com **Fax:**

Samples on: ICE BLUE ICE NO ICE **24 °C** **LTG# 5**
Preserved in: LAB FIELD **FOR LAB USE ONLY**
Lab Notes

Are these samples known to be involved in litigation? If yes, a surcharge will apply Yes No
 Are these samples known to be hazardous? Yes No
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. Yes No

Client Comments:
 Total Carbon: subcontracted to Std. Labs
 Metals: Ba B Ca Mg Na K ICP/MS: Sb As Be Cr Co Pb Li Mo Se Ti
3 DAY

Project Name/Number Sediment Sampling and Analysis - Marion, IL	Sample Collector's Name T. Williams	MATRIX	INDICATE ANALYSIS REQUESTED
Results Requested <input type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input checked="" type="checkbox"/> 3 Day (50% Surcharge)	Billing Instructions	# and Type of Containers	
Lab Use Only	Sample Identification	Date/Time Sampled	

Lab Use Only	Sample Identification	Date/Time Sampled	UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	OTHER	Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Alkalinity (B/C)	Chloride/Sulfate	Mercury	Metals	pH/TS/Fluoride	Total Carbon	
21041640-001	S-3A X	4/27/21 0740																			X	X
002	S-3A X	0750																				
003	S-3n	1015																				
004	S-3x	1045																				
005	S-56x	1125																				
006	S-56 n	1145																				
007	S-4gs	1240																				
008	S-4gp	1300																				
009	S-4x	1315																				
010	S-41	1400																				

Relinquished By	Date/Time	Received By	Date/Time
[Signature]	4/28/21 0750	[Signature]	4/28/21 0750

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 65198



001 4/28/21

CHAIN OF CUSTODY

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client: Hanson Professional Services, Inc.
Address: 1525 South Sixth Street
City / State / Zip: Springfield, IL 62703
Contact: Rhon Hasenyager **Phone:** (217) 788-2450
E-Mail: rhasenyager@hanson-inc.com **Fax:**

Samples on: ICE BLUE ICE NO ICE _____ °C **LTG#** _____
Preserved in: LAB FIELD **FOR LAB USE ONLY**
Lab Notes

Are these samples known to be involved in litigation? If yes, a surcharge will apply Yes No
 Are these samples known to be hazardous? Yes No
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. Yes No

Client Comments:
 Total Carbon: subcontracted to Std. Labs
 Metals: Ba B Ca Mg Na K ICP/MS: Sb As Be Cr Co Pb Li Mo Se Ti

Project Name/Number: Sediment Sampling and Analysis - Marion, IL
Sample Collector's Name: T. W. RIES

Results Requested: Standard 1-2 Day (100% Surcharge)
 Other _____ 3 Day (50% Surcharge)
Billing Instructions **# and Type of Containers**

Lab Use Only	Sample Identification	Date/Time Sampled	UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER
21041640-011	S-SFA ₁	4/27/21 1440								
012	S-SFA _x	1455								
013	S-SFA _{gx}	1520								
014	S-SFA _{gn}	1545								

MATRIX					INDICATE ANALYSIS REQUESTED														
Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Alkalinity (B/C)	Chloride/Sulfate	Mercury	Metals	pH/TS/Fluoride	Total Carbon								
						X				X									
						↓	↓	↓	↓	↓	↓								

Relinquished By: _____ **Date/Time:** 4-28-21 0750

Received By: _____ **Date/Time:** 4/28/21 0750

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 65198





Trace Elements

Company: Southern Illinois Power Co-Op
 11543 Lake of Egypt Road
 Marion, IL 62959

Date: 3/6/2012
 Lab: 012016530
 Sampled by: Customer

ID: Mail In: #4 Fly Ash: 3-1-12
 LOI = 3.18

Element	Abr.	Results
Aluminum	Al	xxxxx
Antimony	Sb	4.77
Arsenic	As	133.9
Barium	Ba	390.6
*Beryllium	Be	15.81
Boron	B	951.7
Bromine	Br	xxxxx
*Cadmium	Cd	18.48
Chlorine	Cl	xxxxx
*Chromium	Cr	173.9
Cobalt	Co	41.68
*Copper	Cu	169.4
Flourine	F	xxxxx
Gold	Au	xxxxx
*Lead	Pb	418.4

Element	Abr.	Results
Lithium	Li	77.71
*Manganese	Mn	322.4
Mercury	Hg	< 0.01
Molybdenum	Mo	xxxxx
*Nickel	Ni	171.9
Phosphorus	P	xxxxx
Selenium	Se	0.01
Silver	Ag	< 0.01
Strontium	Sr	379.8
Tellurium	Te	xxxxx
Thallium	Tl	21.34
Tin	Sn	3.96
*Vanadium	V	258.9
*Zinc	Zn	1507
Zirconium	Zr	xxxxx

* Basic Set
 ASTM D6357 -- ASTM D6722 -- ASTM D4208

Reported in Micrograms/gram (ppm) on a dry whole coal basis.

Submitted by: Sharlonda Matthews



MINERAL LABS INC
 Electronic Filing: Received, Clerk's Office 09/02/2021
 Box 549

Salyersville, Kentucky 41465
 Phone (606) 349-6145

6197

Certificate of Analysis

COMPANY REQUESTING ANALYSIS: Southern Illinois Power Co-Op 11543 Lake of Egypt Road Marion, IL 62959	Date Analyzed:	6/17/2013
	Lab No.	013035523
	Sampled By/Type:	CUSTOMER

ID: Mail In : #4 Fly Ash : 06-11-13 : LOI = 2.00%

PROXIMATE ANALYSIS	As Received	Dry Basis
% Moisture (3302)	1.22	
% Ash (D3174)	96.80	98.00
% Volatile (D3175)	xxxxx	xxxxx
% Fixed Carbon (Calculated)	xxxxx	xxxxx
B.T.U (D5865)	18	18
M.A.F.B.T.U. (Calculated)	900	
% Sulfur (D4239)	0.98	0.99
lbs. SO ₂ /mmBtu	1100.00	
lbs. Ash/mmBtu	54444.44	

ULTIMATE ANALYSIS (ASTM D5373)	As Received	Dry Basis
Moisture	xxxxx	
Carbon	xxxxx	xxxxx
Hydrogen	xxxxx	xxxxx
Nitrogen	xxxxx	xxxxx
Sulfur	xxxxx	xxxxx
Ash	xxxxx	xxxxx
Oxygen (diff.)	xxxxx	xxxxx

SULFUR FORMS (ASTM D2492)	As Received	Dry Basis
% Pyritic Sulfur	xxxxx	xxxxx
% Sulfate Sulfur	xxxxx	xxxxx
% Organic Sulfur	xxxxx	xxxxx
% Total Sulfur	xxxxx	xxxxx

MINERAL ANALYSIS (ASTM D4326)		% Wt. Ignited Basis
Silicon dioxide	SiO ₂	xxxxx
Aluminum oxide	Al ₂ O ₃	xxxxx
Titanium dioxide	TiO ₂	xxxxx
Iron oxide	Fe ₂ O ₃	xxxxx
Calcium oxide	CaO	xxxxx
Magnesium oxide	MgO	xxxxx
Potassium oxide	K ₂ O	xxxxx
Sodium oxide	Na ₂ O	xxxxx
Sulfur trioxide	SO ₃	xxxxx
Phosphorus pentoxide	P ₂ O ₅	xxxxx
Strontium oxide	SrO	xxxxx
Barium oxide	BaO	xxxxx
Manganese oxide	MnO	xxxxx
Undetermined		xxxxx

FUSION TEMPERATURE OF ASH (D1857)		
	Reducing (°F)	Oxidizing (°F)
Initial Temp.	xxxxx	xxxxx
Softening Temp. H=W	xxxxx	xxxxx
Hemispherical Temp. H=1/2 W	xxxxx	xxxxx
Fluid Temp	xxxxx	xxxxx

T-250 Temp. of Ash	xxxxx
---------------------------	-------

Base/Acid Ratio	xxxxx
Fouling Factor	xxxxx
Slagging Factor	xxxxx

WATER SOLUBLE ALKALIES (Reported in %)	
CaO	xxxxx
K ₂ O	xxxxx
Na ₂ O	xxxxx

Arsenic ppm (ASTM D6357)	xxxxx
Chlorine ppm (ASTM D4208)	xxxxx
Mercury ppm (ASTM D6722)	0.01
Oxidation (ASTM D5263)	xxxxx
Selenium ppm (ASTM D6357;MOD)	<1.00
Free Swelling Index (D720)	xxxxx
Equilibrium Moisture (ASTM D1412)	xxxxx
Grindability Index (D409)	xxxxx

Submitted By: *Sherlonda Matthews*



MINERAL LABS INC.

P.O. Box 549
 Salyersville, KY 41465
 Phone (606) 349-6145
 Fax (606) 349-6102

Trace Analysis

Company: **Southern Illinois Power Co-Op**
11543 Lake of Egypt Road
Marion, IL 62959

Date: 3/7/2014
 Lab: 014011327
 Sampled by: Customer

ID: Mail in: #4: Fly Ash

LOI = 3.18%

<i>Parameter</i>	<i>Result</i>	<i>MDL</i>	<i>Units</i>	<i>Method</i>	<i>Parameter</i>	<i>Result</i>	<i>MDL</i>	<i>Units</i>	<i>Method</i>
Aluminum	xxxx	0.01	ppm	ASTM D6357	*Manganese	396	0.01	ppm	ASTM D6357
Antimony	19.4	0.01	ppm	ASTM D6357	Mercury	0.02	0.01	ppm	ASTM D6722
Arsenic	143	0.01	ppm	ASTM D6357	Molybdenum	xxxx	0.01	ppm	ASTM D6357
Barium	292	0.01	ppm	ASTM D6357	*Nickel	197	0.01	ppm	ASTM D6357
*Beryllium	19.0	0.01	ppm	ASTM D6357	Phosphorus	xxxx	0.01	ppm	ASTM D6357
Boron	71.5	0.01	ppm	ASTM D6357	Selenium	0.24	0.01	ppm	ASTM D6357
Bromine	xxxx	5	ppm	ASTM D4208 M	Silver	0.11	0.01	ppm	ASTM D6357
*Cadmium	10.1	0.01	ppm	ASTM D6357	Strontium	82.2	0.01	ppm	ASTM D6357
Chlorine	<50	50	ppm	ASTM D4208	Tellurium	xxxx	0.01	ppm	ASTM D6357
*Chromium	184	0.01	ppm	ASTM D6357	Thallium	17.1	0.01	ppm	ASTM D6357
Cobalt	56.6	0.01	ppm	ASTM D6357	Tin	21.7	0.01	ppm	ASTM D6357
*Copper	222	0.01	ppm	ASTM D6357	Tungsten	xxxx	0.01	ppm	ASTM D6357
Flourine	xxxx	10	ppm	ASTM D3761	*Vanadium	261	0.01	ppm	ASTM D6357
Gold	xxxx	0.01	ppm	ASTM D6357	*Zinc	2863	0.01	ppm	ASTM D6357
*Lead	563	0.01	ppm	ASTM D6357	Zirconium	xxxx	0.01	ppm	ASTM D6357
Lithium	190	0.01	ppm	ASTM D6357					

* Basic Set

Reported in Micrograms/gram (ppm) on a dry whole coal basis.

Submitted by: Sharlonda Matthews



MINERAL LABS INC.

P.O. Box 549
 Salyersville, KY 41465
 Phone (606) 349-6145
 Fax (606) 349-6102

Trace Analysis

Company: **Southern Illinois Power Co-Op**
11543 Lake of Egypt Road
Marion, IL 62959

Date: 9/16/2014
 Lab: 14049561
 Sampled by: Customer

Sample ID: Mail In: #4 Fly Ash: 9-4-2014: LOI= 3.43%

Toxic Release Metals

Parameter	Result	MDL	Units	Method	Parameter	Result	MDL	Units	Method
Aluminum	xxxx	0.01	ppm	ASTM D6357	*Manganese	449	0.01	ppm	ASTM D6357
Antimony	5.80	0.01	ppm	ASTM D6357	Mercury	0.07	0.01	ppm	ASTM D6722
Arsenic	121	0.01	ppm	ASTM D6357	Molybdenum	xxxx	0.01	ppm	ASTM D6357
Barium	405	0.01	ppm	ASTM D6357	*Nickel	224	0.01	ppm	ASTM D6357
*Beryllium	11.3	0.01	ppm	ASTM D6357	Phosphorus	xxxx	0.01	ppm	ASTM D6357
Boron	38.2	0.01	ppm	ASTM D6357	Selenium	0.15	0.01	ppm	ASTM D6357
Bromine	xxxx	5	ppm	ASTM D4208 M	Silver	<0.01	0.01	ppm	ASTM D6357
*Cadmium	14.0	0.01	ppm	ASTM D6357	Strontium	795	0.01	ppm	ASTM D6357
Chlorine	102	50	ppm	ASTM D4208	Tellurium	xxxx	0.01	ppm	ASTM D6357
*Chromium	256	0.01	ppm	ASTM D6357	Thallium	14.5	0.01	ppm	ASTM D6357
Cobalt	55.0	0.01	ppm	ASTM D6357	Tin	17.8	0.01	ppm	ASTM D6357
*Copper	210	0.01	ppm	ASTM D6357	Tungsten	xxxx	0.01	ppm	ASTM D6357
Flourine	xxxx	10	ppm	ASTM D3761	*Vanadium	299	0.01	ppm	ASTM D6357
Gold	xxxx	0.01	ppm	ASTM D6357	*Zinc	2974	0.01	ppm	ASTM D6357
*Lead	754	0.01	ppm	ASTM D6357	Zirconium	xxxx	0.01	ppm	ASTM D6357
Lithium	124	0.01	ppm	ASTM D6357					

* Basic Set

Reported in Micrograms/gram (ppm) on a dry whole coal basis.

Submitted by: Sharlonda Matthews



Client:	Southern Illinois Power Cooperative	CTL Project No.:	410369
Project:	XRF Testing	CTL Proj. Mgr.:	Don Broton
Contact:	Jason McLaurin	Analyst:	Ross Kelly
Submitter:	Jason McLaurin	Approved:	Cyler Hayes
Date Received:	July 6, 2015	Date Analyzed:	July 9, 2015
		Date Reported:	July 9, 2015

REPORT OF CHEMICAL ANALYSIS

Client's Sample ID:	#4 Flyash no hydrate
Material type:	Fly ash
CTL Sample ID:	3997201

<u>Analyte</u>	<u>Weight %</u>
SiO ₂	41.92
Al ₂ O ₃	17.30
Fe ₂ O ₃	24.16
CaO	5.23
MgO	1.13
SO ₃	1.52
Na ₂ O	0.80
K ₂ O	2.88
TiO ₂	1.04
P ₂ O ₅	0.35
Mn ₂ O ₃	0.05
SrO	0.07
Cr ₂ O ₃	0.04
ZnO	0.21
BaO	0.06
L.O.I. (950°C) ^a	2.77
<u>Total</u>	<u>99.54</u>
T-Alk (Na ₂ O + 0.658K ₂ O)	2.69

Thermogravimetric Analysis - Loss on Ignition on As Received Basis (C311-13)

Free moisture (Ambient-110° C)	0.13
L.O.I. (110° C - 750° C)	1.90
L.O.I. (750° C - 950° C)	0.86

Calculations per ASTM C618-12a

SiO ₂ +Al ₂ O ₃ +Fe ₂ O ₃	83.4
L.O.I. 750° C (dry 110° C basis)	1.90

- Notes:
1. This analysis represents specifically the sample submitted.
 2. Sample results reported on an dry 110°C weight basis.
 3. Oxide analysis by X-ray fluorescence spectrometry. Samples fused at 1000°C with Li₂B₄O₇/LiBO₂.
 4. Elemental sulfur and sulfide sulfur may be lost during high temperature ignition and fusion.
 5. Analysis conducted in accordance with test methods referenced in ASTM C618-12a.
 6. This report may not be reproduced except in its entirety.



Client:	Brown & Roberts, Inc.	CTL Project No.:	410406
Project:	XRF Testing	CTL Proj. Mgr.:	Don Broton
Contact:	Jim Brown	Analyst:	Ross Kelly
Submitter:	Jim Brown	Approved:	Don Broton
Date Received:	November 17, 2015	Date Analyzed:	November 23, 2015
		Date Reported:	November 23, 2015

REPORT OF CHEMICAL ANALYSIS

Client's Sample ID:	11/10/15 #4 FA W Hy'15 123 FA W Hydrate	
Material type:	Fly ash	Fly ash
CTL Sample ID:	4108202	4108203

<u>Analyte</u>	<u>Weight %</u>	<u>Weight %</u>
SiO ₂	33.77	31.66
Al ₂ O ₃	14.96	11.49
Fe ₂ O ₃	21.85	9.04
CaO	11.99	26.90
MgO	0.95	0.97
SO ₃	8.18	11.08
Na ₂ O	1.05	0.44
K ₂ O	2.66	1.68
TiO ₂	0.98	0.52
P ₂ O ₅	0.35	0.11
Mn ₂ O ₃	0.05	0.04
SrO	0.06	0.04
Cr ₂ O ₃	0.04	0.01
ZnO	0.25	0.04
BaO	0.05	0.05
L.O.I. (950°C) ²	2.06	5.25
Total	99.26	99.33
T-Alk (Na ₂ O + 0.658K ₂ O)	2.80	1.55

- Notes:
1. This analysis represents specifically the sample submitted.
 2. Results reported on an oven dry (45°C) basis.
 3. Oxide analysis by X-ray fluorescence spectrometry. Samples fused at 1000°C with Li₂B₄O₇/LiBO₂.
 4. X-Ray Fluorescence oxide analysis meets the precision and accuracy requirements for rapid methods per ASTM C114-13. Most recent re-qualification date is 07-Apr-2015.
 5. Volatile elements may be lost during high temperature ignition and fusion.
 6. This report may not be reproduced except in its entirety.



Mineral Labs, Inc.

Box 549
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 Phone (606) 349-6145
 Certificate of Analysis

Company
SOUTHERN ILLINOIS POWER CO-OP
 11543 LAKE OF EGYPT ROAD
 MARION, IL 62959-0000

Lab No. **15055287 6197**
 Date Recd. **12/07/2015**
 Date Analyzed **12/07/2015**

SAMPLE IDENTIFICATION AS SUPPLIED BY SAMPLER SAMPLED BY CUSTOMER SAMPLED TYPE:

MAIL IN
 #4 FLY ASH
 11/23/15
 LOSS ON IGNITION = 1.31
 MERCURY = 0.028 PPM DRY

	% Moisture	% Ash	% Volatile	% Fixed Carbon	BTU/lb	% Sulfur
)	D3302	D3174	D3175	(Calculated)	D5865	D4239
As Recd	XXX	XXX	XXX	XXX	XXX	XXX
Dry Basis		XXX	XXX	XXX	XXX	XXX
M.A.F.B.T.U (Calculated)					XXX	

		-FUSION TEMPERATURE OF- D1857-04		Reducing		Oxidizing	
		Initial	Softening	°F	°F	°F	°F
Free Swelling Index No. D720-91	XXX			XXX		XXX	
Grindability Index No. D409	XXX			XXX		XXX	
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> SCREEN/WET SIEVE ANALYSIS SIZE 0 % WT. RETAINED </div>		Hemispherical		XXX		XXX	
		Fluid		XXX		XXX	

X X X X X X X X

WEIGHT DETERMINATION

Average Light Draft X X X
 Average Loaded Draft X X X
 Weight of Coal Loaded X X X Tons

X X X X X X X X

X X X X X X X X

7120656

Attachment C

Analytical Results for Pond Sediment Samples, Berm Samples, and Control Samples, Berm Boring Logs, and Photographs for the Berm Investigation

- Summary Table for Shake Tests of Pond Sediment, Berm, and Control Samples Collected in 2021
- Summary Table for Total Concentration Analysis of Pond Sediment Samples Collected in 2021
- Analytical Reports for Shake Tests of Pond Samples Collected in 2021
- Analytical Reports for Shake Tests of Berm Samples Collected in 2021
- Analytical Reports for Shake Tests of Control Samples Collected in 2021
- Analytical Reports for Total Concentrations of Pond Sediment Samples Collected in 2021
- Berm Boring Logs
- Photographs for the Berm Investigation

SHAKE TEST RESULTS FOR POND SEDIMENTS/BERM AND CONTROL SAMPLES
MARION STATION

Parameter	Units	Groundwater Quality Class I Potable Resource Groundwater (a)	Groundwater Quality Class II General Resource Groundwater (b)	Control Sample Shake Test Results (c)			Pond Sediment Sample Shake Test Results (c)													
				Scrubber Sludge 05/25/2021	Unit 4 Fly Ash 07/08/2021	Coal 05/25/2021	S-3Ax 04/27/2021	S-3An 04/27/2021	S-3n 04/27/2021	S-3x 04/27/2021	S-S6x 04/27/2021	S-S6n 04/27/2021	S-4gs 04/27/2021	S-4gp 04/27/2021	S-4x 04/27/2021	S-4n 04/27/2021	S-SFAn 04/27/2021	S-SFAx 04/27/2021	S-SFAGx 04/27/2021	S-SFAGn 04/27/2021
Alkalinity, Bicarbonate (as CaCO3)	mg/L	NA	NA	15	56	9	53 H	54 H	12 H	28 H	20 H	10 H	66 H	70 H	58 H	56 H	16 H	13 H	12 H	22 H
Alkalinity, Carbonate (as CaCO3)	mg/L	NA	NA	0	27	12	0 H	0 H	0 H	0 H	0 H	0 H	0 H	0 H	0 H	0 H	0 H	0 H	0 H	0 H
Oxidation-Reduction Potential	mV	NA	NA																	
Antimony	mg/L	0.006	0.024	< 0.0010 B	0.0216	< 0.0010 B	< 0.0010	< 0.0010	0.0011	0.002	0.0028	0.0044	< 0.0010	0.0017	< 0.0010	< 0.0010	0.0014	0.0022	0.0022	0.0021
Arsenic	mg/L	0.010	0.2	< 0.0100	< 0.0100	< 0.0100	0.0017	< 0.0010	0.0214	0.0037	0.0028	0.0048	0.001	0.0045	0.0059	0.0056	0.0014	0.0019	0.005	0.0013
Barium	mg/L	2	2	0.0047	0.0949	0.0185	0.0244	0.0815	0.025	0.023	0.0221	0.0237	0.0235	0.0328	0.0413	0.049	0.0202	0.0296	0.0647	0.0661
Beryllium	mg/L	0.004	0.5	< 0.0005	< 0.0005	< 0.0005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Boron	mg/L	2	2	< 0.0200	16.2 S	0.044	0.851	1.13	0.977	0.594	0.497	0.739	0.197	0.426	0.546	0.639	1.41	1.14	1.08	1.1
Cadmium	mg/L	0.005	0.05	< 0.0020	0.004	< 0.0020														
Calcium	mg/L	NA	NA	618 B	750 S	24.7 B	37.3 B	44.4 B	315 BS	612 B	629 B	617 B	28.7 B	30.6 B	45.1 B	46.2 B	470 B	654 B	34.5 B	43.9 B
Chloride	mg/L	200	200	< 4	623	17	13 H	19 H	14 H	9 H	6 H	10 H	2 H	6 H	25 H	11 H	42 SH	81 H	22 H	30 H
Chromium	mg/L	0.1	1	< 0.0050	0.0073	< 0.0050	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150
Cobalt	mg/L	1	1	< 0.0050	< 0.005	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Conductivity	µmhos/cm @25C	NA	NA																	
Fluoride	mg/L	4	4	1.37	7.33	0.11	0.84 H	3.44 H	1.63 H	1.56 H	1.48 H	1.24 H	1.1 H	0.68 H	0.9 H	1.1 H	2.61 H	1.21 H	3.59 H	3.67 H
Lead	mg/L	0.0075	0.1	< 0.0075	< 0.0075	< 0.0075	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Lithium	mg/L	NA	NA	< 0.0050	0.622	< 0.0050	< 0.0050	< 0.0050	0.0065	0.0059	0.0108	0.0166	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.0054	< 0.0050	< 0.0050	< 0.0050
Magnesium	mg/L	NA	NA	0.265 B	25.7 B	0.59 B	2.85 B	8.01 B	8.2 B	3.09 B	2.9 B	4.37 B	1.66 B	2.34 B	3.71 B	3.15 B	10.2 B	2.55 B	4.03 B	4.56 B
Mercury	mg/L	0.002	0.01	< 0.00020	< 0.00020	< 0.00020														
Molybdenum	mg/L	NA	NA	< 0.0100	2.48	< 0.0100	0.0147	0.0404	0.115	0.0358	0.0908	0.289	0.0136	0.0143	0.0252	0.03	0.153	0.0399	0.178	0.144
pH	S.U.	6.5-9	6.5-9				7.96	8.08	7.75	7.49	7.75	7.99	8.07	8	7.67	7.77	7.79	8.68	7.46	7.92
Potassium	mg/L	NA	NA	< 0.100	140	0.445	1.19	1.74	2.21	2.61	2.94	5.06	0.992	1.55	1.56	1.69	1.36	1.64	1.51	1.23
Selenium	mg/L	0.05	0.05	< 0.0400	1.45	< 0.0400	0.0067	0.0059	0.0013	0.0084	0.0048	0.004	0.0028	0.0039	< 0.0010	< 0.0010	0.0044	0.127	0.0487	0.0262
Sodium	mg/L	NA	NA	< 0.0500 B	136.00 B	10.20 B	1.99 B	2.65 B	2.93 B	1.84 B	1.55 B	2.44 B	1.07 B	3.98 B	3.07 B	1.74 B	3.14 B	1.32 B	1.47 B	1.58 B
Sulfate	mg/L	400	400	1400	1400	100	42 H	50 H	861 H	1360 H	1370 H	1350 H	31 H	11 H	49 H	22 H	1160 H	1340 H	59 H	69 H
Thallium	mg/L	0.002	0.02	0.0024 X	0.0495	< 0.0020	< 0.0020	< 0.0020	< 0.0020 B	< 0.0020	< 0.0020	< 0.0020 B	< 0.0020 B	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Total Dissolved Solids	mg/L	1200	1200	1950 H	3730 H	166 H	162 H	184 H	1310 H	2110 H	2090 H	2100 H	132 H	100 H	178 H	118 H	1920 H	2200 H	168 H	216 H

Notes:
 < - Not detected above the indicated reporting limit.
 - Not sampled.
 mg/L - Milligrams per liter.
 NA - Not available.
 S - Spike Recovery outside recovery limits.
 S.U. - Standard Units.

- (a) - Illinois Administrative Code. (July 2013). Title 35: Environmental Protection. Subtitle F: Public Water Supplies. Chapter I: Pollution Control Board. Part 620: Groundwater Quality. Subpart D: Groundwater Quality Standards. Section 620.410 Groundwater Quality Standards for Class I: Potable Resource Groundwater. <https://pcb.illinois.gov/documents/dsweb/Get/Document-33425/>
- (b) - Illinois Administrative Code. (July 2013). Title 35: Environmental Protection. Subtitle F: Public Water Supplies. Chapter I: Pollution Control Board. Part 620: Groundwater Quality. Subpart D: Groundwater Quality Standards. Section 620.420 Groundwater Quality Standards for Class II: General Resource Groundwater. <https://pcb.illinois.gov/documents/dsweb/Get/Document-33425/>
- (c) - Data from Teklab, Inc. Environmental Laboratory. June 7, 2021. Analysis by ASTM D3987, SW-846 3005A, 6010B, 6020A, Metals in Shake Extract by ICPMS, and ASTM D3987, SW-846 7470A in Shake Extract.
- (d) - Data from Teklab, Inc. Environmental Laboratory. April 12, 2021 and April 22, 2021. Analysis by ASTM D3987, SW-846 3005A, 6010B, 6020A, Metals in Shake Extract by ICPMS, and ASTM D3987, SW-846 7470A in Shake Extract.

Greater than the Groundwater Quality Class I Potable Resource Groundwater
 Greater than both the Groundwater Quality Class I Potable Resource Groundwater and Groundwater Quality Class II General Resource Groundwater

SHAKE TEST RESULTS FOR POND SEDIMENTS/BERM AND CONTROL SAMPLES
MARION STATION

Parameter	Units	Part 620 – Groundwater Quality Class I Potable Resource Groundwater (a)	Part 620 – Groundwater Quality Class II General Resource Groundwater (b)	Ponds 3, 3A, 4, and S-6 and South Fly Ash Pond Berm Results (d)												Former Pond B-3 Berm Results (d)				
				B-3a 4-6 ft 03/22/2021	B-3b 4-6ft 3/22/2021	B-3Aa 2-4 ft 03/22/2021	B-3Aa 8-10 ft 03/22/2021	B-4a 0-2 ft 03/22/2021	B-4a 2-4 ft 03/22/2021	B-6b 4-6ft 3/22/2021	B-SFAB 4-6ft 3/22/2021	B-SFAa 2-4ft 3/22/2021	B-B3a 4-6ft 3/22/2021	B-B3b 4-6ft 3/22/2021						
				Alkalinity, Bicarbonate (as CaCO3)	mg/L	NA	NA	0	16	H	20	34	23	26	14	H	6	H	34	H
Alkalinity, Carbonate (as CaCO3)	mg/L	NA	NA	29	0	H	0	0	0	0	0	H	0	H	0	H	0	H	0	H
Oxidation- Reduction Potential	mV	NA	NA	171	284		189	204	191	225	348		330		336		298		275	
Antimony	mg/L	0.006	0.024	< 0.0010	<0.0010		0.0018	0.0081	< 0.0010	< 0.0010	<0.0010		<0.0010		<0.0010		<0.0010		<0.0010	
Arsenic	mg/L	0.010	0.2	0.0027	<0.0010		0.0025	0.0254	0.0015	< 0.0010	0.0030		<0.0010		0.0011		<0.0010		<0.0010	
Barium	mg/L	2	2	0.0232	0.0036		0.0037	0.0661	0.0205	0.0106	0.0089		<0.0025		0.0291		<0.0025		<0.0025	
Beryllium	mg/L	0.004	0.5	< 0.0010	<0.0010		< 0.0010	< 0.0010	< 0.0010	< 0.0010	<0.0010		<0.0010		<0.0010		<0.0010		<0.0010	
Boron	mg/L	2	2	0.517	0.0939		0.165	0.196	0.124	0.0847	0.0459		<0.0200		0.0282		<0.0200		<0.0200	
Cadmium	mg/L	0.005	0.05	< 0.0010	<0.0010		< 0.0010	< 0.0010	< 0.0010	< 0.0010	<0.0010		<0.0010		<0.0010		<0.0010		<0.0010	
Calcium	mg/L	NA	NA	209	S	13.1	S	5.26	17.1	257	5.35		0.878		0.145		20.9		0.699	
Chloride	mg/L	200	200	4		< 1	H	< 1	< 1	1	2		5	H	8	H	7	H	< 1	H
Chromium	mg/L	0.1	1	< 0.0150	<0.0150		< 0.0150	< 0.0150	< 0.0150	< 0.0150	<0.0150		<0.0150		<0.0150		<0.0150		<0.0150	
Cobalt	mg/L	1	1	< 0.0010	<0.0010		< 0.0010	< 0.0010	< 0.0010	< 0.0010	<0.0010		<0.0010		<0.0010		<0.0010		<0.0010	
Conductivity	µmhos/cm @25C	NA	NA	2450		107	H	54	137	758	87		36	H	23	H	133	H	21	H
Fluoride	mg/L	4	4	0.15	0.32	H	0.80	1.12	0.59	0.62	0.18	H	0.29	H	0.46	H	0.57	H	0.37	H
Lead	mg/L	0.0075	0.1	< 0.0010	<0.0010		< 0.0010	< 0.0010	< 0.0010	< 0.0010	<0.0010		<0.0010		<0.0010		<0.0010		<0.0010	
Lithium	mg/L	NA	NA	0.0308	<0.0050		< 0.0040	0.0049	< 0.0040	< 0.0040	<0.0050		<0.0050		<0.0050		<0.0050		<0.0050	
Magnesium	mg/L	NA	NA	0.257	3.10		1.20	0.308	4.84	1.890	0.277		0.140		3.49		0.397		<0.0500	
Mercury	mg/L	0.002	0.01	< 0.00020	< 0.00020	H	< 0.00020	< 0.00020	< 0.00020	0.00020	< 0.00020	H	< 0.00020	H	< 0.00020	H	< 0.00020	H	< 0.00020	H
Molybdenum	mg/L	NA	NA	0.0097	0.0068		0.0311	0.0752	0.0088	0.0022	<0.0015		<0.0015		0.0038		<0.0015		<0.0015	
pH	S.U.	6.5-9	6.5-9	9.97	8.55	H	7.74	7.69	8.08	7.87	6.94	H	6.09	H	7.39	H	7.97	H	8.46	H
Potassium	mg/L	NA	NA	13.0	0.326		3.71	1.97	2.54	0.651	0.361		0.818		1.64		<0.100		<0.100	
Selenium	mg/L	0.05	0.05	0.002	<0.0010		0.0107	0.0035	0.0035	< 0.0010	<0.0010		<0.0010		<0.0010		<0.0010		<0.0010	
Sodium	mg/L	NA	NA	3.42	B	0.430	B	0.465	0.648	B	3.54	B	3.60	B	1.06	B	3.33	B	6.47	B
Sulfate	mg/L	400	400	1330	19	H	< 10	25	374	15	< 10	H	< 10	H	41	H	< 10	H	15	H
Thallium	mg/L	0.002	0.02	< 0.0020	<0.0020		< 0.0020	< 0.0020	< 0.0020	< 0.0020	<0.0020		<0.0020		<0.0020		<0.0020		<0.0020	
Total Dissolved Solids	mg/L	1200	1200	2200	55	H	52	88	604	2080	1540	H	4770	H	466	H	5370	H	5030	H

Notes:

- < - Not detected above the indicated reporting limit.
- Not sampled.
- mg/L - Milligrams per liter.
- NA - Not available.
- S - Spike Recovery outside recovery limits.
- S.U. - Standard Units.

(a) - Illinois Administrative Code. (July 2013). Title 35: Environmental Protection. Subtitle F: Public Water Supplies. Chapter I: Pollution Control Board. Part 620: Groundwater Quality.

Subpart D: Groundwater Quality Standards. Section 620.410 Groundwater Quality Standards for Class I: Potable Resource Groundwater.

<https://pcb.illinois.gov/documents/dsweb/Get/Document-33425/>

(b) - Illinois Administrative Code. (July 2013). Title 35: Environmental Protection. Subtitle F: Public Water Supplies. Chapter I: Pollution Control Board. Part 620: Groundwater Quality.

Subpart D: Groundwater Quality Standards. Section 620.420 Groundwater Quality Standards for Class II: General Resource Groundwater.

<https://pcb.illinois.gov/documents/dsweb/Get/Document-33425/>

(c) - Data from Teklab, Inc. Environmental Laboratory. June 7, 2021. Analysis by ASTM D3987, SW-846 3005A, 6010B, 6020A, Metals in Shake Extract by ICPMS, and ASTM D3987, SW-846 7470A in Shake Extract.

(d) - Data from Teklab, Inc. Environmental Laboratory. April 12, 2021 and April 22, 2021. Analysis by ASTM D3987, SW-846 3005A, 6010B, 6020A, Metals in Shake Extract by ICPMS, and ASTM D3987, SW-846 7470A in Shake Extract.

Greater than the Groundwater Quality Class I Potable Resource Groundwater
Greater than both the Groundwater Quality Class I Potable Resource Groundwater and Groundwater Quality Class II General Resource Groundwater

Electronic Filing: Received, Clerk's Office 09/02/2021

**TOTAL CONCENTRATION RESULTS FOR POND SEDIMENTS
MARION STATION**

Sampling Event: 4/30/2021

Number of Sampling Locations: 14

PARAMETER NAME	UNITS	S-3An	S-3Ax	S-3n	S-3x	S-S6x	S-S6n	S-4gs	S-4gp	S-4x	S-4n	S-SFAn	S-SFAx	S-SFAgx	S-SFAgn
Alkalinity, Bicarbonate	mg/Kg	<20.	<20.	90.5	25.5	34.	38.5	<18.	<20.	20.	19.5	38.5	34.	36.	25.
Alkalinity, Carbonate	mg/Kg	1820.	1100.	36650.	5000.	3765.	6600.	488.	2795.	5100.	5450.	2155.	960.	1790.	1285.
Antimony, total	mg/Kg	<0.4	<0.4	1.81	0.51	0.68	0.77	<0.36	<0.4	0.4	0.39	0.77	0.68	0.72	0.5
Arsenic, total	mg/Kg	36.4	22.	733.	100.	75.3	132.	9.76	55.9	102.	109.	43.1	19.2	35.8	25.7
Barium, total	mg/Kg	126.	24.7	175.	86.1	85.5	90.1	35.2	74.8	91.1	82.4	163.	58.1	126.	194.
Beryllium, total	mg/Kg	1.76	0.9	3.87	1.65	1.87	1.72	0.82	1.5	1.89	1.66	2.22	1.15	1.72	1.64
Boron, total	mg/Kg	118.	114.	185.	89.	78.7	93.5	52.2	69.4	68.	68.7	141.	97.5	81.5	81.3
Cadmium, total	mg/Kg	3.91	1.32	53.1	8.6	8.82	23.7	0.86	1.92	3.04	3.07	11.7	3.16	5.51	7.32
Calcium, total	mg/Kg	17400.	3700.	99700.	138000.	167000.	162000.	25800.	41300.	23000.	26900.	60200.	150000.	82600.	8320.
Chloride, total	mg/Kg	933.	474.	1930.	258.	269.	1150.	64.	166.	457.	590.	2990.	3450.	806.	976.
Chromium, total	mg/Kg	21.7	11.1	72.1	36.3	42.5	51.5	11.7	23.3	29.6	27.	99.2	31.6	86.8	121.
Cobalt, total	mg/Kg	17.	4.2	33.8	8.38	11.4	12.	3.34	7.89	11.8	11.2	14.7	4.87	18.3	29.
Fluoride, total	mg/Kg	119.	20.9	90.7	30.	33.4	45.8	17.9	14.1	20.	34.6	111.	34.	92.9	99.3
Lead, total	mg/Kg	47.7	11.8	204.	80.2	124.	194.	17.5	37.8	46.7	51.8	98.7	38.1	60.8	61.
Lithium, total	mg/Kg	13.3	1.67	19.5	8.15	9.82	12.8	3.02	6.66	9.68	9.17	12.2	6.18	15.5	22.8
Magnesium, total	mg/Kg	4040.	511.	7930.	3250.	3710.	6490.	1300.	2720.	2430.	2260.	3130.	2440.	2350.	2630.
Mercury, total	mg/Kg	0.133	0.045	2.12	0.296	0.344	0.959	0.103	0.124	0.147	0.205	3.5	0.968	0.944	2.67
Molybdenum, total	mg/Kg	12.5	4.49	40.1	9.26	12.6	49.7	3.77	5.94	5.89	7.48	26.6	7.03	24.8	27.2
Potassium, total	mg/Kg	2200.	348.	2820.	1650.	1820.	2160.	579.	1280.	1720.	1590.	2670.	1220.	1380.	1300.
Selenium, total	mg/Kg	31.3	4.67	80.	12.8	17.6	24.1	2.04	4.87	9.41	8.63	105.	17.9	123.	115.
Sodium, total	mg/Kg	271.	171.	538.	272.	293.	382.	155.	337.	325.	279.	356.	188.	161.	150.
Sulfate, total	mg/Kg	1940.	1200.	52100.	23300.	26000.	37400.	603.	243.	347.	624.	41400.	25700.	1320.	2200.
Thallium, total	mg/Kg	0.65	0.64	6.67	2.6	3.52	6.46	0.32	0.45	0.67	0.36	4.11	1.23	5.5	3.47
Total Solids	%	34.	50.6	23.2	56.4	52.7	34.	65.4	60.5	45.7	35.8	31.7	52.7	52.4	46.5
Percent Moisture	%	66.	49.4	76.8	43.6	47.3	66.	34.6	39.5	54.3	64.2	68.3	47.3	47.6	53.5
pH (1:1)	SU	7.75	7.41	7.96	7.52	7.76	8.26	8.27	7.92	7.73	7.39	7.89	8.84	7.55	7.64
Alkalinity, Bicarbonate	meq/Kg	40.	21.	258.	203.	86.	322.	460.	209.	15.	280.	152.	290.	14.	31.
Alkalinity, Carbonate	meq/Kg	0.	0.	0.	0.	0.	0.	8.	0.	0.	0.	0.	5.	0.	0.

June 07, 2021

Rhon Hasenyager
Hanson Professional Services, Inc.
1525 South Sixth Street
Springfield, IL 62703
TEL: (217) 747-9235
FAX: (217) 788-5241



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

RE: Sediment Sampling and Analysis - Marion, IL

WorkOrder: 21051595

Dear Rhon Hasenyager:

TEKLAB, INC received 14 samples on 4/28/2021 7:50:00 AM for the analysis presented in the following report.

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

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

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

Sincerely,



Marvin L. Darling
Project Manager
(618)344-1004 ex 41
mdarling@teklabinc.com



Report Contents

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

Client: Hanson Professional Services, Inc.

Work Order: 21051595

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 07-Jun-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Chain of Custody	Appended

Definitions

Client: Hanson Professional Services, Inc.

Work Order: 21051595

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 07-Jun-21

Abbr Definition

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

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

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

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

DNI Did not ignite

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

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

IDPH IL Dept. of Public Health

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

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

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

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

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

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

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

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

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

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

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

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

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

TNTC Too numerous to count (> 200 CFU)



Definitions

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

Client: Hanson Professional Services, Inc.

Work Order: 21051595

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 07-Jun-21

Qualifiers

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



Case Narrative

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

Client: Hanson Professional Services, Inc.

Work Order: 21051595

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 07-Jun-21

Cooler Receipt Temp: °C

Additional analysis to WO# 21041640.

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com



Accreditations

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

Client: Hanson Professional Services, Inc.

Work Order: 21051595

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 07-Jun-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-001
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-3Ax
Collection Date: 04/27/2021 9:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	162	mg/L	1	06/01/2021 17:08	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	53	mg/L	1	06/01/2021 11:54	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 11:54	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	42	mg/L	1	06/01/2021 18:03	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.96		1	05/28/2021 19:50	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	0.84	mg/L	1	05/28/2021 14:08	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	13	mg/L	1	06/01/2021 18:03	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0244	mg/L	1	06/01/2021 13:46	177444
Boron	NELAP	0.0200		0.851	mg/L	1	06/01/2021 13:46	177444
Calcium	NELAP	0.100	B	37.3	mg/L	1	06/01/2021 13:46	177444
Lithium	*	0.0050		< 0.0050	mg/L	1	06/01/2021 13:46	177444
Magnesium	NELAP	0.0500	B	2.85	mg/L	1	06/01/2021 13:46	177444
Potassium	NELAP	0.100		1.19	mg/L	1	06/01/2021 13:46	177444
Sodium	NELAP	0.0500	B	1.99	mg/L	1	06/01/2021 13:46	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 19:23	177446
Arsenic	NELAP	0.0010		0.0017	mg/L	5	06/01/2021 19:23	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 19:23	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/01/2021 19:23	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 19:23	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 19:23	177446
Molybdenum	NELAP	0.0015		0.0147	mg/L	5	06/01/2021 19:23	177446
Selenium	NELAP	0.0010		0.0067	mg/L	5	06/01/2021 19:23	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 13:36	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-002
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-3An
Collection Date: 04/27/2021 9:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	184	mg/L	1	06/01/2021 17:08	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	54	mg/L	1	06/01/2021 11:59	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 11:59	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	20	H	50	mg/L	2	06/01/2021 19:20	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		8.08		1	05/28/2021 19:53	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	3.44	mg/L	1	05/28/2021 14:11	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	19	mg/L	1	06/01/2021 18:14	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0815	mg/L	1	06/01/2021 13:51	177444
Boron	NELAP	0.0200		1.13	mg/L	1	06/01/2021 13:51	177444
Calcium	NELAP	0.100	B	44.4	mg/L	1	06/01/2021 13:51	177444
Lithium	*	0.0050		< 0.0050	mg/L	1	06/01/2021 13:51	177444
Magnesium	NELAP	0.0500	B	8.01	mg/L	1	06/01/2021 13:51	177444
Potassium	NELAP	0.100		1.74	mg/L	1	06/01/2021 13:51	177444
Sodium	NELAP	0.0500	B	2.65	mg/L	1	06/01/2021 13:51	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:24	177446
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:24	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:24	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/01/2021 20:24	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:24	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:24	177446
Molybdenum	NELAP	0.0015		0.0404	mg/L	5	06/01/2021 20:24	177446
Selenium	NELAP	0.0010		0.0059	mg/L	5	06/01/2021 20:24	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 13:43	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-003
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-3n
Collection Date: 04/27/2021 10:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	1310	mg/L	1	06/01/2021 17:20	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	12	mg/L	1	06/01/2021 12:11	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 12:11	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500	H	861	mg/L	50	06/01/2021 19:39	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.75		1	05/28/2021 19:54	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	1.63	mg/L	1	05/28/2021 14:13	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	14	mg/L	1	06/01/2021 18:16	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0250	mg/L	1	06/01/2021 13:52	177444
Boron	NELAP	0.0200		0.977	mg/L	1	06/01/2021 13:52	177444
Calcium	NELAP	0.100	BS	315	mg/L	1	06/01/2021 13:52	177444
Lithium	*	0.0050		0.0065	mg/L	1	06/01/2021 13:52	177444
Magnesium	NELAP	0.0500	B	8.20	mg/L	1	06/01/2021 13:52	177444
Potassium	NELAP	0.100		2.21	mg/L	1	06/01/2021 13:52	177444
Sodium	NELAP	0.0500	B	2.93	mg/L	1	06/01/2021 13:52	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0011	mg/L	5	06/01/2021 20:32	177446
Arsenic	NELAP	0.0010		0.0214	mg/L	5	06/01/2021 20:32	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:32	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/01/2021 20:32	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:32	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:32	177446
Molybdenum	NELAP	0.0015		0.115	mg/L	5	06/01/2021 20:32	177446
Selenium	NELAP	0.0010		0.0013	mg/L	5	06/01/2021 20:32	177446
Thallium	NELAP	0.0020	B	< 0.0020	mg/L	5	06/01/2021 20:32	177446
<i>Contamination present in the MBLK for Thallium. Sample results below the reporting limit are reportable per the TNI Standard.</i>								



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-004
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-3x
Collection Date: 04/27/2021 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	2110	mg/L	1	06/01/2021 17:21	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	28	mg/L	1	06/01/2021 12:16	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 12:16	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500	H	1360	mg/L	50	06/01/2021 19:41	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.49		1	05/28/2021 19:56	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	1.56	mg/L	1	05/28/2021 14:15	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	9	mg/L	1	06/01/2021 18:19	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0230	mg/L	1	06/01/2021 14:06	177444
Boron	NELAP	0.0200		0.594	mg/L	1	06/01/2021 14:06	177444
Calcium	NELAP	0.100	B	612	mg/L	1	06/01/2021 14:06	177444
Lithium	*	0.0050		0.0059	mg/L	1	06/01/2021 14:06	177444
Magnesium	NELAP	0.0500	B	3.09	mg/L	1	06/01/2021 14:06	177444
Potassium	NELAP	0.100		2.61	mg/L	1	06/01/2021 14:06	177444
Sodium	NELAP	0.0500	B	1.84	mg/L	1	06/01/2021 14:06	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0020	mg/L	5	06/01/2021 20:55	177446
Arsenic	NELAP	0.0010		0.0037	mg/L	5	06/01/2021 20:55	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:55	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/01/2021 20:55	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:55	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 20:55	177446
Molybdenum	NELAP	0.0015		0.0358	mg/L	5	06/01/2021 20:55	177446
Selenium	NELAP	0.0010		0.0084	mg/L	5	06/01/2021 20:55	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 15:15	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-005
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-S6x
Collection Date: 04/27/2021 11:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	2090	mg/L	1	06/01/2021 17:21	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	20	mg/L	1	06/01/2021 12:27	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 12:27	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500	H	1370	mg/L	50	06/01/2021 19:44	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.75		1	05/28/2021 19:58	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	1.48	mg/L	1	05/28/2021 14:20	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	6	mg/L	1	06/01/2021 18:24	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0221	mg/L	1	06/01/2021 14:07	177444
Boron	NELAP	0.0200		0.497	mg/L	1	06/01/2021 14:07	177444
Calcium	NELAP	0.100	B	629	mg/L	1	06/01/2021 14:07	177444
Lithium	*	0.0050		0.0108	mg/L	1	06/01/2021 14:07	177444
Magnesium	NELAP	0.0500	B	2.90	mg/L	1	06/01/2021 14:07	177444
Potassium	NELAP	0.100		2.94	mg/L	1	06/01/2021 14:07	177444
Sodium	NELAP	0.0500	B	1.55	mg/L	1	06/01/2021 14:07	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0028	mg/L	5	06/01/2021 21:02	177446
Arsenic	NELAP	0.0010		0.0028	mg/L	5	06/01/2021 21:02	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:02	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/01/2021 21:02	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:02	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:02	177446
Molybdenum	NELAP	0.0015		0.0908	mg/L	5	06/01/2021 21:02	177446
Selenium	NELAP	0.0010		0.0048	mg/L	5	06/01/2021 21:02	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 15:23	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-006
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-S6n
Collection Date: 04/27/2021 11:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	2100	mg/L	1	06/01/2021 17:21	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	10	mg/L	1	06/01/2021 12:32	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 12:32	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500	H	1350	mg/L	50	06/01/2021 19:49	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.99		1	05/28/2021 19:59	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	1.24	mg/L	1	05/28/2021 14:22	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	10	mg/L	1	06/01/2021 18:27	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0237	mg/L	1	06/01/2021 14:09	177444
Boron	NELAP	0.0200		0.739	mg/L	1	06/01/2021 14:09	177444
Calcium	NELAP	0.100	B	617	mg/L	1	06/01/2021 14:09	177444
Lithium	*	0.0050		0.0166	mg/L	1	06/01/2021 14:09	177444
Magnesium	NELAP	0.0500	B	4.37	mg/L	1	06/01/2021 14:09	177444
Potassium	NELAP	0.100		5.06	mg/L	1	06/01/2021 14:09	177444
Sodium	NELAP	0.0500	B	2.44	mg/L	1	06/01/2021 14:09	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0044	mg/L	5	06/01/2021 21:10	177446
Arsenic	NELAP	0.0010		0.0048	mg/L	5	06/01/2021 21:10	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:10	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/01/2021 21:10	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:10	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:10	177446
Molybdenum	NELAP	0.0015		0.289	mg/L	5	06/01/2021 21:10	177446
Selenium	NELAP	0.0010		0.0040	mg/L	5	06/01/2021 21:10	177446
Thallium	NELAP	0.0020	B	< 0.0020	mg/L	5	06/01/2021 21:10	177446
<i>Contamination present in the MBLK for Thallium. Sample results below the reporting limit are reportable per the TNI Standard.</i>								



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-007
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-4gs
Collection Date: 04/27/2021 12:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	132	mg/L	1	06/01/2021 17:22	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	66	mg/L	1	06/01/2021 12:37	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 12:37	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	31	mg/L	1	06/03/2021 16:51	R291837
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		8.07		1	05/28/2021 20:01	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	1.10	mg/L	1	05/28/2021 14:23	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	2	mg/L	1	06/01/2021 18:30	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0235	mg/L	1	06/01/2021 14:11	177444
Boron	NELAP	0.0200		0.197	mg/L	1	06/01/2021 14:11	177444
Calcium	NELAP	0.100	B	28.7	mg/L	1	06/01/2021 14:11	177444
Lithium	*	0.0050		< 0.0050	mg/L	1	06/01/2021 14:11	177444
Magnesium	NELAP	0.0500	B	1.66	mg/L	1	06/01/2021 14:11	177444
Potassium	NELAP	0.100		0.992	mg/L	1	06/01/2021 14:11	177444
Sodium	NELAP	0.0500	B	1.07	mg/L	1	06/01/2021 14:11	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:18	177446
Arsenic	NELAP	0.0010		0.0010	mg/L	5	06/01/2021 21:18	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:18	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/01/2021 21:18	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:18	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/01/2021 21:18	177446
Molybdenum	NELAP	0.0015		0.0136	mg/L	5	06/01/2021 21:18	177446
Selenium	NELAP	0.0010		0.0028	mg/L	5	06/01/2021 21:18	177446
Thallium	NELAP	0.0020	B	< 0.0020	mg/L	5	06/01/2021 21:18	177446
<i>Contamination present in the MBLK for Thallium. Sample results below the reporting limit are reportable per the TNI Standard.</i>								



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-008
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-4gp
Collection Date: 04/27/2021 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	100	mg/L	1	06/02/2021 15:15	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	70	mg/L	1	06/01/2021 12:43	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 12:43	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	11	mg/L	1	06/01/2021 18:48	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		8.00		1	05/28/2021 20:03	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	0.68	mg/L	1	05/28/2021 14:30	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	6	mg/L	1	06/01/2021 18:48	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0328	mg/L	1	06/01/2021 14:12	177444
Boron	NELAP	0.0200		0.426	mg/L	1	06/01/2021 14:12	177444
Calcium	NELAP	0.100	B	30.6	mg/L	1	06/01/2021 14:12	177444
Lithium	*	0.0050		< 0.0050	mg/L	1	06/01/2021 14:12	177444
Magnesium	NELAP	0.0500	B	2.34	mg/L	1	06/01/2021 14:12	177444
Potassium	NELAP	0.100		1.55	mg/L	1	06/01/2021 14:12	177444
Sodium	NELAP	0.0500	B	3.98	mg/L	1	06/01/2021 14:12	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0017	mg/L	5	06/04/2021 15:30	177446
Arsenic	NELAP	0.0010		0.0045	mg/L	5	06/04/2021 15:30	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:30	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/04/2021 15:30	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:30	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:30	177446
Molybdenum	NELAP	0.0015		0.0143	mg/L	5	06/04/2021 15:30	177446
Selenium	NELAP	0.0010		0.0039	mg/L	5	06/04/2021 15:30	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 15:30	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-009
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-4x
Collection Date: 04/27/2021 13:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	178	mg/L	1	06/02/2021 15:15	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	58	mg/L	1	06/01/2021 12:49	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 12:49	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	20	H	49	mg/L	2	06/01/2021 19:54	R291767
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.67		1	05/28/2021 20:05	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	0.90	mg/L	1	05/28/2021 14:31	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	25	mg/L	1	06/01/2021 18:51	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0413	mg/L	1	06/01/2021 14:14	177444
Boron	NELAP	0.0200		0.546	mg/L	1	06/01/2021 14:14	177444
Calcium	NELAP	0.100	B	45.1	mg/L	1	06/01/2021 14:14	177444
Lithium	*	0.0050		< 0.0050	mg/L	1	06/01/2021 14:14	177444
Magnesium	NELAP	0.0500	B	3.71	mg/L	1	06/01/2021 14:14	177444
Potassium	NELAP	0.100		1.56	mg/L	1	06/01/2021 14:14	177444
Sodium	NELAP	0.0500	B	3.07	mg/L	1	06/01/2021 14:14	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:38	177446
Arsenic	NELAP	0.0010		0.0059	mg/L	5	06/04/2021 15:38	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:38	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/04/2021 15:38	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:38	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:38	177446
Molybdenum	NELAP	0.0015		0.0252	mg/L	5	06/04/2021 15:38	177446
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:38	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 15:38	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-010
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-4n
Collection Date: 04/27/2021 14:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	118	mg/L	1	06/02/2021 15:16	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	56	mg/L	1	06/01/2021 12:54	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 12:54	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	22	mg/L	1	06/01/2021 18:53	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.77		1	05/28/2021 20:09	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	1.10	mg/L	1	05/28/2021 14:33	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	11	mg/L	1	06/01/2021 18:54	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0490	mg/L	1	06/01/2021 14:16	177444
Boron	NELAP	0.0200		0.639	mg/L	1	06/01/2021 14:16	177444
Calcium	NELAP	0.100	B	46.2	mg/L	1	06/01/2021 14:16	177444
Lithium	*	0.0050		< 0.0050	mg/L	1	06/01/2021 14:16	177444
Magnesium	NELAP	0.0500	B	3.15	mg/L	1	06/01/2021 14:16	177444
Potassium	NELAP	0.100		1.69	mg/L	1	06/01/2021 14:16	177444
Sodium	NELAP	0.0500	B	1.74	mg/L	1	06/01/2021 14:16	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:46	177446
Arsenic	NELAP	0.0010		0.0056	mg/L	5	06/04/2021 15:46	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:46	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/04/2021 15:46	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:46	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:46	177446
Molybdenum	NELAP	0.0015		0.0300	mg/L	5	06/04/2021 15:46	177446
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:46	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 15:46	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-011
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-SFAn
Collection Date: 04/27/2021 14:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	1920	mg/L	1	06/02/2021 15:18	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	16	mg/L	1	06/01/2021 13:01	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 13:01	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500	H	1160	mg/L	50	06/01/2021 20:24	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.79		1	05/28/2021 20:12	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	2.61	mg/L	1	05/28/2021 14:39	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	2	SH	42	mg/L	2	06/01/2021 20:00	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Matrix spike did not recover within control limits due to matrix interference.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0202	mg/L	1	06/01/2021 14:17	177444
Boron	NELAP	0.0200		1.41	mg/L	1	06/01/2021 14:17	177444
Calcium	NELAP	0.100	B	470	mg/L	1	06/01/2021 14:17	177444
Lithium	*	0.0050		0.0054	mg/L	1	06/01/2021 14:17	177444
Magnesium	NELAP	0.0500	B	10.2	mg/L	1	06/01/2021 14:17	177444
Potassium	NELAP	0.100		1.36	mg/L	1	06/01/2021 14:17	177444
Sodium	NELAP	0.0500	B	3.14	mg/L	1	06/01/2021 14:17	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0014	mg/L	5	06/04/2021 15:53	177446
Arsenic	NELAP	0.0010		0.0014	mg/L	5	06/04/2021 15:53	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:53	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/04/2021 15:53	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:53	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 15:53	177446
Molybdenum	NELAP	0.0015		0.153	mg/L	5	06/04/2021 15:53	177446
Selenium	NELAP	0.0010		0.0044	mg/L	5	06/04/2021 15:53	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 15:53	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-012
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-SFAx
Collection Date: 04/27/2021 14:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	2200	mg/L	1	06/02/2021 15:20	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	13	mg/L	1	06/01/2021 13:06	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 13:06	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500	H	1340	mg/L	50	06/01/2021 20:40	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		8.68		1	05/28/2021 20:13	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	1.21	mg/L	1	05/28/2021 14:40	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	10	H	81	mg/L	10	06/01/2021 20:35	R291768
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0296	mg/L	1	06/01/2021 14:19	177444
Boron	NELAP	0.0200		1.14	mg/L	1	06/01/2021 14:19	177444
Calcium	NELAP	0.100	B	654	mg/L	1	06/01/2021 14:19	177444
Lithium	*	0.0050		< 0.0050	mg/L	1	06/01/2021 14:19	177444
Magnesium	NELAP	0.0500	B	2.55	mg/L	1	06/01/2021 14:19	177444
Potassium	NELAP	0.100		1.64	mg/L	1	06/01/2021 14:19	177444
Sodium	NELAP	0.0500	B	1.32	mg/L	1	06/01/2021 14:19	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0022	mg/L	5	06/04/2021 16:01	177446
Arsenic	NELAP	0.0010		0.0019	mg/L	5	06/04/2021 16:01	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 16:01	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/04/2021 16:01	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 16:01	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 16:01	177446
Molybdenum	NELAP	0.0015		0.0399	mg/L	5	06/04/2021 16:01	177446
Selenium	NELAP	0.0010		0.127	mg/L	5	06/04/2021 16:01	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 16:01	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-013
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-SFAGx
Collection Date: 04/27/2021 15:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	168	mg/L	1	06/02/2021 15:20	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	12	mg/L	1	06/01/2021 13:11	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 13:11	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	50	H	59	mg/L	5	06/03/2021 17:05	R291837
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.46		1	05/28/2021 20:16	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	3.59	mg/L	1	05/28/2021 14:42	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	22	mg/L	1	06/01/2021 19:12	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0647	mg/L	1	06/01/2021 14:29	177444
Boron	NELAP	0.0200		1.08	mg/L	1	06/01/2021 14:29	177444
Calcium	NELAP	0.100	B	34.5	mg/L	1	06/01/2021 14:29	177444
Lithium	*	0.0050		< 0.0050	mg/L	1	06/01/2021 14:29	177444
Magnesium	NELAP	0.0500	B	4.03	mg/L	1	06/01/2021 14:29	177444
Potassium	NELAP	0.100		1.51	mg/L	1	06/01/2021 14:29	177444
Sodium	NELAP	0.0500	B	1.47	mg/L	1	06/01/2021 14:29	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0022	mg/L	5	06/04/2021 16:09	177446
Arsenic	NELAP	0.0010		0.0050	mg/L	5	06/04/2021 16:09	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 16:09	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/04/2021 16:09	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 16:09	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 16:09	177446
Molybdenum	NELAP	0.0015		0.178	mg/L	5	06/04/2021 16:09	177446
Selenium	NELAP	0.0010		0.0487	mg/L	5	06/04/2021 16:09	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 16:09	177446



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21051595-014
Matrix: SOLID

Work Order: 21051595
Report Date: 07-Jun-21
Client Sample ID: S-SFAGn
Collection Date: 04/27/2021 15:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	216	mg/L	1	06/02/2021 15:21	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	22	mg/L	1	06/01/2021 13:16	R291711
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	06/01/2021 13:16	R291711
<i>Sample analysis did not meet hold time requirements.</i>								
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	50	H	69	mg/L	5	06/01/2021 20:52	R291767
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.92		1	05/28/2021 20:17	R291655
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	3.67	mg/L	1	05/28/2021 14:43	R291654
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	30	mg/L	1	06/01/2021 19:15	R291768
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0661	mg/L	1	06/01/2021 14:30	177444
Boron	NELAP	0.0200		1.10	mg/L	1	06/01/2021 14:30	177444
Calcium	NELAP	0.100	B	43.9	mg/L	1	06/01/2021 14:30	177444
Lithium	*	0.0050		< 0.0050	mg/L	1	06/01/2021 14:30	177444
Magnesium	NELAP	0.0500	B	4.56	mg/L	1	06/01/2021 14:30	177444
Potassium	NELAP	0.100		1.23	mg/L	1	06/01/2021 14:30	177444
Sodium	NELAP	0.0500	B	1.58	mg/L	1	06/01/2021 14:30	177444
<i>Sample results for Ca, Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0021	mg/L	5	06/04/2021 16:16	177446
Arsenic	NELAP	0.0010		0.0013	mg/L	5	06/04/2021 16:16	177446
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 16:16	177446
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	06/04/2021 16:16	177446
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 16:16	177446
Lead	NELAP	0.0010		< 0.0010	mg/L	5	06/04/2021 16:16	177446
Molybdenum	NELAP	0.0015		0.144	mg/L	5	06/04/2021 16:16	177446
Selenium	NELAP	0.0010		0.0262	mg/L	5	06/04/2021 16:16	177446
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 16:16	177446

CHAIN-OF-CUSTODY RECORD

TEKLAB, INC
 5445 Horseshoe Lake Road
 Collinsville, IL 62234-7425
 TEL: (618) 344-1004
 FAX: (618) 344-1005

WorkOrder: 21051595

Client:
 Hanson Professional Services, Inc.
 1525 South Sixth Street
 Springfield, IL 62703

TEL: (217) 788-2450
 FAX: (217) 788-5241
 Project: Sediment Sampling and Ana

26-May-21

Sample ID	ClientSampID	Matrix	Date Collected	Bottle	Requested Tests						
					D3987/6010B	D3987/6020	D3987/E160_1	D3987/SW90_36	D3987/SW90_40B	D3987/SW92_14	D3987/SW92_51
21051595-001	S-3Ax	Solid	4/27/2021 9:40:00 AM		A	A	A	A	A	A	A
21051595-002	S-3An	Solid	4/27/2021 9:50:00 AM		A	A	A	A	A	A	A
21051595-003	S-3n	Solid	4/27/2021 10:15:00 AM		A	A	A	A	A	A	A
21051595-004	S-3x	Solid	4/27/2021 10:45:00 AM		A	A	A	A	A	A	A
21051595-005	S-S6x	Solid	4/27/2021 11:25:00 AM		A	A	A	A	A	A	A
21051595-006	S-S6n	Solid	4/27/2021 11:45:00 AM		A	A	A	A	A	A	A
21051595-007	S-4gs	Solid	4/27/2021 12:40:00 PM		A	A	A	A	A	A	A
21051595-008	S-4gp	Solid	4/27/2021 1:00:00 PM		A	A	A	A	A	A	A
21051595-009	S-4x	Solid	4/27/2021 1:15:00 PM		A	A	A	A	A	A	A
21051595-010	S-4n	Solid	4/27/2021 2:00:00 PM		A	A	A	A	A	A	A
21051595-011	S-SFAn	Solid	4/27/2021 2:40:00 PM		A	A	A	A	A	A	A
21051595-012	S-SFAx	Solid	4/27/2021 2:55:00 PM		A	A	A	A	A	A	A
21051595-013	S-SFAgx	Solid	4/27/2021 3:20:00 PM		A	A	A	A	A	A	A
21051595-014	S-SFAgn	Solid	4/27/2021 3:45:00 PM		A	A	A	A	A	A	A

Comments: Excel PrState EDD
Standard Lab will run Total Carbon, email form Tim Hutchison 11/18/2020 jhr
Sub Total Carbon to Standard Labs. EEP 4/28/21

	Date/Time		Date/Time
Relinquished by: <u>Mary Kemp</u>		Received by: _____	
Relinquished by: _____		Received by: _____	
Relinquished by: _____		Received by: _____	

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

CHAIN-OF-CUSTODY RECORD

TEKLAB, INC
 5445 Horseshoe Lake Road
 Collinsville, IL 62234-7425
 TEL: (618) 344-1004
 FAX: (618) 344-1005

WorkOrder: 21051595

Client:

Hanson Professional Services, Inc.
 1525 South Sixth Street
 Springfield, IL 62703

TEL: (217) 788-2450
 FAX: (217) 788-5241
 Project: Sediment Sampling and Ana

26-May-21

Sample ID	ClientSampleID	Matrix	Date Collected	Bottle	Requested Tests					
					M2320 B (B)	M2320 B (C)				
21051595-001	S-3Ax	Solid	4/27/2021 9:40:00 AM		A	A				
21051595-002	S-3An	Solid	4/27/2021 9:50:00 AM		A	A				
21051595-003	S-3n	Solid	4/27/2021 10:15:00 AM		A	A				
21051595-004	S-3x	Solid	4/27/2021 10:45:00 AM		A	A				
21051595-005	S-S6x	Solid	4/27/2021 11:25:00 AM		A	A				
21051595-006	S-S6n	Solid	4/27/2021 11:45:00 AM		A	A				
21051595-007	S-4gs	Solid	4/27/2021 12:40:00 PM		A	A				
21051595-008	S-4gp	Solid	4/27/2021 1:00:00 PM		A	A				
21051595-009	S-4x	Solid	4/27/2021 1:15:00 PM		A	A				
21051595-010	S-4n	Solid	4/27/2021 2:00:00 PM		A	A				
21051595-011	S-SFAn	Solid	4/27/2021 2:40:00 PM		A	A				
21051595-012	S-SFAx	Solid	4/27/2021 2:55:00 PM		A	A				
21051595-013	S-SFAgx	Solid	4/27/2021 3:20:00 PM		A	A				
21051595-014	S-SFAgn	Solid	4/27/2021 3:45:00 PM		A	A				

Comments: Excel PrState EDD
Standard Lab will run Total Carbon, email form Tim Hutchison 11/18/2020 jhr
Sub Total Carbon to Standard Labs. EEP 4/28/21

Date/Time	Date/Time
Relinquished by: <u>Mary Kemp</u>	Received by: _____
Relinquished by: _____	Received by: _____
Relinquished by: _____	Received by: _____

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

April 12, 2021

Rhon Hasenyager
Hanson Professional Services, Inc.
1525 South Sixth Street
Springfield, IL 62703
TEL: (217) 747-9235
FAX: (217) 788-5241



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

RE: Marion Berm Investigation 20E0016B/1000

WorkOrder: 21031686

Dear Rhon Hasenyager:

TEKLAB, INC received 5 samples on 3/25/2021 1:25:00 PM for the analysis presented in the following report.

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

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

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

Sincerely,



Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com



Report Contents

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

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	17
Chain of Custody	Appended

Definitions

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

Abbr Definition

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

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

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

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

DNI Did not ignite

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

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

IDPH IL Dept. of Public Health

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

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

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

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

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

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

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

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

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

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

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

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

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

TNTC Too numerous to count (> 200 CFU)



Definitions

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

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

Qualifiers

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



Case Narrative

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

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

Cooler Receipt Temp: 7.0 °C

Locations

Collinsville

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Downers Grove, IL 60515
Phone (630) 324-6855
Fax
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Accreditations

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

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2021	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2021	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2021	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville



Laboratory Results

Client: Hanson Professional Services, Inc.
 Client Project: Marion Berm Investigation 20E0016B/1000
 Lab ID: 21031686-001
 Matrix: SOLID

Work Order: 21031686
 Report Date: 12-Apr-21
 Client Sample ID: B-3a 4-6 ft
 Collection Date: 03/22/2021 11:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20		2200	mg/L	1	03/26/2021 17:48	R289039
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0		0	mg/L	1	03/29/2021 11:01	175151
Alkalinity, Carbonate (as CaCO3)	*	0		29	mg/L	1	03/29/2021 11:01	175151
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		171	mV	1	03/29/2021 11:41	175151
<i>Sample was analyzed at 22C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500		1330	mg/L	50	03/31/2021 11:46	R289152
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		9.97		1	03/29/2021 11:22	R289064
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		0.15	mg/L	1	03/26/2021 17:05	R289047
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1		4	mg/L	1	03/29/2021 16:39	R289070
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		272	meq/Kg	1	03/29/2021 11:39	R289089
Alkalinity, Carbonate	*	0		28	meq/Kg	1	03/29/2021 11:39	R289089
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		58.0	%	1	03/26/2021 13:13	R289025
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	10		29	mg/Kg	1	03/31/2021 11:57	175231
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10		2450	µmhos/cm @25C	1	03/29/2021 8:59	R289023
SW-846 9036 (TOTAL)								
Sulfate	NELAP	5020		14200	mg/Kg	50	03/31/2021 12:02	175232
SW-846 9214								
Fluoride	NELAP	1.00		1.69	mg/Kg	1	03/30/2021 15:32	175233
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0232	mg/L	1	03/31/2021 4:50	175182
Boron	NELAP	0.0200		0.517	mg/L	1	03/31/2021 4:50	175182
Calcium	NELAP	0.100	S	209	mg/L	1	03/31/2021 4:50	175182
Lithium	*	0.0040		0.0308	mg/L	1	03/31/2021 4:50	175182
Magnesium	NELAP	0.0500		0.257	mg/L	1	03/31/2021 4:50	175182
Potassium	NELAP	0.500		13.0	mg/L	5	03/31/2021 18:49	175182
Sodium	NELAP	0.0500	B	3.42	mg/L	1	03/31/2021 4:50	175182
<i>Sample result for Na exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:16	175183
Arsenic	NELAP	0.0010		0.0027	mg/L	5	04/08/2021 18:16	175183
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:16	175183
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:16	175183
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	04/08/2021 18:16	175183
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:16	175183



Laboratory Results

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

Lab ID: 21031686-001

Client Sample ID: B-3a 4-6 ft

Matrix: SOLID

Collection Date: 03/22/2021 11:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Lead	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:16	175183
Molybdenum	NELAP	0.0015		0.0097	mg/L	5	04/09/2021 20:10	175183
Selenium	NELAP	0.0010		0.0020	mg/L	5	04/08/2021 18:16	175183
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	04/08/2021 18:16	175183
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	03/29/2021 11:36	175196
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	5.00		305	mg/Kg-dry	10	03/30/2021 23:09	175145
Boron	NELAP	20.0	S	452	mg/Kg-dry	10	03/30/2021 23:09	175145
Calcium	NELAP	100	S	103000	mg/Kg-dry	10	03/30/2021 23:09	175145
Magnesium	NELAP	50.0	S	6390	mg/Kg-dry	10	03/30/2021 23:09	175145
Potassium	NELAP	100	S	8060	mg/Kg-dry	10	03/30/2021 23:09	175145
Sodium	NELAP	200		964	mg/Kg-dry	20	03/30/2021 22:58	175145
<i>Matrix spike control limits for B, Ca, Mg, and K are not applicable due to high sample/spike ratio.</i>								
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.36		2.72	mg/Kg-dry	10	04/08/2021 23:04	175156
Arsenic	NELAP	0.20		20.0	mg/Kg-dry	10	04/05/2021 18:41	175146
Beryllium	NELAP	0.30		2.42	mg/Kg-dry	10	04/05/2021 18:41	175146
Cadmium	NELAP	0.20		2.91	mg/Kg-dry	10	04/05/2021 18:41	175146
Chromium	NELAP	0.50		46.2	mg/Kg-dry	10	04/05/2021 18:41	175146
Cobalt	NELAP	0.20		10.8	mg/Kg-dry	10	04/05/2021 18:41	175146
Lead	NELAP	0.20		56.8	mg/Kg-dry	10	04/05/2021 18:41	175146
Lithium	*	0.30		18.4	mg/Kg-dry	10	04/05/2021 18:41	175146
Molybdenum	NELAP	0.20		14.6	mg/Kg-dry	10	04/05/2021 18:41	175146
Selenium	NELAP	1.00		5.96	mg/Kg-dry	10	04/05/2021 18:41	175146
Thallium	NELAP	0.20		2.62	mg/Kg-dry	10	04/05/2021 18:41	175146
SW-846 7471B								
Mercury	NELAP	0.010		0.184	mg/Kg	1	03/26/2021 11:03	175098



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Marion Berm Investigation 20E0016B/1000
Lab ID: 21031686-002
Matrix: SOLID

Work Order: 21031686
Report Date: 12-Apr-21
Client Sample ID: B-3Aa 2-4 ft
Collection Date: 03/22/2021 10:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20		52	mg/L	1	03/26/2021 17:48	R289039
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0		20	mg/L	1	03/29/2021 11:09	175151
Alkalinity, Carbonate (as CaCO3)	*	0		0	mg/L	1	03/29/2021 11:09	175151
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		189	mV	1	03/29/2021 11:41	175151
<i>Sample was analyzed at 22C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10		< 10	mg/L	1	03/29/2021 17:03	R289069
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.74		1	03/29/2021 11:25	R289064
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		0.80	mg/L	1	03/26/2021 17:11	R289047
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1		< 1	mg/L	1	03/29/2021 17:03	R289070
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		25	meq/Kg	1	03/29/2021 11:49	R289089
Alkalinity, Carbonate	*	0		0	meq/Kg	1	03/29/2021 11:49	R289089
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		69.4	%	1	03/26/2021 13:14	R289025
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	10		< 10	mg/Kg	1	03/31/2021 12:05	175231
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10		54	µmhos/cm @25C	1	03/29/2021 8:59	R289023
SW-846 9036 (TOTAL)								
Sulfate	NELAP	101		109	mg/Kg	1	03/31/2021 12:04	175232
SW-846 9214								
Fluoride	NELAP	1.01		10.8	mg/Kg	1	03/30/2021 15:34	175233
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0037	mg/L	1	03/31/2021 5:28	175182
Boron	NELAP	0.0200		0.165	mg/L	1	03/31/2021 5:28	175182
Calcium	NELAP	0.100		5.26	mg/L	1	03/31/2021 5:28	175182
Lithium	*	0.0040		< 0.0040	mg/L	1	03/31/2021 5:28	175182
Magnesium	NELAP	0.0500		1.20	mg/L	1	03/31/2021 5:28	175182
Potassium	NELAP	0.100		3.71	mg/L	1	03/31/2021 5:28	175182
Sodium	NELAP	0.100		0.465	mg/L	1	03/31/2021 5:28	175182
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0018	mg/L	5	04/08/2021 18:25	175183
Arsenic	NELAP	0.0010		0.0025	mg/L	5	04/08/2021 18:25	175183
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:25	175183
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:25	175183
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	04/08/2021 18:25	175183
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:25	175183
Lead	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:25	175183
Molybdenum	NELAP	0.0015		0.0311	mg/L	5	04/09/2021 21:45	175183



Laboratory Results

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

Lab ID: 21031686-002

Client Sample ID: B-3Aa 2-4 ft

Matrix: SOLID

Collection Date: 03/22/2021 10:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Selenium	NELAP	0.0010		0.0107	mg/L	5	04/08/2021 18:25	175183
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	04/08/2021 18:25	175183
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	03/29/2021 11:39	175196
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		138	mg/Kg-dry	1	03/30/2021 1:36	175145
Boron	NELAP	2.00		97.5	mg/Kg-dry	1	03/30/2021 1:36	175145
Calcium	NELAP	10.0		4960	mg/Kg-dry	1	03/30/2021 1:36	175145
Magnesium	NELAP	5.00		1210	mg/Kg-dry	1	03/30/2021 1:36	175145
Potassium	NELAP	100		3250	mg/Kg-dry	10	03/30/2021 23:20	175145
Sodium	NELAP	10.0		418	mg/Kg-dry	1	03/30/2021 1:36	175145
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		7.35	mg/Kg-dry	10	04/08/2021 23:13	175156
Arsenic	NELAP	0.20		153	mg/Kg-dry	10	04/05/2021 18:59	175146
Beryllium	NELAP	0.30		2.62	mg/Kg-dry	10	04/05/2021 18:59	175146
Cadmium	NELAP	0.20		10.3	mg/Kg-dry	10	04/05/2021 18:59	175146
Chromium	NELAP	0.50		62.5	mg/Kg-dry	10	04/05/2021 18:59	175146
Cobalt	NELAP	0.20		12.5	mg/Kg-dry	10	04/05/2021 18:59	175146
Lead	NELAP	0.20		396	mg/Kg-dry	10	04/05/2021 18:59	175146
Lithium	*	0.30		18.1	mg/Kg-dry	10	04/05/2021 18:59	175146
Molybdenum	NELAP	0.20		20.5	mg/Kg-dry	10	04/05/2021 18:59	175146
Selenium	NELAP	1.00		10.5	mg/Kg-dry	10	04/05/2021 18:59	175146
Thallium	NELAP	0.20		3.30	mg/Kg-dry	10	04/05/2021 18:59	175146
SW-846 7471B								
Mercury	NELAP	0.010		0.162	mg/Kg	1	03/26/2021 11:05	175098



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Marion Berm Investigation 20E0016B/1000
Lab ID: 21031686-003
Matrix: SOLID

Work Order: 21031686
Report Date: 12-Apr-21
Client Sample ID: B-3Aa 8-10 ft
Collection Date: 03/22/2021 10:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20		88	mg/L	1	03/26/2021 17:49	R289039
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0		34	mg/L	1	03/29/2021 11:13	175151
Alkalinity, Carbonate (as CaCO3)	*	0		0	mg/L	1	03/29/2021 11:13	175151
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		204	mV	1	03/29/2021 11:41	175151
<i>Sample was analyzed at 22C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10		25	mg/L	1	03/29/2021 17:10	R289069
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.69		1	03/29/2021 11:28	R289064
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		1.12	mg/L	1	03/26/2021 17:13	R289047
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1		< 1	mg/L	1	03/29/2021 17:10	R289070
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		35	meq/Kg	1	03/29/2021 12:08	R289089
Alkalinity, Carbonate	*	0		0	meq/Kg	1	03/29/2021 12:08	R289089
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		70.7	%	1	03/26/2021 13:15	R289025
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	10		< 10	mg/Kg	1	03/31/2021 12:23	175231
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10		137	µmhos/cm @25C	1	03/29/2021 8:59	R289023
SW-846 9036 (TOTAL)								
Sulfate	NELAP	195		429	mg/Kg	2	03/31/2021 12:34	175232
SW-846 9214								
Fluoride	NELAP	0.977		12.4	mg/Kg	1	03/30/2021 15:40	175233
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0661	mg/L	1	03/31/2021 5:31	175182
Boron	NELAP	0.0200		0.196	mg/L	1	03/31/2021 5:31	175182
Calcium	NELAP	0.100		17.1	mg/L	1	03/31/2021 5:31	175182
Lithium	*	0.0040		0.0049	mg/L	1	03/31/2021 5:31	175182
Magnesium	NELAP	0.0500		0.308	mg/L	1	03/31/2021 5:31	175182
Potassium	NELAP	0.100		1.97	mg/L	1	03/31/2021 5:31	175182
Sodium	NELAP	0.0500	B	0.648	mg/L	1	03/31/2021 5:31	175182
<i>Sample result for Na exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0081	mg/L	5	04/08/2021 18:34	175183
Arsenic	NELAP	0.0010		0.0254	mg/L	5	04/08/2021 18:34	175183
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:34	175183
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:34	175183
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	04/08/2021 18:34	175183
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:34	175183
Lead	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:34	175183



Laboratory Results

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

Lab ID: 21031686-003

Client Sample ID: B-3Aa 8-10 ft

Matrix: SOLID

Collection Date: 03/22/2021 10:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Molybdenum	NELAP	0.0015		0.0752	mg/L	5	04/09/2021 21:54	175183
Selenium	NELAP	0.0010		0.0035	mg/L	5	04/08/2021 18:34	175183
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	04/08/2021 18:34	175183
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	03/29/2021 11:46	175196
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	4.63		233	mg/Kg-dry	10	03/30/2021 23:39	175145
Boron	NELAP	18.5		241	mg/Kg-dry	10	03/30/2021 23:39	175145
Calcium	NELAP	92.6		7420	mg/Kg-dry	10	03/30/2021 23:39	175145
Magnesium	NELAP	46.3		1670	mg/Kg-dry	10	03/30/2021 23:39	175145
Potassium	NELAP	92.6		4850	mg/Kg-dry	10	03/30/2021 23:39	175145
Sodium	NELAP	92.6		682	mg/Kg-dry	10	03/30/2021 23:39	175145
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.39		12.6	mg/Kg-dry	10	04/08/2021 23:21	175156
Arsenic	NELAP	0.19		283	mg/Kg-dry	10	04/05/2021 19:16	175146
Beryllium	NELAP	0.28		3.72	mg/Kg-dry	10	04/05/2021 19:16	175146
Cadmium	NELAP	0.19		11.6	mg/Kg-dry	10	04/05/2021 19:16	175146
Chromium	NELAP	0.46		105	mg/Kg-dry	10	04/05/2021 19:16	175146
Cobalt	NELAP	0.19		12.1	mg/Kg-dry	10	04/05/2021 19:16	175146
Lead	NELAP	0.19		582	mg/Kg-dry	10	04/05/2021 19:16	175146
Lithium	*	0.28		19.2	mg/Kg-dry	10	04/05/2021 19:16	175146
Molybdenum	NELAP	0.19		23.5	mg/Kg-dry	10	04/05/2021 19:16	175146
Selenium	NELAP	0.93		7.46	mg/Kg-dry	10	04/05/2021 19:16	175146
Thallium	NELAP	0.19		6.83	mg/Kg-dry	10	04/05/2021 19:16	175146
SW-846 7471B								
Mercury	NELAP	0.009		0.091	mg/Kg	1	03/26/2021 11:07	175098



Laboratory Results

Client: Hanson Professional Services, Inc.
 Client Project: Marion Berm Investigation 20E0016B/1000
 Lab ID: 21031686-004
 Matrix: SOLID

Work Order: 21031686
 Report Date: 12-Apr-21
 Client Sample ID: B-4a 0-2 ft
 Collection Date: 03/22/2021 9:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20		604	mg/L	1	03/26/2021 17:50	R289039
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0		23	mg/L	1	03/29/2021 11:19	175151
Alkalinity, Carbonate (as CaCO3)	*	0		0	mg/L	1	03/29/2021 11:19	175151
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		191	mV	1	03/29/2021 11:41	175151
<i>Sample was analyzed at 22C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	100		374	mg/L	10	03/29/2021 17:24	R289069
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		8.08		1	03/29/2021 11:31	R289064
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		0.59	mg/L	1	03/26/2021 17:14	R289047
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1		1	mg/L	1	03/29/2021 17:19	R289070
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		847	meq/Kg	1	03/29/2021 13:18	R289089
Alkalinity, Carbonate	*	0		0	meq/Kg	1	03/29/2021 13:18	R289089
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		84.7	%	1	03/26/2021 13:15	R289025
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	10		16	mg/Kg	1	03/31/2021 12:44	175231
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10		758	µmhos/cm @25C	1	03/29/2021 8:59	R289023
SW-846 9036 (TOTAL)								
Sulfate	NELAP	4020		10000	mg/Kg	40	03/31/2021 18:25	175232
SW-846 9214								
Fluoride	NELAP	1.00		9.19	mg/Kg	1	03/30/2021 15:42	175233
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0205	mg/L	1	03/31/2021 5:35	175182
Boron	NELAP	0.0200		0.124	mg/L	1	03/31/2021 5:35	175182
Calcium	NELAP	0.100		257	mg/L	1	03/31/2021 5:35	175182
Lithium	*	0.0040		< 0.0040	mg/L	1	03/31/2021 5:35	175182
Magnesium	NELAP	0.0500		4.84	mg/L	1	03/31/2021 5:35	175182
Potassium	NELAP	0.100		2.54	mg/L	1	03/31/2021 5:35	175182
Sodium	NELAP	0.0500	B	3.54	mg/L	1	03/31/2021 5:35	175182
<i>Sample result for Na exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:42	175183
Arsenic	NELAP	0.0010		0.0015	mg/L	5	04/08/2021 18:42	175183
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:42	175183
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:42	175183
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	04/08/2021 18:42	175183
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:42	175183
Lead	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:42	175183



Laboratory Results

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

Lab ID: 21031686-004

Client Sample ID: B-4a 0-2 ft

Matrix: SOLID

Collection Date: 03/22/2021 9:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Molybdenum	NELAP	0.0015		0.0088	mg/L	5	04/09/2021 22:03	175183
Selenium	NELAP	0.0010		0.0035	mg/L	5	04/08/2021 18:42	175183
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	04/08/2021 18:42	175183
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	03/29/2021 11:48	175196
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.49		40.7	mg/Kg-dry	1	03/30/2021 1:43	175145
Boron	NELAP	1.96		24.9	mg/Kg-dry	1	03/30/2021 1:43	175145
Calcium	NELAP	9.80		75700	mg/Kg-dry	1	03/30/2021 1:43	175145
Magnesium	NELAP	4.90		7170	mg/Kg-dry	1	03/30/2021 1:43	175145
Potassium	NELAP	9.80		901	mg/Kg-dry	1	03/30/2021 1:43	175145
Sodium	NELAP	9.80		249	mg/Kg-dry	1	03/30/2021 1:43	175145
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40		0.67	mg/Kg-dry	10	04/08/2021 23:30	175156
Arsenic	NELAP	0.20		10.8	mg/Kg-dry	10	04/05/2021 19:34	175146
Beryllium	NELAP	0.29		0.66	mg/Kg-dry	10	04/05/2021 19:34	175146
Cadmium	NELAP	0.20		0.65	mg/Kg-dry	10	04/05/2021 19:34	175146
Chromium	NELAP	0.49		12.8	mg/Kg-dry	10	04/05/2021 19:34	175146
Cobalt	NELAP	0.20		3.38	mg/Kg-dry	10	04/05/2021 19:34	175146
Lead	NELAP	0.20		19.9	mg/Kg-dry	10	04/05/2021 19:34	175146
Lithium	*	0.29		5.01	mg/Kg-dry	10	04/05/2021 19:34	175146
Molybdenum	NELAP	0.20		3.10	mg/Kg-dry	10	04/05/2021 19:34	175146
Selenium	NELAP	0.98		1.39	mg/Kg-dry	10	04/05/2021 19:34	175146
Thallium	NELAP	0.20		0.26	mg/Kg-dry	10	04/05/2021 19:34	175146
SW-846 7471B								
Mercury	NELAP	0.010		0.043	mg/Kg	1	03/26/2021 11:14	175098



Laboratory Results

Client: Hanson Professional Services, Inc.
 Client Project: Marion Berm Investigation 20E0016B/1000
 Lab ID: 21031686-005
 Matrix: SOLID

Work Order: 21031686
 Report Date: 12-Apr-21
 Client Sample ID: B-4a 2-4 ft
 Collection Date: 03/22/2021 9:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	100		2080	mg/L	5	03/26/2021 17:51	R289039
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0		26	mg/L	1	03/29/2021 11:28	175151
Alkalinity, Carbonate (as CaCO3)	*	0		0	mg/L	1	03/29/2021 11:28	175151
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		225	mV	1	03/29/2021 11:41	175151
<i>Sample was analyzed at 22C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10		15	mg/L	1	03/29/2021 17:29	R289069
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.87		1	03/29/2021 11:34	R289064
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		0.62	mg/L	1	03/26/2021 17:22	R289047
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1		2	mg/L	1	03/29/2021 17:29	R289070
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		20	meq/Kg	1	03/29/2021 14:49	R289089
Alkalinity, Carbonate	*	0		0	meq/Kg	1	03/29/2021 14:49	R289089
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		87.3	%	1	03/26/2021 13:16	R289025
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	10		44	mg/Kg	1	03/31/2021 12:52	175231
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10		87	µmhos/cm @25C	1	03/29/2021 8:59	R289023
SW-846 9036 (TOTAL)								
Sulfate	NELAP	97		227	mg/Kg	1	03/31/2021 12:52	175232
SW-846 9214								
Fluoride	NELAP	0.968		7.56	mg/Kg	1	03/30/2021 15:43	175233
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0106	mg/L	1	03/31/2021 5:39	175182
Boron	NELAP	0.0200		0.0847	mg/L	1	03/31/2021 5:39	175182
Calcium	NELAP	0.100		5.35	mg/L	1	03/31/2021 5:39	175182
Lithium	*	0.0040		< 0.0040	mg/L	1	03/31/2021 5:39	175182
Magnesium	NELAP	0.0500		1.89	mg/L	1	03/31/2021 5:39	175182
Potassium	NELAP	0.100		0.651	mg/L	1	03/31/2021 5:39	175182
Sodium	NELAP	0.0500	B	3.60	mg/L	1	03/31/2021 5:39	175182
<i>Sample result for Na exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:51	175183
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:51	175183
Beryllium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:51	175183
Cadmium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:51	175183
Chromium	NELAP	0.0150		< 0.0150	mg/L	5	04/08/2021 18:51	175183
Cobalt	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:51	175183
Lead	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:51	175183



Laboratory Results

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

Lab ID: 21031686-005

Client Sample ID: B-4a 2-4 ft

Matrix: SOLID

Collection Date: 03/22/2021 9:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Molybdenum	NELAP	0.0015		0.0022	mg/L	5	04/09/2021 22:11	175183
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	04/08/2021 18:51	175183
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	04/08/2021 18:51	175183
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		0.00020	mg/L	1	03/29/2021 11:50	175196
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		97.6	mg/Kg-dry	1	03/30/2021 1:47	175145
Boron	NELAP	2.00		4.25	mg/Kg-dry	1	03/30/2021 1:47	175145
Calcium	NELAP	10.0		3240	mg/Kg-dry	1	03/30/2021 1:47	175145
Magnesium	NELAP	5.00		1480	mg/Kg-dry	1	03/30/2021 1:47	175145
Potassium	NELAP	10.0		641	mg/Kg-dry	1	03/30/2021 1:47	175145
Sodium	NELAP	10.0		128	mg/Kg-dry	1	03/30/2021 1:47	175145
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40		< 0.40	mg/Kg-dry	10	04/08/2021 23:39	175156
Arsenic	NELAP	0.20		6.58	mg/Kg-dry	10	04/05/2021 19:42	175146
Beryllium	NELAP	0.30		0.68	mg/Kg-dry	10	04/05/2021 19:42	175146
Cadmium	NELAP	0.20		< 0.20	mg/Kg-dry	10	04/05/2021 19:42	175146
Chromium	NELAP	0.50		20.5	mg/Kg-dry	10	04/05/2021 19:42	175146
Cobalt	NELAP	0.20		8.86	mg/Kg-dry	10	04/05/2021 19:42	175146
Lead	NELAP	0.20		11.2	mg/Kg-dry	10	04/05/2021 19:42	175146
Lithium	*	0.30		9.61	mg/Kg-dry	10	04/05/2021 19:42	175146
Molybdenum	NELAP	0.20		0.53	mg/Kg-dry	10	04/05/2021 19:42	175146
Selenium	NELAP	1.00		< 1.00	mg/Kg-dry	10	04/05/2021 19:42	175146
Thallium	NELAP	0.20		< 0.20	mg/Kg-dry	10	04/05/2021 19:42	175146
SW-846 7471B								
Mercury	NELAP	0.009		0.023	mg/Kg	1	03/26/2021 11:17	175098



Receiving Check List

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc.

Work Order: 21031686

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 12-Apr-21

Carrier: Paul Reeves

Received By: MEK

Completed by: Marvin L. Darling II

Reviewed by: Elizabeth A. Hurley

On: 25-Mar-21 Marvin L. Darling

On: 25-Mar-21 Elizabeth A. Hurley

Pages to follow: Chain of custody 1 Extra pages included 1

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present [] Temp °C 7.0
Type of thermal preservation? None [] Ice [checked] Blue Ice [] Dry Ice []
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Reported field parameters measured: Field [] Lab [] NA [checked]
Container/Temp Blank temperature in compliance? Yes [checked] No []

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

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

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

CHAIN OF CUSTODY

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

<p>Client: Hanson Professional Services Inc. Address: 1525 S Sixth Street City/State/Zip: Springfield, IL 62703 Contact: Rhon Hasenyager Phone: 217-747-9235 Email: rhasenyager@hanson-inc.com Fax: 217-788-2503</p>	<p>Samples on: <input checked="" type="checkbox"/> ICE <input type="checkbox"/> BLUE ICE <input type="checkbox"/> NO ICE <u>10</u> °C Preserved in: <input type="checkbox"/> LAB <input type="checkbox"/> FIELD <u>FOR LAB USE ONLY</u> <u>LTG 5</u></p> <p>LAB NOTES:</p>
---	--

Client Comments:
See attached parameter list.

Are these samples known to be involved in litigation? If yes, a surcharge will apply: Yes No
 Are these samples known to be hazardous? Yes No
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: Yes No

PROJECT NAME/NUMBER Marion Berm Investigation 20E0016B/1000	SAMPLE COLLECTOR'S NAME Rhon Hasenyager	# and Type of Containers	INDICATE ANALYSIS REQUESTED
---	---	---------------------------------	------------------------------------

RESULTS REQUESTED <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)	BILLING INSTRUCTIONS
---	-----------------------------

Lab Use Only	Sample ID	Date/Time Sampled	Matrix	UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other	Shake Test (D3987)	Soil (Solids) Results	INDICATE ANALYSIS REQUESTED										
	21031686-cc1	B-3a 4'-6'	3/22/2021 11:10	Soil								1	✓	✓											
	-cc2	B-3Aa 2'-4'	3/22/2021 10:15	Soil								1	✓	✓											
	-cc3	B-3Aa 8'-10'	3/22/2021 10:15	Soil								1	✓	✓											
	-cc4	B-4a 0'-2'	3/22/2021 9:30	Soil								1	✓	✓											
	-cc5	B-4a 2'-4'	3/22/2021 9:30	Soil								1	✓	✓											
				Aqueous																					
				Aqueous																					
				Aqueous																					
				Aqueous																					
				Aqueous																					
				Aqueous																					

Courier

Relinquished By	Date/Time	Received By	Date/Time
<i>[Signature]</i>	3/25/21 08:10	<i>[Signature]</i>	3/25/21 1325
<i>[Signature]</i>	3/25/21 1325	Mary Kemp	3/25/21 1325

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

PAT 3/25/21

Hanson Professional Services Inc.
Master Subcontractor Agreement Task Order
MSA-Teklab2015
Task Order No. 20E0016B/1000

WHEREAS, Teklab, Inc., subsequently referred to as "Subcontractor," and Hanson Professional Services Inc., subsequently referred to as "Hanson," have previously entered into a Master Subcontractor Agreement Teklab2015 dated November 30, 2015, providing for the assignment of project-specific Scopes of Work,

WHEREAS, Hanson wishes to retain Subcontractor to provide work in connection with, soil analyses from Marion Power Plant, subsequently referred to as "Project", and

WHEREAS, the Scope of Work to be performed by Subcontractor for the Project is defined below,

NOW, THEREFORE, This TASK ORDER is made this 24th day of March 2021, to provide the Scope of Work and to establish the fee to be paid for completion of the Scope of Work.

Article I – Scope of Work

Hanson requires assistance with analyzing soil samples collected at Marion Power Station (Site). Hanson requests that:

1. Soil (solid) samples shall be analyzed for the following list of parameters.
2. Using the Shake Test Method (ASTM D3987) analyze the samples for the following list of parameters at the listed limit of detections.

<u>845 Parameter</u>	<u>Detection Limit</u>	<u>Cation/Anion & Water Properties</u>
Antimony	0.006 mg/L	Calcium
Arsenic	0.010 mg/L	Magnesium
Barium		Sodium
Beryllium	0.004 mg/L	Potassium
Boron		Bicarbonate alkalinity
Cadmium	0.005 mg/L	Carbonate alkalinity
Chloride		pH*
Chromium	0.1 mg/L	RedOx Potential*
Cobalt	0.006 mg/L	Specific Conductance*
Fluoride		
Lead	0.0075 mg/L	
Lithium	0.04 mg/L	
Mercury	0.002 mg/L	
Molybdenum	0.1 mg/L	
Selenium	0.05 mg/L	
Sulfate		
Thallium	0.002 mg/L	
Total Dissolved Solids		* not needed for soils analyses.

3. Using normal turnaround time, provide results as a PDF report and electronic data deliverable (Excel spreadsheet).



April 22, 2021

Rhon Hasenyager
Hanson Professional Services, Inc.
1525 South Sixth Street
Springfield, IL 62703
TEL: (217) 747-9235
FAX: (217) 788-5241



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

RE: Marion Berm Investigation 20E0016B/1000

WorkOrder: 21041107

Dear Rhon Hasenyager:

TEKLAB, INC received 6 samples on 4/19/2021 1:10:00 PM for the analysis presented in the following report.

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

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

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

Sincerely,

PRELIMINARY REPORT

A preliminary report contains data that is incomplete or data that has not been fully validated. Caution should be exercised in the use of any data presented, as final reported results may not reflect the values presented.



Report Contents

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

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	13
Chain of Custody	Appended

PRELIMINARY REPORT

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Definitions

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

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

Abbr Definition

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

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

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

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

DNI Did not ignite

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

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

IDPH IL Dept. of Public Health

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

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

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

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

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

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

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

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

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

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

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

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

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

TNTC Too numerous to count (> 200 CFU)

PRELIMINARY REPORT

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Definitions

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

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

Qualifiers

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

PRELIMINARY REPORT

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Case Narrative

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

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

Cooler Receipt Temp: 4.8 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

PRELIMINARY REPORT

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Accreditations

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

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2021	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2021	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2021	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville

PRELIMINARY REPORT

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Laboratory Results

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

Client: Hanson Professional Services, Inc.
Client Project: Marion Berm Investigation 20E0016B/1000
Lab ID: 21041107-001
Matrix: SOLID

Work Order: 21041107
Report Date: 22-Apr-21
Client Sample ID: B-SFAB 4-6ft
Collection Date: 03/22/2021 8:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	6	mg/L	1	04/21/2021 12:55	175985
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	04/21/2021 12:55	175985
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		330	mV	1	04/21/2021 9:06	R290028
<i>Sample was analyzed at 19C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	< 10	mg/L	1	04/20/2021 21:39	R289997
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00	H	6.09		1	04/21/2021 15:08	175985
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	0.29	mg/L	1	04/20/2021 21:20	R289987
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	8	mg/L	1	04/20/2021 21:39	R289998
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10	H	23	µmhos/cm @25C	1	04/21/2021 7:17	R290025

PRELIMINARY REPORT

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Laboratory Results

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

Lab ID: 21041107-002

Client Sample ID: B-SFAa 2-4ft

Matrix: SOLID

Collection Date: 03/22/2021 8:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO ₃)	*	0	H	34	mg/L	1	04/21/2021 12:58	175985
Alkalinity, Carbonate (as CaCO ₃)	*	0	H	0	mg/L	1	04/21/2021 12:58	175985
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		336	mV	1	04/21/2021 9:06	R290028
<i>Sample was analyzed at 19C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	41	mg/L	1	04/20/2021 22:08	R289997
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00	H	7.39		1	04/21/2021 15:12	175985
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	0.46	mg/L	1	04/20/2021 21:23	R289987
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	7	mg/L	1	04/20/2021 22:08	R289998
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10	H	133	µmhos/cm @25C	1	04/21/2021 7:17	R290025

PRELIMINARY REPORT

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Laboratory Results

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

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

Lab ID: 21041107-003

Client Sample ID: B-6b 4-6ft

Matrix: SOLID

Collection Date: 03/22/2021 12:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0	H	14	mg/L	1	04/21/2021 13:03	175985
Alkalinity, Carbonate (as CaCO3)	*	0	H	0	mg/L	1	04/21/2021 13:03	175985
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		348	mV	1	04/21/2021 9:06	R290028
<i>Sample was analyzed at 19C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	< 10	mg/L	1	04/20/2021 22:24	R289997
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00	H	6.94		1	04/21/2021 15:15	175985
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	0.18	mg/L	1	04/20/2021 21:25	R289987
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	5	mg/L	1	04/20/2021 22:24	R289998
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10	H	36	µmhos/cm @25C	1	04/21/2021 7:17	R290025

PRELIMINARY REPORT

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Laboratory Results

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

Lab ID: 21041107-004

Client Sample ID: B-B3a 4-6ft

Matrix: SOLID

Collection Date: 03/22/2021 14:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO ₃)	*	0	H	22	mg/L	1	04/21/2021 13:07	175985
Alkalinity, Carbonate (as CaCO ₃)	*	0	H	0	mg/L	1	04/21/2021 13:07	175985
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		298	mV	1	04/21/2021 9:06	R290028
<i>Sample was analyzed at 19C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	< 10	mg/L	1	04/20/2021 22:40	R289997
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00	H	7.97		1	04/21/2021 15:18	175985
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	0.57	mg/L	1	04/20/2021 21:27	R289987
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	< 1	mg/L	1	04/20/2021 22:40	R289998
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10	H	21	µmhos/cm @25C	1	04/21/2021 7:17	R290025

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Laboratory Results

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

Lab ID: 21041107-005

Client Sample ID: B-B3b 4-6ft

Matrix: SOLID

Collection Date: 03/22/2021 13:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO ₃)	*	0	H	26	mg/L	1	04/21/2021 13:13	175985
Alkalinity, Carbonate (as CaCO ₃)	*	0	H	0	mg/L	1	04/21/2021 13:13	175985
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		275	mV	1	04/21/2021 9:06	R290028
<i>Sample was analyzed at 19C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	15	mg/L	1	04/20/2021 23:09	R289997
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00	H	8.46		1	04/21/2021 15:20	175985
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	0.37	mg/L	1	04/20/2021 21:29	R289987
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	7	mg/L	1	04/20/2021 23:09	R289998
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10	H	53	µmhos/cm @25C	1	04/21/2021 7:17	R290025

PRELIMINARY REPORT

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Laboratory Results

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

Lab ID: 21041107-006

Client Sample ID: B-3b 4-6ft

Matrix: SOLID

Collection Date: 03/22/2021 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO ₃)	*	0	H	16	mg/L	1	04/21/2021 13:18	175985
Alkalinity, Carbonate (as CaCO ₃)	*	0	H	0	mg/L	1	04/21/2021 13:18	175985
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT								
Oxidation-Reduction Potential	*	0.100		284	mV	1	04/21/2021 9:06	R290028
<i>Sample was analyzed at 19C with saturated Ag/AgCl electrode.</i>								
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	10	H	19	mg/L	1	04/20/2021 23:25	R289997
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00	H	8.55		1	04/21/2021 15:26	175985
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10	H	0.32	mg/L	1	04/20/2021 21:36	R289987
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	H	< 1	mg/L	1	04/20/2021 23:25	R289998
SW-846 1312, STANDARD METHODS 2510 B 1997 IN SHAKE EXTRACT								
Conductivity	*	10	H	107	µmhos/cm @25C	1	04/21/2021 7:17	R290025

PRELIMINARY REPORT

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Receiving Check List

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc.

Work Order: 21041107

Client Project: Marion Berm Investigation 20E0016B/1000

Report Date: 22-Apr-21

Carrier: Paul Reeves

Received By: MEK

Completed by:

Mary E. Kemp

Reviewed by:

On:

19-Apr-21

Mary E. Kemp

On:

Pages to follow: Chain of custody 1

Extra pages included 1

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present [] Temp °C 4.8
Type of thermal preservation? None [] Ice [checked] Blue Ice [] Dry Ice []
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [] No [checked]
Reported field parameters measured: Field [] Lab [checked] NA []

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

Container/Temp Blank temperature in compliance? Yes [checked] No []

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

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

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

PRELIMINARY REPORT

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TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: <u>Hanson Professional Services Inc.</u> Address: <u>1525 S Sixth Street</u> City/State/Zip: <u>Springfield, IL 62703</u> Contact: <u>Rhon Hasenyager</u> Phone: <u>217-747-9235</u> Email: <u>rhasenyager@hanson-inc.com</u> Fax: <u>217-788-2503</u>				Samples on: <input checked="" type="checkbox"/> ICE <input type="checkbox"/> BLUE ICE <input type="checkbox"/> NO ICE <u>4.8</u> °C Preserved in: <input type="checkbox"/> LAB <input type="checkbox"/> FIELD <u>FOR LAB USE ONLY</u> <u>LTG 5</u> LAB NOTES:																
Are these samples known to be involved in litigation? If yes, a surcharge will apply: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are these samples known to be hazardous? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Client Comments: See attached parameter list.																
PROJECT NAME/NUMBER Marion Berm Investigation 20E0016B/1000		SAMPLE COLLECTOR'S NAME Rhon Hasenyager		# and Type of Containers		INDICATE ANALYSIS REQUESTED														
RESULTS REQUESTED <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)		BILLING INSTRUCTIONS		UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP	Other	Shake Test (D3987)							
Lab Use Only	Sample ID	Date/Time Sampled	Matrix																	
	21041107-001	B-SFAB 4-6'	3/22/2021 8:15	Soil								1	<input checked="" type="checkbox"/>							
	002	B-SFAa 2-4'	3/22/2021 8:55	Soil								1	<input checked="" type="checkbox"/>							
	003	B-6b 4-6'	3/22/2021 12:05	Soil								1	<input checked="" type="checkbox"/>							
	004	B-B3a 4-6'	3/22/2021 14:15	Soil								1	<input checked="" type="checkbox"/>							
	005	B-B3b 4-6'	3/22/2021 13:45	Soil								1	<input checked="" type="checkbox"/>							
	006	B-3b 4-6"	3/22/2021 10:45	Soil								1	<input checked="" type="checkbox"/>							
				Aqueous																
				Aqueous																
				Aqueous																
				Aqueous																
				Aqueous																
Relinquished By		Date/Time		Received By		Date/Time														
<i>Rhon Hasenyager</i>		3/22/2021 09:15		<i>Mary Kemp</i>		4-19-21 09:15														
<i>Rhon Hasenyager</i>		4-19-21 13:10		<i>Mary Kemp</i>		4/19/21 13:10														

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

mez 4/19/21

35 IAC 845 Parameters and Major Cations and Anions

<u>845 Parameter</u>	<u>Detection Limit</u>
Antimony ✓	0.006 mg/L
Arsenic ✓	0.010 mg/L
Barium ✓	
Beryllium ✓	0.004 mg/L
Boron ✓	
Cadmium ✓	0.005 mg/L
Chloride ✓	
Chromium ✓	0.1 mg/L
Cobalt ✓	0.006 mg/L
Fluoride ✓	
Lead ✓	0.0075 mg/L
Lithium ✓	0.04 mg/L
Mercury ✓	0.002 mg/L
Molybdenum ✓	0.1 mg/L
Selenium ✓	0.05 mg/L
Sulfate ✓	
Thallium ✓	0.002 mg/L
Total Dissolved Solids ✓	

Cation/Anion & Water Properties

Calcium ✓
Magnesium ✓
Sodium ✓
Potassium ✓
Bicarbonate alkalinity ✓
Carbonate alkalinity ✓
pH ✓
RedOx Potential
Specific Conductance

June 07, 2021

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



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

RE: Sediment Samples

WorkOrder: 21051634

Dear Jason McLaurin:

TEKLAB, INC received 4 samples on 5/27/2021 11:41:00 AM for the analysis presented in the following report.

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

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

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

Sincerely,



Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com



Report Contents

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

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	11
Chain of Custody	Appended

Definitions

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

Abbr Definition

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

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

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

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

DNI Did not ignite

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

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

IDPH IL Dept. of Public Health

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

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

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

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

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

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

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

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

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

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

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

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

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

TNTC Too numerous to count (> 200 CFU)



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

Qualifiers

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



Case Narrative

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

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

Cooler Receipt Temp: 25.78 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com



Accreditations

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

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville



Laboratory Results

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

Lab ID: 21051634-001

Client Sample ID: Scrubber Sludge

Matrix: SOLID

Collection Date: 05/25/2021 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	1950	mg/L	1	06/02/2021 15:21	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO ₃)	*	0		15	mg/L	1	05/28/2021 11:02	R291635
Alkalinity, Carbonate (as CaCO ₃)	*	0		0	mg/L	1	05/28/2021 11:02	R291635
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500		1400	mg/L	50	05/28/2021 12:50	R291641
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		1.37	mg/L	1	05/28/2021 14:45	R291654
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	4		< 4	mg/L	1	05/28/2021 11:44	R291642
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Arsenic	NELAP	0.0100		< 0.0100	mg/L	1	06/01/2021 14:26	177416
Barium	NELAP	0.0025		0.0047	mg/L	1	05/28/2021 15:55	177416
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	05/28/2021 15:55	177416
Boron	NELAP	0.0200		< 0.0200	mg/L	1	05/28/2021 15:55	177416
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	05/28/2021 15:55	177416
Calcium	NELAP	0.100	B	618	mg/L	1	05/28/2021 15:55	177416
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	05/28/2021 15:55	177416
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	05/28/2021 15:55	177416
Lead	NELAP	0.0075		< 0.0075	mg/L	1	05/28/2021 15:55	177416
Lithium	*	0.0050		< 0.0050	mg/L	1	05/28/2021 15:55	177416
Magnesium	NELAP	0.0500	B	0.265	mg/L	1	05/28/2021 15:55	177416
Molybdenum	NELAP	0.0100		< 0.0100	mg/L	1	05/28/2021 15:55	177416
Potassium	NELAP	0.100		< 0.100	mg/L	1	05/28/2021 15:55	177416
Selenium	NELAP	0.0400		< 0.0400	mg/L	1	05/28/2021 15:55	177416
Sodium	NELAP	0.0500	B	< 0.0500	mg/L	1	05/28/2021 15:55	177416
<i>Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Contamination present in the MBLK for Na. Sample results below the reporting limit are reportable per the TNI Standard.</i>								
<i>Mg was detected in the method blank at 0.0665 mg/L. Sample results may be biased high by detectable levels in the method blank.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010	B	< 0.0010	mg/L	5	05/28/2021 21:23	177417
Thallium	NELAP	0.0020	X	0.0024	mg/L	5	06/01/2021 23:43	177417
<i>Contamination present in the MBLK for Antimony. Sample results below the reporting limit are reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	05/28/2021 14:24	177420



Laboratory Results

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

Lab ID: 21051634-002

Client Sample ID: Fly Ash

Matrix: SOLID

Collection Date: 05/25/2021 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	50	H	5240	mg/L	2.5	06/03/2021 16:10	R291832
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO ₃)	*	0		0	mg/L	1	05/28/2021 12:35	R291635
Alkalinity, Carbonate (as CaCO ₃)	*	0		160	mg/L	1	05/28/2021 12:35	R291635
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500		1650	mg/L	50	05/28/2021 13:01	R291641
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		3.03	mg/L	1	05/28/2021 14:52	R291654
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	40		199	mg/L	10	05/28/2021 12:11	R291642
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Arsenic	NELAP	0.0100		< 0.0100	mg/L	1	06/01/2021 14:29	177416
Barium	NELAP	0.0025		0.179	mg/L	1	05/28/2021 15:56	177416
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	05/28/2021 15:56	177416
Boron	NELAP	0.0200		0.626	mg/L	1	05/28/2021 15:56	177416
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	05/28/2021 15:56	177416
Calcium	NELAP	0.100	B	1840	mg/L	1	05/28/2021 15:56	177416
Chromium	NELAP	0.0050		0.0346	mg/L	1	05/28/2021 15:56	177416
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	05/28/2021 15:56	177416
Lead	NELAP	0.0075		< 0.0075	mg/L	1	05/28/2021 15:56	177416
Lithium	*	0.0050		0.0402	mg/L	1	05/28/2021 15:56	177416
Magnesium	NELAP	0.0500	B	0.108	mg/L	1	05/28/2021 15:56	177416
Molybdenum	NELAP	0.0100		0.129	mg/L	1	05/28/2021 15:56	177416
Potassium	NELAP	0.100		6.92	mg/L	1	05/28/2021 15:56	177416
Selenium	NELAP	0.0400		< 0.0400	mg/L	1	05/28/2021 15:56	177416
Sodium	NELAP	0.0500	B	3.67	mg/L	1	05/28/2021 15:56	177416
<i>Sample results for Ca and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Mg was detected in the method blank at 0.0665 mg/L. Sample results may be biased high by detectable levels in the method blank.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010	B	< 0.0010	mg/L	5	05/28/2021 21:31	177417
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 16:24	177417
<i>Contamination present in the MBLK for Antimony. Sample results below the reporting limit are reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	05/28/2021 14:31	177420



Laboratory Results

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

Lab ID: 21051634-003

Client Sample ID: Bed Ash

Matrix: SOLID

Collection Date: 05/25/2021 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	50	H	4600	mg/L	2.5	06/03/2021 16:38	R291832
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0		0	mg/L	1	05/28/2021 12:44	R291635
Alkalinity, Carbonate (as CaCO3)	*	0		263	mg/L	1	05/28/2021 12:44	R291635
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500		1750	mg/L	50	05/28/2021 13:06	R291641
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		0.28	mg/L	1	05/28/2021 14:57	R291654
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	4		9	mg/L	1	05/28/2021 12:16	R291642
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Arsenic	NELAP	0.0100		< 0.0100	mg/L	1	06/01/2021 14:33	177416
Barium	NELAP	0.0025		0.225	mg/L	1	05/28/2021 15:58	177416
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	05/28/2021 15:58	177416
Boron	NELAP	0.0200		1.14	mg/L	1	05/28/2021 15:58	177416
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	05/28/2021 15:58	177416
Calcium	NELAP	0.100	BS	1600	mg/L	1	05/28/2021 15:58	177416
Chromium	NELAP	0.0050		0.0138	mg/L	1	05/28/2021 15:58	177416
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	05/28/2021 15:58	177416
Lead	NELAP	0.0075		< 0.0075	mg/L	1	05/28/2021 15:58	177416
Lithium	*	0.0050		< 0.0050	mg/L	1	05/28/2021 15:58	177416
Magnesium	NELAP	0.0500	B	< 0.0500	mg/L	1	05/28/2021 15:58	177416
Molybdenum	NELAP	0.0100		0.0718	mg/L	1	05/28/2021 15:58	177416
Potassium	NELAP	0.100		0.853	mg/L	1	05/28/2021 15:58	177416
Selenium	NELAP	0.0400		< 0.0400	mg/L	1	05/28/2021 15:58	177416
Sodium	NELAP	0.0500	B	0.339	mg/L	1	05/28/2021 15:58	177416
<i>Sample result for Ca exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Contamination present in the MBLK for Mg. Sample results below the reporting limit are reportable per the TNI Standard.</i>								
<i>Matrix spike control limits for Ca are not applicable due to high sample/spike ratio.</i>								
<i>Na was detected in the method blank at 0.0764 mg/L. Sample results may be biased high by detectable levels in the method blank.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010	B	< 0.0010	mg/L	5	05/28/2021 21:39	177417
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 17:02	177417
<i>Contamination present in the MBLK for Antimony. Sample results below the reporting limit are reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	05/28/2021 14:38	177420



Laboratory Results

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

Lab ID: 21051634-004

Client Sample ID: Coal

Matrix: SOLID

Collection Date: 05/25/2021 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	166	mg/L	1	06/02/2021 15:23	R291754
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0		9	mg/L	1	05/28/2021 11:22	R291635
Alkalinity, Carbonate (as CaCO3)	*	0		12	mg/L	1	05/28/2021 11:22	R291635
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	100		100	mg/L	10	05/28/2021 12:46	R291641
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		0.11	mg/L	1	05/28/2021 14:59	R291654
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	4		17	mg/L	1	05/28/2021 12:40	R291642
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Arsenic	NELAP	0.0100		< 0.0100	mg/L	1	06/01/2021 14:44	177416
Barium	NELAP	0.0025		0.0185	mg/L	1	05/28/2021 16:03	177416
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	05/28/2021 16:03	177416
Boron	NELAP	0.0200		0.0440	mg/L	1	05/28/2021 16:03	177416
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	05/28/2021 16:03	177416
Calcium	NELAP	0.100	B	24.7	mg/L	1	05/28/2021 16:03	177416
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	05/28/2021 16:03	177416
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	05/28/2021 16:03	177416
Lead	NELAP	0.0075		< 0.0075	mg/L	1	05/28/2021 16:03	177416
Lithium	*	0.0050		< 0.0050	mg/L	1	05/28/2021 16:03	177416
Magnesium	NELAP	0.0500	B	0.590	mg/L	1	05/28/2021 16:03	177416
Molybdenum	NELAP	0.0100		< 0.0100	mg/L	1	05/28/2021 16:03	177416
Potassium	NELAP	0.100		0.445	mg/L	1	05/28/2021 16:03	177416
Selenium	NELAP	0.0400		< 0.0400	mg/L	1	05/28/2021 16:03	177416
Sodium	NELAP	0.0500	B	10.2	mg/L	1	05/28/2021 16:03	177416
<i>Sample results for Ca and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Mg was detected in the method blank at 0.0665 mg/L. Sample results may be biased high by detectable levels in the method blank.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010	B	< 0.0010	mg/L	5	05/28/2021 22:02	177417
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	06/04/2021 17:25	177417
<i>Contamination present in the MBLK for Antimony. Sample results below the reporting limit are reportable per the TNI Standard.</i>								
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	05/28/2021 14:41	177420



Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Work Order: 21051634

Client Project: Sediment Samples

Report Date: 07-Jun-21

Carrier: UPS

Received By: EAH

Completed by: Mary E. Kemp
On: 27-May-21
Mary E. Kemp

Reviewed by: Marvin L. Darling II
On: 27-May-21
Marvin L. Darling

Pages to follow: Chain of custody 1

Extra pages included 1

- Shipping container/cooler in good condition? Yes [checked] No []
Type of thermal preservation? None [checked] Ice []
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Reported field parameters measured: Field [] Lab [] NA [checked]
Container/Temp Blank temperature in compliance? Yes [checked] No []

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

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

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

CHAIN OF CUSTODY

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: Southern Illinois Power Cooperative
Address: 11543 Lake OF Egypt Rd
City/State/Zip: Marion, IL 62959
Contact: Jason McLaurin Phone: 618-964-2446
Email: jmclaurin@sipower.org Fax:

Samples on: [] ICE [] BLUE ICE [X] NO ICE 25.8 °C
Preserved in: [] LAB [] FELD FOR LAB USE ONLY
LAB NOTES: Called Slab21 to make 1-2 day TAT met Slab21

Are these samples known to be involved in litigation? If yes, a surcharge will apply: [] Yes [X] No
Are these samples known to be hazardous? [] Yes [X] No
Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: [X] Yes [] No

Client Comments: Please see attached for analytical instructions. If you have any questions, contact me at 618-889-8647. Thanks, Jason McLaurin

PROJECT NAME/NUMBER: Sediment Samples
SAMPLE COLLECTOR'S NAME: Jason McLaurin

and Type of Containers INDICATE ANALYSIS REQUESTED

RESULTS REQUESTED: [X] Standard [] 1-2 Day (100% Surcharge) [] Other [] 3 Day (50% Surcharge)
BILLING INSTRUCTIONS

Table with columns for analysis types (UNP, HNO3, NaOH, H2SO4, HCL, MeOH, NaHSO4, TSP, Other) and analysis requested status. Includes handwritten note 'PLEASE SEE ATTACHED' and 'ONE DAY TAT'.

Table with columns: Lab Use Only, Sample ID, Date/Time Sampled, Matrix. Contains rows for Scrubber Sludge, Fly Ash, Bed Ash, and Coal, all with matrix type 'Soil (SOLID)'.

Relinquished By: Jason McLaurin Date/Time: 5/25/2021 2:00PM

Received By: [Signature] Date/Time: 5/27/21 11:41

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

Handwritten initials and date: FH 5/27/21

1. Soil (solid) samples shall be analyzed for the following list of parameters.
2. Using the Shake Test Method (ASTM D3987) analyze the samples for the following list of parameters at the listed limit of detections.

<u>845 Parameter</u>	<u>Detection Limit</u>	<u>Cation/Anion & Water Properties</u>
Antimony	0.006 mg/L	Calcium
Arsenic	0.010 mg/L	Magnesium
Barium		Sodium
Beryllium	0.004 mg/L	Potassium
Boron		Bicarbonate alkalinity
Cadmium	0.005 mg/L	Carbonate alkalinity
Chloride		pH*
Chromium	0.1 mg/L	RedOx Potential*
Cobalt	0.006 mg/L	Specific Conductance*
Fluoride		
Lead	0.0075 mg/L	
Lithium	0.04 mg/L	
Mercury	0.002 mg/L	
Molybdenum	0.1 mg/L	
Selenium	0.05 mg/L	
Sulfate		
Thallium	0.002 mg/L	
Total Dissolved Solids		

* not needed for soils analyses.

July 27, 2021

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



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

RE: Sediment Control Samples

WorkOrder: 21071068

Dear Jason McLaurin:

TEKLAB, INC received 1 sample on 7/19/2021 11:00:00 AM for the analysis presented in the following report.

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

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

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

Sincerely,



Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com



Report Contents

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

Client: Southern Illinois Power Cooperation

Work Order: 21071068

Client Project: Sediment Control Samples

Report Date: 27-Jul-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	8
Chain of Custody	Appended

Definitions

Client: Southern Illinois Power Cooperation

Work Order: 21071068

Client Project: Sediment Control Samples

Report Date: 27-Jul-21

Abbr Definition

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

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

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

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

DNI Did not ignite

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

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

IDPH IL Dept. of Public Health

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

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

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

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

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

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

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

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

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

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

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

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

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

TNTC Too numerous to count (> 200 CFU)



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 21071068

Client Project: Sediment Control Samples

Report Date: 27-Jul-21

Qualifiers

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



Case Narrative

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

Client: Southern Illinois Power Cooperation

Work Order: 21071068

Client Project: Sediment Control Samples

Report Date: 27-Jul-21

Cooler Receipt Temp: 25.8 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com



Accreditations

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

Client: Southern Illinois Power Cooperation

Work Order: 21071068

Client Project: Sediment Control Samples

Report Date: 27-Jul-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville



Laboratory Results

Client: Southern Illinois Power Cooperation

Work Order: 21071068

Client Project: Sediment Control Samples

Report Date: 27-Jul-21

Lab ID: 21071068-001

Client Sample ID: U4 FlyAsh

Matrix: SOLID

Collection Date: 07/08/2021 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAKE	*	20	H	3730	mg/L	1	07/20/2021 11:45	R294677
<i>Sample analysis did not meet hold time requirements.</i>								
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Bicarbonate (as CaCO3)	*	0		56	mg/L	1	07/20/2021 12:05	R294621
Alkalinity, Carbonate (as CaCO3)	*	0		27	mg/L	1	07/20/2021 12:05	R294621
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE	*	500		1400	mg/L	50	07/26/2021 15:05	R294900
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT								
Fluoride	*	0.10		7.33	mg/L	1	07/20/2021 18:31	R294647
ASTM D3987, SW-846 9251, IN SHAKE EXTRACT								
Chloride, SHAKE	*	50		623	mg/L	50	07/26/2021 15:06	R294901
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Arsenic	NELAP	0.0100		< 0.0100	mg/L	1	07/21/2021 12:46	179926
Barium	NELAP	0.0025		0.0949	mg/L	1	07/20/2021 16:36	179926
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	07/20/2021 16:36	179926
Boron	NELAP	0.0200	S	16.2	mg/L	1	07/20/2021 16:36	179926
Cadmium	NELAP	0.0020		0.0040	mg/L	1	07/20/2021 16:36	179926
Calcium	NELAP	0.100	S	750	mg/L	1	07/20/2021 16:36	179926
Chromium	NELAP	0.0050		0.0073	mg/L	1	07/20/2021 16:36	179926
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	07/20/2021 16:36	179926
Lead	NELAP	0.0075		< 0.0075	mg/L	1	07/21/2021 14:20	179926
Lithium	*	0.0050		0.622	mg/L	1	07/20/2021 16:36	179926
Magnesium	NELAP	0.0500	B	25.7	mg/L	1	07/20/2021 16:36	179926
Molybdenum	NELAP	0.0100		2.48	mg/L	1	07/20/2021 16:36	179926
Potassium	NELAP	2.00		140	mg/L	20	07/21/2021 13:34	179926
Selenium	NELAP	0.0400		1.45	mg/L	1	07/20/2021 16:36	179926
Sodium	NELAP	0.0500	S	136	mg/L	1	07/20/2021 16:36	179926
<i>Sample result for Mg exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Matrix spike control limits for B, Ca and Na are not applicable due to high sample/spike ratio.</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0216	mg/L	5	07/26/2021 7:34	180102
Thallium	NELAP	0.0020		0.0495	mg/L	5	07/26/2021 7:34	180102
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	07/20/2021 16:17	179927



Receiving Check List

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Work Order: 21071068

Client Project: Sediment Control Samples

Report Date: 27-Jul-21

Carrier: UPS

Received By: MEK

Completed by: Mary E. Kemp
On: 19-Jul-21
Mary E. Kemp

Reviewed by: Elizabeth A. Hurley
On: 19-Jul-21
Elizabeth A. Hurley

Pages to follow: Chain of custody 1

Extra pages included 1

- Shipping container/cooler in good condition? Yes [checked] No []
Type of thermal preservation? None [checked] Ice []
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Reported field parameters measured: Field [] Lab [] NA [checked]
Container/Temp Blank temperature in compliance? Yes [checked] No []

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

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

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

CHAIN OF CUSTODY

Pg of Workorder # 21071068

TEKLAB INC, 5445 Horseshoe Lake Road, Collinsville, IL 62234 Phone (618) 344-1004 Fax (618) 344-1005

Client: <u>Southern Illinois Power Cooperative</u> Address: <u>11543 Lake Of Egypt Rd</u> City/State/Zip: <u>Marion, IL 62959</u> Contact: <u>Jason McLaurin</u> Phone: <u>618-964-2446</u> Email: <u>jmclaurin@sipower.org</u> Fax: <u> </u>	Samples on: <input type="checkbox"/> ICE <input type="checkbox"/> BLUE ICE <input checked="" type="checkbox"/> NO ICE <u>25.8</u> CLT65 Preserved in: <input type="checkbox"/> LAB <input type="checkbox"/> FIELD <u>FOR LAB USE ONLY</u> LAB NOTES:
--	---

Are these samples known to be involved in litigation? If yes, a surcharge will apply: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are these samples known to be hazardous? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Client Comments: Please see attached for analytical instructions. If you have any questions, please contact me at 618-889-8647. Thanks, Jason McLaurin
--	---

PROJECT NAME/NUMBER <u>Sediment Control Samples</u>	SAMPLE COLLECTOR'S NAME <u>Jason McLaurin</u>	# and Type of Containers	INDICATE ANALYSIS REQUESTED
--	--	--------------------------	-----------------------------

RESULTS REQUESTED <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)	BILLING INSTRUCTIONS	UNP HNO3 NaOH H2SO4 HCL MeOH NaHSO4 TSP Other
--	----------------------	---

Lab Use Only	Sample ID	Date/Time Sampled	Matrix	
<u>21071068-001</u>	<u>U4 FlyAsh</u>	<u>7/8/2021 1:00PM</u>	<u>Soil (SOLID)</u>	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	
			Aqueous	

ONE DAY TAT
PLEASE SEE ATTACHED

Relinquished By	Date/Time	Received By	Date/Time
<u>Jason McLaurin</u>	<u>7/8/2021 1:00PM</u>	<u>Mary Kemp (UPS)</u>	<u>7/19/21 1100</u>

*The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions

MD
1/19

21071068

1. Soil (solid) samples shall be analyzed for the following list of parameters.
2. Using the Shake Test Method (ASTM D3987) analyze the samples for the following list of parameters at the listed limit of detections.

<u>845 Parameter</u>	<u>Detection Limit</u>	<u>Cation/Anion & Water Properties</u>
· Antimony	0.006 mg/L	· Calcium
· Arsenic	0.010 mg/L	· Magnesium
· Barium		· Sodium
· Beryllium	0.004 mg/L	· Potassium
· Boron		· Bicarbonate alkalinity
· Cadmium	0.005 mg/L	· Carbonate alkalinity
· Chloride		pH*
· Chromium	0.1 mg/L	RedOx Potential*
· Cobalt	0.006 mg/L	Specific Conductance*
· Fluoride		
· Lead	0.0075 mg/L	
· Lithium	0.04 mg/L	
· Mercury	0.002 mg/L	
· Molybdenum	0.1 mg/L	
· Selenium	0.05 mg/L	
· Sulfate		
· Thallium	0.002 mg/L	
· Total Dissolved Solids		

* not needed for soils analyses.

May 19, 2021

Rhon Hasenyager
Hanson Professional Services, Inc.
1525 South Sixth Street
Springfield, IL 62703
TEL: (217) 747-9235
FAX: (217) 788-5241



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

RE: Sediment Sampling and Analysis - Marion, IL

WorkOrder: 21041640

Dear Rhon Hasenyager:

TEKLAB, INC received 14 samples on 4/28/2021 7:50:00 AM for the analysis presented in the following report.

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

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

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

Sincerely,



Marvin L. Darling
Project Manager
(618)344-1004 ex 41
mdarling@teklabinc.com



Report Contents

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

Client: Hanson Professional Services, Inc.

Work Order: 21041640

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 19-May-21

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	21
Chain of Custody	Appended

Definitions

Client: Hanson Professional Services, Inc.

Work Order: 21041640

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 19-May-21

Abbr Definition

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

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

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

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

DNI Did not ignite

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

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IDPH IL Dept. of Public Health

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

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

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

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NELAP NELAP Accredited

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

TNTC Too numerous to count (> 200 CFU)



Definitions

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

Client: Hanson Professional Services, Inc.

Work Order: 21041640

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 19-May-21

Qualifiers

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



Case Narrative

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

Client: Hanson Professional Services, Inc.

Work Order: 21041640

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 19-May-21

Cooler Receipt Temp: 2.4 °C

% Carbon analysis performed by Standard Laboratories, Inc. See attached for results.

Locations

Collinsville

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Collinsville, IL 62234-7425
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Accreditations

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

Client: Hanson Professional Services, Inc.

Work Order: 21041640

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 19-May-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2021	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2021	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville



Laboratory Results

Client: Hanson Professional Services, Inc.
 Client Project: Sediment Sampling and Analysis - Marion, IL
 Lab ID: 21041640-001
 Matrix: SOLID

Work Order: 21041640
 Report Date: 19-May-21
 Client Sample ID: S-3Ax
 Collection Date: 04/27/2021 9:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		49.4	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		21	meq/Kg	1	04/30/2021 11:03	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 11:03	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		50.6	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	20		474	mg/Kg-dry	1	04/29/2021 11:16	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	391		1200	mg/Kg-dry	2	04/30/2021 0:03	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.41		1	05/03/2021 11:17	R290525
SW-846 9214								
Fluoride	NELAP	1.95		20.9	mg/Kg-dry	1	04/29/2021 21:16	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.47		24.7	mg/Kg-dry	1	05/03/2021 5:14	176384
Beryllium	NELAP	0.05		0.90	mg/Kg-dry	1	05/03/2021 5:14	176384
Boron	NELAP	1.89	B	114	mg/Kg-dry	1	05/03/2021 5:14	176384
Calcium	NELAP	9.43		3700	mg/Kg-dry	1	05/03/2021 5:14	176384
Chromium	NELAP	0.47		11.1	mg/Kg-dry	1	05/03/2021 5:14	176384
Lithium	NELAP	0.47		1.67	mg/Kg-dry	1	05/03/2021 5:14	176384
Magnesium	NELAP	4.72		511	mg/Kg-dry	1	05/03/2021 5:14	176384
Potassium	NELAP	9.43		348	mg/Kg-dry	1	05/03/2021 5:14	176384
Sodium	NELAP	9.43		171	mg/Kg-dry	1	05/03/2021 5:14	176384
<i>Sample result for B exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40	S	< 0.40	mg/Kg-dry	10	05/04/2021 18:19	176407
Arsenic	NELAP	0.19		22.0	mg/Kg-dry	10	05/04/2021 16:09	176385
Cadmium	NELAP	0.19		1.32	mg/Kg-dry	10	05/06/2021 13:51	176385
Cobalt	NELAP	0.19		4.20	mg/Kg-dry	10	05/06/2021 13:51	176385
Lead	NELAP	0.19		11.8	mg/Kg-dry	10	05/04/2021 16:09	176385
Molybdenum	NELAP	0.19		4.49	mg/Kg-dry	10	05/06/2021 13:51	176385
Selenium	NELAP	0.94		4.67	mg/Kg-dry	10	05/04/2021 16:09	176385
Thallium	NELAP	0.19		0.64	mg/Kg-dry	10	05/04/2021 16:09	176385
<i>Sample result for As exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
<i>Matrix spike did not recover within control limits for Sb due to matrix interference.</i>								
SW-846 7471B								
Mercury	NELAP	0.020		0.045	mg/Kg-dry	1	04/29/2021 14:12	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
 Client Project: Sediment Sampling and Analysis - Marion, IL
 Lab ID: 21041640-002
 Matrix: SOLID

Work Order: 21041640
 Report Date: 19-May-21
 Client Sample ID: S-3An
 Collection Date: 04/27/2021 9:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		66.0	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		40	meq/Kg	1	04/30/2021 11:16	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 11:16	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		34.0	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	29		933	mg/Kg-dry	1	04/29/2021 11:24	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	589		1940	mg/Kg-dry	2	04/30/2021 0:06	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.75		1	04/29/2021 15:18	R290415
SW-846 9214								
Fluoride	NELAP	2.94		119	mg/Kg-dry	1	04/29/2021 21:21	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		126	mg/Kg-dry	1	05/03/2021 5:17	176384
Beryllium	NELAP	0.05		1.76	mg/Kg-dry	1	05/03/2021 5:17	176384
Boron	NELAP	2.00	B	118	mg/Kg-dry	1	05/03/2021 5:17	176384
Calcium	NELAP	10.0		17400	mg/Kg-dry	1	05/03/2021 5:17	176384
Chromium	NELAP	0.50		21.7	mg/Kg-dry	1	05/03/2021 5:17	176384
Lithium	NELAP	0.50		13.3	mg/Kg-dry	1	05/03/2021 5:17	176384
Magnesium	NELAP	5.00		4040	mg/Kg-dry	1	05/03/2021 5:17	176384
Potassium	NELAP	50.0		2200	mg/Kg-dry	5	05/03/2021 12:25	176384
Sodium	NELAP	10.0		271	mg/Kg-dry	1	05/03/2021 5:17	176384
<i>Sample result for B exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40		< 0.40	mg/Kg-dry	10	05/06/2021 14:25	176407
Arsenic	NELAP	0.20		36.4	mg/Kg-dry	10	05/04/2021 16:15	176385
Cadmium	NELAP	0.20		3.91	mg/Kg-dry	10	05/06/2021 13:59	176385
Cobalt	NELAP	0.20		17.0	mg/Kg-dry	10	05/06/2021 13:59	176385
Lead	NELAP	0.20		47.7	mg/Kg-dry	10	05/06/2021 13:59	176385
Molybdenum	NELAP	0.20		12.5	mg/Kg-dry	10	05/06/2021 13:59	176385
Selenium	NELAP	1.00		31.3	mg/Kg-dry	10	05/04/2021 16:15	176385
Thallium	NELAP	0.20		0.65	mg/Kg-dry	10	05/06/2021 13:59	176385
<i>Sample result for As exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 7471B								
Mercury	NELAP	0.029		0.133	mg/Kg-dry	1	04/29/2021 14:14	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-003
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-3n
Collection Date: 04/27/2021 10:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		76.8	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		258	meq/Kg	1	04/30/2021 11:23	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 11:23	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		23.2	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	433		1930	mg/Kg-dry	10	04/29/2021 11:37	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	21600		52100	mg/Kg-dry	50	04/30/2021 0:11	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.96		1	04/29/2021 15:22	R290415
SW-846 9214								
Fluoride	NELAP	4.33		90.7	mg/Kg-dry	1	04/29/2021 21:22	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.45		175	mg/Kg-dry	1	05/03/2021 5:36	176384
Beryllium	NELAP	0.05		3.87	mg/Kg-dry	1	05/03/2021 5:36	176384
Boron	NELAP	1.82	B	185	mg/Kg-dry	1	05/03/2021 5:36	176384
Calcium	NELAP	9.09		99700	mg/Kg-dry	1	05/03/2021 5:36	176384
Chromium	NELAP	0.45		72.1	mg/Kg-dry	1	05/03/2021 5:36	176384
Lithium	NELAP	0.45		19.5	mg/Kg-dry	1	05/03/2021 5:36	176384
Magnesium	NELAP	4.55		7930	mg/Kg-dry	1	05/03/2021 5:36	176384
Potassium	NELAP	45.5		2820	mg/Kg-dry	5	05/03/2021 12:29	176384
Sodium	NELAP	9.09		538	mg/Kg-dry	1	05/03/2021 5:36	176384
<i>Sample result for B exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40		1.81	mg/Kg-dry	10	05/06/2021 14:34	176407
Arsenic	NELAP	0.18		733	mg/Kg-dry	10	05/04/2021 18:07	176385
Cadmium	NELAP	0.18		53.1	mg/Kg-dry	10	05/06/2021 14:08	176385
Cobalt	NELAP	0.18		33.8	mg/Kg-dry	10	05/06/2021 14:08	176385
Lead	NELAP	0.18		204	mg/Kg-dry	10	05/06/2021 14:08	176385
Molybdenum	NELAP	0.18		40.1	mg/Kg-dry	10	05/06/2021 14:08	176385
Selenium	NELAP	0.91		80.0	mg/Kg-dry	10	05/04/2021 18:07	176385
Thallium	NELAP	0.18		6.67	mg/Kg-dry	10	05/06/2021 14:08	176385
<i>Sample result for As exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 7471B								
Mercury	NELAP	0.043		2.12	mg/Kg-dry	1	04/29/2021 14:16	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
 Client Project: Sediment Sampling and Analysis - Marion, IL
 Lab ID: 21041640-004
 Matrix: SOLID

Work Order: 21041640
 Report Date: 19-May-21

Client Sample ID: S-3x
 Collection Date: 04/27/2021 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		43.6	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		203	meq/Kg	1	04/30/2021 11:34	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 11:34	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		56.4	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	18		258	mg/Kg-dry	1	04/29/2021 11:40	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	8830		23300	mg/Kg-dry	50	04/30/2021 0:14	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.52		1	04/29/2021 15:29	R290415
SW-846 9214								
Fluoride	NELAP	1.77		30.0	mg/Kg-dry	1	04/29/2021 21:24	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.48		86.1	mg/Kg-dry	1	05/03/2021 5:40	176384
Beryllium	NELAP	0.05		1.65	mg/Kg-dry	1	05/03/2021 5:40	176384
Boron	NELAP	1.92	B	89.0	mg/Kg-dry	1	05/03/2021 5:40	176384
Calcium	NELAP	9.62		138000	mg/Kg-dry	1	05/03/2021 5:40	176384
Chromium	NELAP	0.48		36.3	mg/Kg-dry	1	05/03/2021 5:40	176384
Lithium	NELAP	0.48		8.15	mg/Kg-dry	1	05/03/2021 5:40	176384
Magnesium	NELAP	4.81		3250	mg/Kg-dry	1	05/03/2021 5:40	176384
Potassium	NELAP	48.1		1650	mg/Kg-dry	5	05/03/2021 12:33	176384
Sodium	NELAP	9.62		272	mg/Kg-dry	1	05/03/2021 5:40	176384
<i>Sample result for B exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		0.51	mg/Kg-dry	10	05/04/2021 19:18	176407
Arsenic	NELAP	0.19		100	mg/Kg-dry	10	05/04/2021 18:13	176385
Cadmium	NELAP	0.19		8.60	mg/Kg-dry	10	05/06/2021 14:17	176385
Cobalt	NELAP	0.19		8.38	mg/Kg-dry	10	05/06/2021 14:17	176385
Lead	NELAP	0.19		80.2	mg/Kg-dry	10	05/04/2021 18:13	176385
Molybdenum	NELAP	0.19		9.26	mg/Kg-dry	10	05/06/2021 14:17	176385
Selenium	NELAP	0.96		12.8	mg/Kg-dry	10	05/04/2021 18:13	176385
Thallium	NELAP	0.19		2.60	mg/Kg-dry	10	05/04/2021 18:13	176385
<i>Sample result for As exceeds 10 times the method blank contamination. Data is reportable per the TNI Standard.</i>								
SW-846 7471B								
Mercury	NELAP	0.017		0.296	mg/Kg-dry	1	04/29/2021 14:19	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-005
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-S6x
Collection Date: 04/27/2021 11:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		47.3	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		86	meq/Kg	1	04/30/2021 11:42	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 11:42	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		52.7	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	19		269	mg/Kg-dry	1	04/29/2021 11:48	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	9560		26000	mg/Kg-dry	50	04/30/2021 0:16	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.76		1	04/29/2021 15:31	R290415
SW-846 9214								
Fluoride	NELAP	1.91		33.4	mg/Kg-dry	1	04/29/2021 21:26	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.46		85.5	mg/Kg-dry	1	05/04/2021 23:14	176410
Boron	NELAP	1.85		78.7	mg/Kg-dry	1	05/04/2021 23:14	176410
Calcium	NELAP	9.26		167000	mg/Kg-dry	1	05/04/2021 23:14	176410
Magnesium	NELAP	4.63		3710	mg/Kg-dry	1	05/04/2021 23:14	176410
Potassium	NELAP	46.3		1820	mg/Kg-dry	5	05/06/2021 2:41	176410
Sodium	NELAP	9.26		293	mg/Kg-dry	1	05/04/2021 23:14	176410
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		0.68	mg/Kg-dry	10	05/04/2021 19:24	176407
Arsenic	NELAP	0.20		75.3	mg/Kg-dry	10	05/18/2021 14:29	176411
Beryllium	NELAP	0.30		1.87	mg/Kg-dry	10	05/07/2021 16:26	176411
Cadmium	NELAP	0.20		8.82	mg/Kg-dry	10	05/13/2021 3:49	176411
Chromium	NELAP	0.50		42.5	mg/Kg-dry	10	05/12/2021 10:41	176411
Cobalt	NELAP	0.20		11.4	mg/Kg-dry	10	05/12/2021 10:41	176411
Lead	NELAP	0.20		124	mg/Kg-dry	10	05/12/2021 10:41	176411
Lithium	*	0.30		9.82	mg/Kg-dry	10	05/12/2021 10:41	176411
Molybdenum	NELAP	0.20		12.6	mg/Kg-dry	10	05/07/2021 16:26	176411
Selenium	NELAP	1.00		17.6	mg/Kg-dry	10	05/14/2021 13:34	176411
Thallium	NELAP	0.20		3.52	mg/Kg-dry	10	05/12/2021 10:41	176411
SW-846 7471B								
Mercury	NELAP	0.018		0.344	mg/Kg-dry	1	04/29/2021 14:21	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-006
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-S6n
Collection Date: 04/27/2021 11:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		66.0	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		322	meq/Kg	1	04/30/2021 11:50	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 11:50	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		34.0	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	291		1150	mg/Kg-dry	10	04/29/2021 12:23	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	14500		37400	mg/Kg-dry	50	04/30/2021 0:35	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		8.26		1	04/29/2021 15:34	R290415
SW-846 9214								
Fluoride	NELAP	2.91		45.8	mg/Kg-dry	1	04/29/2021 21:27	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		90.1	mg/Kg-dry	1	05/04/2021 19:46	176410
Boron	NELAP	2.00		93.5	mg/Kg-dry	1	05/04/2021 19:46	176410
Calcium	NELAP	10.0		162000	mg/Kg-dry	1	05/04/2021 19:46	176410
Magnesium	NELAP	5.00		6490	mg/Kg-dry	1	05/04/2021 19:46	176410
Potassium	NELAP	50.0		2160	mg/Kg-dry	5	05/06/2021 2:45	176410
Sodium	NELAP	10.0		382	mg/Kg-dry	1	05/04/2021 19:46	176410
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.38		0.77	mg/Kg-dry	10	05/04/2021 19:29	176407
Arsenic	NELAP	0.19		132	mg/Kg-dry	10	05/18/2021 14:38	176411
Beryllium	NELAP	0.28		1.72	mg/Kg-dry	10	05/07/2021 16:35	176411
Cadmium	NELAP	0.19		23.7	mg/Kg-dry	10	05/13/2021 6:48	176411
Chromium	NELAP	0.46		51.5	mg/Kg-dry	10	05/12/2021 10:50	176411
Cobalt	NELAP	0.19		12.0	mg/Kg-dry	10	05/12/2021 10:50	176411
Lead	NELAP	0.19		194	mg/Kg-dry	10	05/12/2021 10:50	176411
Lithium	*	0.28		12.8	mg/Kg-dry	10	05/12/2021 10:50	176411
Molybdenum	NELAP	0.19		49.7	mg/Kg-dry	10	05/07/2021 16:35	176411
Selenium	NELAP	0.93		24.1	mg/Kg-dry	10	05/14/2021 13:41	176411
Thallium	NELAP	0.19		6.46	mg/Kg-dry	10	05/12/2021 10:50	176411
SW-846 7471B								
Mercury	NELAP	0.028		0.959	mg/Kg-dry	1	04/29/2021 14:29	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-007
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-4gs
Collection Date: 04/27/2021 12:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		34.6	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		460	meq/Kg	1	04/30/2021 12:14	R290487
Alkalinity, Carbonate	*	0		8	meq/Kg	1	04/30/2021 12:14	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		65.4	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	15		64	mg/Kg-dry	1	04/29/2021 12:33	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	149		603	mg/Kg-dry	1	04/29/2021 12:33	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		8.27		1	04/29/2021 15:36	R290415
SW-846 9214								
Fluoride	NELAP	1.49		17.9	mg/Kg-dry	1	04/29/2021 21:29	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		35.2	mg/Kg-dry	1	05/04/2021 19:50	176410
Boron	NELAP	2.00		52.2	mg/Kg-dry	1	05/04/2021 19:50	176410
Calcium	NELAP	10.0		25800	mg/Kg-dry	1	05/04/2021 19:50	176410
Magnesium	NELAP	5.00		1300	mg/Kg-dry	1	05/04/2021 19:50	176410
Potassium	NELAP	10.0		579	mg/Kg-dry	1	05/04/2021 19:50	176410
Sodium	NELAP	10.0		155	mg/Kg-dry	1	05/04/2021 19:50	176410
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.36		< 0.36	mg/Kg-dry	10	05/04/2021 19:35	176407
Arsenic	NELAP	0.20		9.76	mg/Kg-dry	10	05/18/2021 14:47	176411
Beryllium	NELAP	0.30		0.82	mg/Kg-dry	10	05/07/2021 16:44	176411
Cadmium	NELAP	0.20		0.86	mg/Kg-dry	10	05/13/2021 6:56	176411
Chromium	NELAP	0.50		11.7	mg/Kg-dry	10	05/12/2021 10:58	176411
Cobalt	NELAP	0.20		3.34	mg/Kg-dry	10	05/12/2021 10:58	176411
Lead	NELAP	0.20		17.5	mg/Kg-dry	10	05/12/2021 10:58	176411
Lithium	*	0.30		3.02	mg/Kg-dry	10	05/12/2021 10:58	176411
Molybdenum	NELAP	0.20		3.77	mg/Kg-dry	10	05/07/2021 16:44	176411
Selenium	NELAP	1.00		2.04	mg/Kg-dry	10	05/14/2021 13:49	176411
Thallium	NELAP	0.20		0.32	mg/Kg-dry	10	05/12/2021 10:58	176411
SW-846 7471B								
Mercury	NELAP	0.014		0.103	mg/Kg-dry	1	04/29/2021 14:31	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-008
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-4gp
Collection Date: 04/27/2021 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		39.5	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		209	meq/Kg	1	04/30/2021 12:28	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 12:28	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		60.5	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	17		166	mg/Kg-dry	1	04/29/2021 12:41	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	166		243	mg/Kg-dry	1	04/29/2021 12:41	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.92		1	04/29/2021 15:40	R290415
SW-846 9214								
Fluoride	NELAP	1.66		14.1	mg/Kg-dry	1	04/29/2021 21:35	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.47		74.8	mg/Kg-dry	1	05/04/2021 19:54	176410
Boron	NELAP	1.89		69.4	mg/Kg-dry	1	05/04/2021 19:54	176410
Calcium	NELAP	9.43		41300	mg/Kg-dry	1	05/04/2021 19:54	176410
Magnesium	NELAP	4.72		2720	mg/Kg-dry	1	05/04/2021 19:54	176410
Potassium	NELAP	18.9		1280	mg/Kg-dry	2	05/06/2021 2:49	176410
Sodium	NELAP	9.43		337	mg/Kg-dry	1	05/04/2021 19:54	176410
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40		< 0.40	mg/Kg-dry	10	05/04/2021 19:41	176407
Arsenic	NELAP	0.20		55.9	mg/Kg-dry	10	05/18/2021 14:55	176411
Beryllium	NELAP	0.30		1.50	mg/Kg-dry	10	05/07/2021 16:53	176411
Cadmium	NELAP	0.20		1.92	mg/Kg-dry	10	05/13/2021 7:04	176411
Chromium	NELAP	0.50		23.3	mg/Kg-dry	10	05/12/2021 12:03	176411
Cobalt	NELAP	0.20		7.89	mg/Kg-dry	10	05/12/2021 12:03	176411
Lead	NELAP	0.20		37.8	mg/Kg-dry	10	05/18/2021 14:55	176411
Lithium	*	0.30		6.66	mg/Kg-dry	10	05/12/2021 12:03	176411
Molybdenum	NELAP	0.20		5.94	mg/Kg-dry	10	05/07/2021 16:53	176411
Selenium	NELAP	1.00		4.87	mg/Kg-dry	10	05/14/2021 13:57	176411
Thallium	NELAP	0.20		0.45	mg/Kg-dry	10	05/12/2021 12:03	176411
SW-846 7471B								
Mercury	NELAP	0.016		0.124	mg/Kg-dry	1	04/29/2021 14:34	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-009
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-4x
Collection Date: 04/27/2021 13:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		54.3	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		15	meq/Kg	1	04/30/2021 12:37	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 12:37	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		45.7	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	22		457	mg/Kg-dry	1	04/29/2021 13:03	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	218		347	mg/Kg-dry	1	04/29/2021 13:02	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.73		1	04/29/2021 15:43	R290415
SW-846 9214								
Fluoride	NELAP	2.18		20.0	mg/Kg-dry	1	04/29/2021 21:38	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		91.1	mg/Kg-dry	1	05/04/2021 19:57	176410
Boron	NELAP	2.00		68.0	mg/Kg-dry	1	05/04/2021 19:57	176410
Calcium	NELAP	10.0		23000	mg/Kg-dry	1	05/04/2021 19:57	176410
Magnesium	NELAP	5.00		2430	mg/Kg-dry	1	05/04/2021 19:57	176410
Potassium	NELAP	50.0		1720	mg/Kg-dry	5	05/06/2021 3:07	176410
Sodium	NELAP	10.0		325	mg/Kg-dry	1	05/04/2021 19:57	176410
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.37	S	0.40	mg/Kg-dry	10	05/06/2021 15:53	176407
Arsenic	NELAP	0.19		102	mg/Kg-dry	10	05/18/2021 15:04	176411
Beryllium	NELAP	0.28		1.89	mg/Kg-dry	10	05/07/2021 17:01	176411
Cadmium	NELAP	0.19		3.04	mg/Kg-dry	10	05/13/2021 7:12	176411
Chromium	NELAP	0.47		29.6	mg/Kg-dry	10	05/12/2021 12:11	176411
Cobalt	NELAP	0.19		11.8	mg/Kg-dry	10	05/12/2021 12:11	176411
Lead	NELAP	0.19		46.7	mg/Kg-dry	10	05/18/2021 15:04	176411
Lithium	*	0.28		9.68	mg/Kg-dry	10	05/12/2021 12:11	176411
Molybdenum	NELAP	0.19		5.89	mg/Kg-dry	10	05/07/2021 17:01	176411
Selenium	NELAP	0.94		9.41	mg/Kg-dry	10	05/14/2021 14:04	176411
Thallium	NELAP	0.19		0.67	mg/Kg-dry	10	05/12/2021 12:11	176411
<i>Matrix spike did not recover within control limits due to matrix interference.</i>								
SW-846 7471B								
Mercury	NELAP	0.021		0.147	mg/Kg-dry	1	04/29/2021 14:36	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-010
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-4n
Collection Date: 04/27/2021 14:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		64.2	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		280	meq/Kg	1	04/30/2021 12:44	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 12:44	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		35.8	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	28		590	mg/Kg-dry	1	04/29/2021 13:11	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	279		624	mg/Kg-dry	1	04/29/2021 13:10	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.39		1	04/29/2021 15:44	R290415
SW-846 9214								
Fluoride	NELAP	2.79		34.6	mg/Kg-dry	1	04/29/2021 21:40	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.45		82.4	mg/Kg-dry	1	05/04/2021 20:01	176410
Boron	NELAP	1.82		68.7	mg/Kg-dry	1	05/04/2021 20:01	176410
Calcium	NELAP	9.09		26900	mg/Kg-dry	1	05/04/2021 20:01	176410
Magnesium	NELAP	4.55		2260	mg/Kg-dry	1	05/04/2021 20:01	176410
Potassium	NELAP	45.5		1590	mg/Kg-dry	5	05/06/2021 3:11	176410
Sodium	NELAP	9.09		279	mg/Kg-dry	1	05/04/2021 20:01	176410
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.37		0.39	mg/Kg-dry	10	05/06/2021 16:01	176407
Arsenic	NELAP	0.20		109	mg/Kg-dry	10	05/18/2021 15:13	176411
Beryllium	NELAP	0.30		1.66	mg/Kg-dry	10	05/07/2021 17:10	176411
Cadmium	NELAP	0.20		3.07	mg/Kg-dry	10	05/13/2021 7:21	176411
Chromium	NELAP	0.50		27.0	mg/Kg-dry	10	05/12/2021 12:19	176411
Cobalt	NELAP	0.20		11.2	mg/Kg-dry	10	05/12/2021 12:19	176411
Lead	NELAP	0.20		51.8	mg/Kg-dry	10	05/18/2021 15:13	176411
Lithium	*	0.30		9.17	mg/Kg-dry	10	05/12/2021 12:19	176411
Molybdenum	NELAP	0.20		7.48	mg/Kg-dry	10	05/07/2021 17:10	176411
Selenium	NELAP	1.00		8.63	mg/Kg-dry	10	05/14/2021 14:12	176411
Thallium	NELAP	0.20		0.36	mg/Kg-dry	10	05/12/2021 12:19	176411
SW-846 7471B								
Mercury	NELAP	0.028		0.205	mg/Kg-dry	1	04/29/2021 14:38	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-011
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-SFAn
Collection Date: 04/27/2021 14:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		68.3	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		152	meq/Kg	1	04/30/2021 12:54	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 12:54	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		31.7	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	312		2990	mg/Kg-dry	10	04/29/2021 13:24	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	15600		41400	mg/Kg-dry	50	04/30/2021 0:56	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.89		1	04/29/2021 15:49	R290415
SW-846 9214								
Fluoride	NELAP	3.12		111	mg/Kg-dry	1	04/29/2021 21:42	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		163	mg/Kg-dry	1	05/04/2021 20:05	176410
Boron	NELAP	2.00		141	mg/Kg-dry	1	05/04/2021 20:05	176410
Calcium	NELAP	10.0		60200	mg/Kg-dry	1	05/04/2021 20:05	176410
Magnesium	NELAP	5.00		3130	mg/Kg-dry	1	05/04/2021 20:05	176410
Potassium	NELAP	100		2670	mg/Kg-dry	10	05/06/2021 3:15	176410
Sodium	NELAP	10.0		356	mg/Kg-dry	1	05/04/2021 20:05	176410
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40		0.77	mg/Kg-dry	10	05/06/2021 16:10	176407
Arsenic	NELAP	0.18		43.1	mg/Kg-dry	10	05/18/2021 15:21	176411
Beryllium	NELAP	0.27		2.22	mg/Kg-dry	10	05/07/2021 17:19	176411
Cadmium	NELAP	0.18		11.7	mg/Kg-dry	10	05/13/2021 7:29	176411
Chromium	NELAP	0.45		99.2	mg/Kg-dry	10	05/12/2021 12:27	176411
Cobalt	NELAP	0.18		14.7	mg/Kg-dry	10	05/12/2021 12:27	176411
Lead	NELAP	0.18		98.7	mg/Kg-dry	10	05/18/2021 15:21	176411
Lithium	*	0.27		12.2	mg/Kg-dry	10	05/12/2021 12:27	176411
Molybdenum	NELAP	0.18		26.6	mg/Kg-dry	10	05/07/2021 17:19	176411
Selenium	NELAP	0.91		105	mg/Kg-dry	10	05/14/2021 14:19	176411
Thallium	NELAP	0.18		4.11	mg/Kg-dry	10	05/12/2021 12:27	176411
SW-846 7471B								
Mercury	NELAP	0.158		3.50	mg/Kg-dry	5	04/29/2021 15:16	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-012
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-SFAx
Collection Date: 04/27/2021 14:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		47.3	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		290	meq/Kg	1	04/30/2021 13:03	R290487
Alkalinity, Carbonate	*	0		5	meq/Kg	1	04/30/2021 13:03	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		52.7	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	190		3450	mg/Kg-dry	10	04/29/2021 13:53	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	9490		25700	mg/Kg-dry	50	04/30/2021 1:02	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		8.84		1	04/29/2021 15:50	R290415
SW-846 9214								
Fluoride	NELAP	1.90		34.0	mg/Kg-dry	1	04/29/2021 21:44	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		58.1	mg/Kg-dry	1	05/04/2021 20:35	176410
Boron	NELAP	2.00		97.5	mg/Kg-dry	1	05/04/2021 20:35	176410
Calcium	NELAP	10.0		150000	mg/Kg-dry	1	05/04/2021 20:35	176410
Magnesium	NELAP	5.00		2440	mg/Kg-dry	1	05/04/2021 20:35	176410
Potassium	NELAP	50.0		1220	mg/Kg-dry	5	05/06/2021 3:18	176410
Sodium	NELAP	10.0		188	mg/Kg-dry	1	05/04/2021 20:35	176410
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.40		0.68	mg/Kg-dry	10	05/04/2021 21:04	176407
Arsenic	NELAP	0.20		19.2	mg/Kg-dry	10	05/18/2021 15:30	176411
Beryllium	NELAP	0.30		1.15	mg/Kg-dry	10	05/07/2021 20:22	176411
Cadmium	NELAP	0.20		3.16	mg/Kg-dry	10	05/13/2021 7:37	176411
Chromium	NELAP	0.50		31.6	mg/Kg-dry	10	05/12/2021 12:36	176411
Cobalt	NELAP	0.20		4.87	mg/Kg-dry	10	05/12/2021 12:36	176411
Lead	NELAP	0.20		38.1	mg/Kg-dry	10	05/18/2021 15:30	176411
Lithium	*	0.30		6.18	mg/Kg-dry	10	05/12/2021 12:36	176411
Molybdenum	NELAP	0.20		7.03	mg/Kg-dry	10	05/07/2021 20:22	176411
Selenium	NELAP	1.00		17.9	mg/Kg-dry	10	05/14/2021 14:27	176411
Thallium	NELAP	0.20		1.23	mg/Kg-dry	10	05/12/2021 12:36	176411
SW-846 7471B								
Mercury	NELAP	0.037		0.968	mg/Kg-dry	2	04/29/2021 15:18	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-013
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-SFAGx
Collection Date: 04/27/2021 15:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		47.6	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		14	meq/Kg	1	04/30/2021 13:22	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 13:22	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		52.4	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	19		806	mg/Kg-dry	1	04/29/2021 14:04	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	374		1320	mg/Kg-dry	2	04/30/2021 1:36	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.55		1	04/29/2021 15:52	R290415
SW-846 9214								
Fluoride	NELAP	1.87		92.9	mg/Kg-dry	1	04/29/2021 21:46	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.47		126	mg/Kg-dry	1	05/04/2021 20:09	176410
Boron	NELAP	1.89		81.5	mg/Kg-dry	1	05/04/2021 20:09	176410
Calcium	NELAP	9.43	S	82600	mg/Kg-dry	1	05/04/2021 20:09	176410
Magnesium	NELAP	4.72	S	2350	mg/Kg-dry	1	05/04/2021 20:09	176410
Potassium	NELAP	47.2	S	1380	mg/Kg-dry	5	05/06/2021 3:22	176410
Sodium	NELAP	9.43		161	mg/Kg-dry	1	05/04/2021 20:09	176410
<i>Matrix spike control limits for K are not applicable due to high sample/spike ratio.</i>								
<i>Matrix spike control limits for Ca and Mg are not applicable due to high sample/spike ratio.</i>								
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.36		0.72	mg/Kg-dry	10	05/06/2021 16:19	176407
Arsenic	NELAP	0.20		35.8	mg/Kg-dry	10	05/18/2021 15:39	176411
Beryllium	NELAP	0.30		1.72	mg/Kg-dry	10	05/07/2021 20:31	176411
Cadmium	NELAP	0.20		5.51	mg/Kg-dry	10	05/13/2021 7:45	176411
Chromium	NELAP	0.50		86.8	mg/Kg-dry	10	05/12/2021 12:44	176411
Cobalt	NELAP	0.20		18.3	mg/Kg-dry	10	05/12/2021 12:44	176411
Lead	NELAP	0.20		60.8	mg/Kg-dry	10	05/18/2021 15:39	176411
Lithium	*	0.30		15.5	mg/Kg-dry	10	05/12/2021 12:44	176411
Molybdenum	NELAP	0.20		24.8	mg/Kg-dry	10	05/07/2021 20:31	176411
Selenium	NELAP	1.00	S	123	mg/Kg-dry	10	05/14/2021 15:36	176411
Thallium	NELAP	0.20		5.50	mg/Kg-dry	10	05/12/2021 12:44	176411
<i>Matrix spike did not recover within control limits for Se due to matrix interference.</i>								
SW-846 7471B								
Mercury	NELAP	0.037		0.944	mg/Kg-dry	2	04/29/2021 15:21	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Laboratory Results

Client: Hanson Professional Services, Inc.
Client Project: Sediment Sampling and Analysis - Marion, IL
Lab ID: 21041640-014
Matrix: SOLID

Work Order: 21041640
Report Date: 19-May-21
Client Sample ID: S-SFAgn
Collection Date: 04/27/2021 15:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		53.5	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 2320 B 1997, 2011								
Alkalinity, Bicarbonate	*	0		31	meq/Kg	1	04/30/2021 13:27	R290487
Alkalinity, Carbonate	*	0		0	meq/Kg	1	04/30/2021 13:27	R290487
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		46.5	%	1	04/30/2021 18:05	R290499
STANDARD METHODS 4500-CL E (TOTAL) 1997, 2011								
Chloride	NELAP	207		976	mg/Kg-dry	10	04/29/2021 14:17	176342
SW-846 9036 (TOTAL)								
Sulfate	NELAP	2070		2200	mg/Kg-dry	10	04/29/2021 14:17	176343
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.64		1	04/29/2021 15:58	R290415
SW-846 9214								
Fluoride	NELAP	2.07		99.3	mg/Kg-dry	1	04/29/2021 21:48	176349
SW-846 3050B, 6010B, METALS BY ICP								
Barium	NELAP	0.50		194	mg/Kg-dry	1	05/04/2021 20:38	176410
Boron	NELAP	2.00		81.3	mg/Kg-dry	1	05/04/2021 20:38	176410
Calcium	NELAP	10.0		8320	mg/Kg-dry	1	05/04/2021 20:38	176410
Magnesium	NELAP	5.00		2630	mg/Kg-dry	1	05/04/2021 20:38	176410
Potassium	NELAP	50.0		1300	mg/Kg-dry	5	05/06/2021 3:33	176410
Sodium	NELAP	10.0		150	mg/Kg-dry	1	05/04/2021 20:38	176410
SW-846 3050B, 6020A, METALS BY ICPMS								
Antimony	NELAP	0.39		0.50	mg/Kg-dry	10	05/06/2021 16:27	176407
Arsenic	NELAP	0.20		25.7	mg/Kg-dry	10	05/18/2021 17:23	176411
Beryllium	NELAP	0.30		1.64	mg/Kg-dry	10	05/07/2021 20:40	176411
Cadmium	NELAP	0.20		7.32	mg/Kg-dry	10	05/13/2021 9:11	176411
Chromium	NELAP	0.50		121	mg/Kg-dry	10	05/12/2021 12:52	176411
Cobalt	NELAP	0.20		29.0	mg/Kg-dry	10	05/12/2021 12:52	176411
Lead	NELAP	0.20		61.0	mg/Kg-dry	10	05/13/2021 9:11	176411
Lithium	*	0.30		22.8	mg/Kg-dry	10	05/12/2021 12:52	176411
Molybdenum	NELAP	0.20		27.2	mg/Kg-dry	10	05/07/2021 20:40	176411
Selenium	NELAP	1.00		115	mg/Kg-dry	10	05/13/2021 9:11	176411
Thallium	NELAP	0.20		3.47	mg/Kg-dry	10	05/13/2021 9:11	176411
SW-846 7471B								
Mercury	NELAP	0.104		2.67	mg/Kg-dry	5	04/29/2021 15:23	176331
SEE ATTACHED FOR SUBCONTRACTING ANALYSIS								
Subcontracted Analysis	*	0		See Attached		1	05/04/2021 0:00	R290590



Receiving Check List

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc.

Work Order: 21041640

Client Project: Sediment Sampling and Analysis - Marion, IL

Report Date: 19-May-21

Carrier: Tim Mathis

Received By: PRY

Completed by:

Emily Pohlman (signature)

Reviewed by:

Elizabeth A. Hurley (signature)

On:

28-Apr-21

Emily Pohlman

On:

28-Apr-21

Elizabeth A. Hurley

Pages to follow: Chain of custody 2

Extra pages included 14

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present [] Temp °C 2.4
Type of thermal preservation? None [] Ice [checked] Blue Ice [] Dry Ice []
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Reported field parameters measured: Field [] Lab [] NA [checked]
Container/Temp Blank temperature in compliance? Yes [checked] No []

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

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

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

Samples requiring pH should be analyzed as soon as possible after collection. Samples submitted for pH analysis are analyzed as soon as practicable upon arrival at the laboratory. - ehurley - 4/28/2021 9:31:05 AM

CHAIN OF CUSTODY

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client: Hanson Professional Services, Inc.
Address: 1525 South Sixth Street
City / State / Zip: Springfield, IL 62703
Contact: Rhon Hasenyager **Phone:** (217) 788-2450
E-Mail: rhasenyager@hanson-inc.com **Fax:**

Samples on: ICE BLUE ICE NO ICE **24 °C** **LTG# 5**
Preserved in: LAB FIELD **FOR LAB USE ONLY**
Lab Notes

Are these samples known to be involved in litigation? If yes, a surcharge will apply Yes No
 Are these samples known to be hazardous? Yes No
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. Yes No

Client Comments:
 Total Carbon: subcontracted to Std. Labs
 Metals: Ba B Ca Mg Na K ICP/MS: Sb As Be Cr Co Pb Li Mo Se Ti
3 DAY

Project Name/Number Sediment Sampling and Analysis - Marion, IL	Sample Collector's Name T. Williams	MATRIX	INDICATE ANALYSIS REQUESTED
Results Requested <input type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input checked="" type="checkbox"/> 3 Day (50% Surcharge)	Billing Instructions	# and Type of Containers	
Lab Use Only	Sample Identification	Date/Time Sampled	

Lab Use Only	Sample Identification	Date/Time Sampled	UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	OTHER	Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Alkalinity (B/C)	Chloride/Sulfate	Mercury	Metals	pH/TS/Fluoride	Total Carbon	
21041640-001	S-3A X	4/27/21 0740																			X	X
002	S-3A X	0750																				
003	S-3n	1015																				
004	S-3x	1045																				
005	S-56x	1125																				
006	S-56 n	1145																				
007	S-4gs	1240																				
008	S-4gp	1300																				
009	S-4x	1315																				
010	S-41	1400																				

Relinquished By	Date/Time	Received By	Date/Time
[Signature]	4/28/21 0750	[Signature]	4/28/21 0750

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 65198



001 4/28/21

CHAIN OF CUSTODY

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client: Hanson Professional Services, Inc.
Address: 1525 South Sixth Street
City / State / Zip: Springfield, IL 62703
Contact: Rhon Hasenyager **Phone:** (217) 788-2450
E-Mail: rhasenyager@hanson-inc.com **Fax:**

Samples on: ICE BLUE ICE NO ICE _____ °C **LTG#** _____
Preserved in: LAB FIELD **FOR LAB USE ONLY**
Lab Notes

Are these samples known to be involved in litigation? If yes, a surcharge will apply Yes No
 Are these samples known to be hazardous? Yes No
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. Yes No

Client Comments:
 Total Carbon: subcontracted to Std. Labs
 Metals: Ba B Ca Mg Na K ICP/MS: Sb As Be Cr Co Pb Li Mo Se Ti

Project Name/Number: Sediment Sampling and Analysis - Marion, IL
Sample Collector's Name: T. W. [Signature]

Results Requested: Standard 1-2 Day (100% Surcharge)
 Other _____ 3 Day (50% Surcharge)
Billing Instructions **# and Type of Containers**

Lab Use Only	Sample Identification	Date/Time Sampled	UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER
21041640-011	S-SFA ₁	4/27/21 1440								
012	S-SFA _x	1455								
013	S-SFA _{gx}	1520								
014	S-SFA _{gn}	1545								

MATRIX				INDICATE ANALYSIS REQUESTED															
Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Alkalinity (B/C)	Chloride/Sulfate	Mercury	Metals	pH/TS/Fluoride	Total Carbon								
						X				X									
						↓	↓	↓	↓	↓	↓								

Relinquished By: [Signature] **Date/Time:** 4-28-21 0750

Received By: [Signature] **Date/Time:** 4/28/21 0750

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 65198





CLIENT: Southern Illinois Power Cooperative

CONTRACTOR: Holcomb Foundation-Engineering Co.

Site: Pond Berm Investigation

Rig mfg/model: CME 750X ATV Drill

BOREHOLE ID: B-3a

Location: SIPC Marion Power Plant

Drilling Method: 3/4" HSA with SPT

Well ID: n/a

Project: 18E0022A & 20E0016B

Surface Elev: 478.2 ft. MSL

DATES: Start: 3/22/2021

FIELD STAFF: Driller: J Carter

Completion: 9.8 ft. BGS

Finish: 3/22/2021

Helper: S Marcec

Station: 349,471.95N

WEATHER: Ptly. Sunny, mild, (hi 40's)

Eng/Geo: R. Hasenyager

805,452.16E

SAMPLE		TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:			
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Water Content (%)	Dry Density (lb/ft ³)	Qu (tsf) Qp (tsf) Failure Type	Quadrangle: Goreville Township: Southern Section 26, Tier 10S.; Range 2E.	▽ = 6.00 - during drilling ▽ = 3.50 - at completion ▽ =			
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
22/24	92%	SS	1-4 3-2 N=7							478	
20/24	83%	SS	2-3 4-8 N=7							476	
24/24	100%	SS	9-20 18-32 N=38							474	
13/13	100%	SS	12-47 50/1"							472	
21/21	100%	SS	30-43 27-50/3" N=70							470	
								Black (10YR2/1), moist, soft SILT with few clay and trace sand. [FILL]			
								Light gray (10YR7/1), moist, soft, SILT with little clay and trace sand. [FILL]			
								Dark brown (7.5YR3.2), moist, hard, SILT with little clay and trace sand (Bed Ash).			
								Dark brown (7.5YR3.2), moist, medium, SILT with little clay and trace sand (Bed Ash).			
								Very dark grayish brown (10YR3/2), moist, hard, SILT with little clay and trace sand (Bed Ash).			
								End of Boring = 9.75 ft.			

NOTE(S): Borehole sealed after sampling with bentonite chips and auger cuttings.



CLIENT: Southern Illinois Power Cooperative
Site: Pond Berm Investigation
Location: SIPC Marion Power Plant
Project: 18E0022A & 20E0016B
DATES: Start: 3/22/2021
Finish: 3/22/2021

CONTRACTOR: Holcomb Foundation Engineering Co.
Rig mfg/model: CME 750X ATV Drill
Drilling Method: 3/4" HSA with SPT
FIELD STAFF: Driller: J Carter
Helper: S Marcec
Eng/Geo: R. Hasenyager

BOREHOLE ID: B-3Aa
Well ID: n/a
Surface Elev: 483.6 ft. MSL
Completion: 10.0 ft. BGS
Station: 349,164.98N
 805,876.84E

WEATHER: Ptly. Sunny, mild, (mid 40's)

SAMPLE			TESTING			TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:					
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Water Content (%)	Dry Density (lb/ft ³)	Qu (tsf) Qp (tsf) Failure Type	Quadrangle: Goreville Township: Southern Section 26, Tier 10S.; Range 2E.	▽ = 6.20 - during drilling ▽ = ▽ =	Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
	20/24 83%	SS	1-2 3-2 N=5						0	Yellowish brown (10YR5/4), moist, soft, SILT with few clay and trace sand. [FILL]		483.6	
	23/24 96%	SS	2-2 2-3 N=4						2	Black (10YR2/1), moist, soft, SILT with few clay and trace sand. [FILL]		480	
	24/24 100%	SS	1-1 1-1 N=2						4			478	
	24/24 100%	SS	woh-1 woh-1						6	Black (10YR2/1), wet, soft, SILT and very fine- to fine-grained SAND with little clay. [FILL]		476	
	24/24 100%	SS	woh-woh woh-woh						8	Black (10YR2/1), wet, soft, gelatenous material with trace root fibers. [FILL]		474	
									10	End of Boring = 10 ft.			

NOTE(S): Borehole sealed after sampling with bentonite chips and auger cuttings.



CLIENT: Southern Illinois Power Cooperative

CONTRACTOR: Holcomb Foundation Engineering Co.

Site: Pond Berm Investigation

Rig mfg/model: CME 750X ATV Drill

BOREHOLE ID: B-3b

Location: SIPC Marion Power Plant

Drilling Method: 3/4" HSA with SPT

Well ID: n/a

Project: 18E0022A & 20E0016B

Surface Elev: 477.2 ft. MSL

DATES: Start: 3/22/2021

FIELD STAFF: Driller: J Carter

Completion: 10.0 ft. BGS

Finish: 3/22/2021

Helper: S Marcec

Station: 349,376.85N

WEATHER: Ptly. Sunny, mild, (hi 40's)

Eng/Geo: R. Hasenyager

805,643.54E

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:				
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value	RQD	Water Content (%)	Dry Density (lb/ft ³)	Qu (tsf) Qp (tsf)	Failure Type	Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
										Very dark gray (10YR3/1), moist, soft, SILT with few clay, trace sand, and trace gravel. [FILL]		476	
	12/24 50%	SS	1-2 4-4 N=6						2	Yellowish brown (10YR5/6), moist, soft, SILT with few clay and trace sand. [FILL]		474	
	24/24 100%	SS	2-3 3-4 N=6						4			472	
	24/24 100%	SS	2-4 5-6 N=9						6	Yellowish brown (10YR5/6) with 20% gray (10YR5/1), moist, medium, SILT with few clay and trace sand.		470	
	20/24 83%	SS	2-1 1-1 N=2						8	Gray (10YR5/1), moist, medium, SILT with few clay and trace sand.		468	
	17/24 71%	SS	1-1 1-2 N=2						10	End of Boring = 10 ft.			

NOTE(S): Borehole sealed after sampling with bentonite chips and auger cuttings.



CLIENT: Southern Illinois Power Cooperative

CONTRACTOR: Holcomb Foundation Engineering Co.

Site: Pond Berm Investigation

Rig mfg/model: CME 750X ATV Drill

BOREHOLE ID: B-4a

Location: SIPC Marion Power Plant

Drilling Method: 3/4" HSA with SPT

Well ID: n/a

Project: 18E0022A & 20E0016B

FIELD STAFF: Driller: J Carter

Surface Elev: 506.4 ft. MSL

DATES: Start: 3/22/2021

Helper: S Marcec

Completion: 10.0 ft. BGS

Finish: 3/22/2021

Station: 348,506.06N

WEATHER: Ptly. Cloudy, cool (lo 40's)

Eng/Geo: R. Hasenyager

804,108.29E

SAMPLE			TESTING			TOPOGRAPHIC MAP INFORMATION:			WATER LEVEL INFORMATION:					
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value	RQD	Water Content (%)	Dry Density (lb/ft ³)	Qu (tsf) Qp (tsf)	Failure Type	Quadrangle: Goreville	Township: Southern	Section 26, Tier 10S.; Range 2E.	▽ = Dry - during drilling	▽ =	▽ =
									Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks	
19/24	79%	SS	3-2 3-5 N=5						Light gray (10YR7/1), moist, loose, GRAVEL. [FILL]				506	Could not visually differentiate coal fines from bottom ash.
22/24	92%	SS	2-3 5-7 N=8						Black (10YR2/1), moist, soft, SILT with few clay, trace sand, and trace coal fines/bottom ash. [FILL]				504	
12/24	50%	SS	3-3 5-7 N=8						Yellowish brown (10YR5/6), moist, medium CLAY with some silt and trace sand. [FILL]				502	
12/24	50%	SS	2-2 4-5 N=6						Yellowish brown (10YR5/6), moist, medium, weathered very fine- to fine-grained SANDSTONE. [FILL]				500	
17/24	71%	SS	1-5 6-29 N=11						Very dark grayish brown (10YR3/2), moist, medium, SILT with few clay, trace sand, and trace gravel. [FILL]				498	
									6	Very dark grayish brown (10YR3/2) with 20% yellowish brown (10YR5/6) mottles, moist, medium, SILT with few clay, trace sand, and trace gravel.				
									8	Black (10YR2/1), moist, soft, CLAY with some silt, trace sand, and trace gravel. [FILL]				
									10	Yellowish brown (10YR5/8), moist, hard, very fine- to fine-grained SANDSTONE.				
End of Boring = 10 ft.														

NOTE(S): Borehole sealed after sampling with bentonite chips and auger cuttings.



CLIENT: Southern Illinois Power Cooperative

CONTRACTOR: Holcomb Foundation Engineering Co.

Site: Pond Berm Investigation

Rig mfg/model: CME 750X ATV Drill

BOREHOLE ID: B-6b

Location: SIPC Marion Power Plant

Drilling Method: 3/4" HSA with SPT

Well ID: n/a

Project: 18E0022A & 20E0016B

Surface Elev: 467.9 ft. MSL

DATES: Start: 3/22/2021

FIELD STAFF: Driller: J Carter

Completion: 10.0 ft. BGS

Finish: 3/22/2021

Helper: S Marcec

Station: 350,464.59N

WEATHER: Overcast, mild, (mid 50's)

Eng/Geo: R. Hasenyager

804,982.12E

SAMPLE			TESTING			TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:				
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Water Content (%)	Dry Density (lb/ft ³)	Qu (tsf) Qp (tsf) Failure Type	Quadrangle:	▼ = 9.20 - during drilling	▼ =	▼ =		
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks	
21/24	88%	SS	3-3 5-5 N=8				Goreville					
21/24	88%	SS	6-8 8-7 N=16				Southern					
23/24	96%	SS	4-5 7-8 N=12				Section 26, Tier 10S.; Range 2E.					
24/24	100%	SS	6-8 10-10 N=18									
24/24	100%	SS	4-4 3-2 N=7									
							▼					
							10	End of Boring = 10 ft.				

NOTE(S): Borehole sealed after sampling with bentonite chips and auger cuttings.



CLIENT: Southern Illinois Power Cooperative

CONTRACTOR: Holcomb Foundation Engineering Co.

Site: Pond Berm Investigation

Rig mfg/model: CME 750X ATV Drill

BOREHOLE ID: B-B3a

Location: SIPC Marion Power Plant

Drilling Method: 3/4" HSA with SPT

Well ID: n/a

Project: 18E0022A & 20E0016B

Surface Elev: 502.2 ft. MSL

DATES: Start: 3/22/2021

FIELD STAFF: Driller: J Carter

Completion: 10.0 ft. BGS

Finish: 3/22/2021

Helper: S Marcec

Station: 348,625.10N

WEATHER: Overcast, mild, (mid 50's)

Eng/Geo: R. Hasenyager

803,341.94E

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:			
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Water Content (%)	Dry Density (lb/ft ³)	Qu (tsf) Qp (tsf) Failure Type	TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:			
							Quadrangle: Goreville	Township: Southern	= Dry - during drilling			
							Section 26, Tier 10S.; Range 2E.					
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks	
16/24	67%	SS	1-1 2-3 N=3							502		
15/24	63%	SS	1-1 2-2 N=3							500		
15/24	63%	SS	1-1 2-3 N=3				Yellowish brown (10YR5/6), moist, soft, CLAY with some silt, trace sand and trace gravel. [FILL]			498		
20/24	83%	SS	1-1 1-1 N=2							496		
22/24	92%	SS	1-1 2-2 N=3							494		
							10	End of Boring = 10 ft.				

NOTE(S): Borehole sealed after sampling with bentonite chips and auger cuttings.



CLIENT: Southern Illinois Power Cooperative

CONTRACTOR: Holcomb Foundation Engineering Co.

Site: Pond Berm Investigation

Rig mfg/model: CME 750X ATV Drill

BOREHOLE ID: B-B3b

Location: SIPC Marion Power Plant

Drilling Method: 3/4" HSA with SPT

Well ID: n/a

Project: 18E0022A & 20E0016B

Surface Elev: 490.5 ft. MSL

DATES: Start: 3/22/2021

FIELD STAFF: Driller: J Carter

Completion: 6.0 ft. BGS

Finish: 3/22/2021

Helper: S Marcec

Station: 349,011.23N

WEATHER: Overcast, mild, (mid 50's)

Eng/Geo: R. Hasenyager

803,364.05E

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:				
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value	RQD	Water Content (%)	Dry Density (lb/ft ³)	Qu (tsf) Qp (tsf)	Failure Type	Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
18/24	75%	SS	2-2						0	Brownish yellow (10YR6/6), moist, soft, CLAY with some silt, trace sand, and trace gravel. [FILL]		490	
24/24	100%	SS	5-5						2	Brownish yellow (10YR6/6), moist, medium, CLAY with some silt, trace sand, and trace gravel. [FILL]		488	
24/24	100%	SS	18-50						4	Light gray (10YR7/1), with 20% yellowish brown (10YR5/8) mottles, moist, hard very fine- to fine-grained SANDSTONE		486	
End of Boring = 6 ft.													

NOTE(S): Borehole sealed after sampling with bentonite chips and auger cuttings.



CLIENT: Southern Illinois Power Cooperative

CONTRACTOR: Holcomb Foundation Engineering Co.

Site: Pond Berm Investigation

Rig mfg/model: CME 750X ATV Drill

BOREHOLE ID: B-SFAa

Location: SIPC Marion Power Plant

Drilling Method: 3/4" HSA with SPT

Well ID: n/a

Project: 18E0022A & 20E0016B

Surface Elev: 537.8 ft. MSL

DATES: Start: 3/22/2021

FIELD STAFF: Driller: J Carter

Completion: 9.9 ft. BGS

Finish: 3/22/2021

Helper: S Marcec

Station: 346,326.08N

WEATHER: Ptly. Cloudy, cool (lo 40's)

Eng/Geo: R. Hasenyager

803,414.80E

SAMPLE		TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:				
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Water Content (%)	Dry Density (lb/ft ³)	Qu (tsf) Qp (tsf) Failure Type	Quadrangle: Goreville	Township: Southern	Section 26, Tier 10S.; Range 2E.	▽ = Dry - during drilling	▽ =	▽ =
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks	
19/24	79%	SS	2-3 N=3				Gray (10YR6/1), moist, soft, very fine- to very coarse-grained SAND with trace silt and trace clay. [FILL]					
19/24	79%	SS	2-3 3-6 N=6				Yellowish brown (10YR5/6), moist, soft, SILT with few clay and trace sand. [FILL]			536		
22/24	92%	SS	2-7 13-7 N=20				Dary yellowish brown (10YR3/4), moist, medium, CLAY with some silt and trace sand. [FILL]			534		
24/24	100%	SS	2-3 5-5 N=8				Gray (10YR6/1), moist, hard, weathered, very fine- to medium-grained SANDSTONE. [FILL]			532		
23/23	100%	SS	2-2 5-50/5" N=7				Dark yellowish brown (10YR4/4), moist, stiff, weathered SHALE. [FILL]			530		
							Gray (10YR5/1) with 30% yellowish brown (10YR5/8) mottles, moist, medium, CLAY with some silt, trace sand, and trace gravel.			528		
							Yellowish brown (10YR5/8), moist, hard, very fine- to medium-grained SANDSTONE.					

End of Boring = 9.9 ft.

NOTE(S): Borehole sealed after sampling with bentonite chips and auger cuttings.



CLIENT: Southern Illinois Power Cooperative

CONTRACTOR: Holcomb Foundation Engineering Co.

Site: Pond Berm Investigation

Rig mfg/model: CME 750X ATV Drill

BOREHOLE ID: B-SFAB

Location: SIPC Marion Power Plant

Drilling Method: 3/4" HSA with SPT

Well ID: n/a

Project: 18E0022A & 20E0016B

Surface Elev: 542.6 ft. MSL

DATES: Start: 3/22/2021

FIELD STAFF: Driller: J Carter

Completion: 10.0 ft. BGS

Finish: 3/22/2021

Helper: S Marcec

Station: 345,380.51N

WEATHER: Ptly. Cloudy, cool (lo 40's)

Eng/Geo: R. Hasenyager

803,239.34E

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:			WATER LEVEL INFORMATION:		
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Water Content (%)	Dry Density (lb/ft ³)	Qu (tsf) Qp (tsf) Failure Type	Quadrangle: Goreville	Township: Southern	Section 26, Tier 10S.; Range 2E.	▽ = Dry - during drilling	▽ =	▽ =
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks	
12/24	50%	SS	2-3 4-4 N=7									
19/24	79%	SS	2-5 6-10 N=11									
24/24	100%	SS	4-5 7-8 N=12									
23/24	96%	SS	3-5 7-8 N=12									
22/24	92%	SS	2-4 6-7 N=10									
							10	End of Boring = 10 ft.				

NOTE(S): Borehole sealed after sampling with bentonite chips and auger cuttings.



Boring B3a



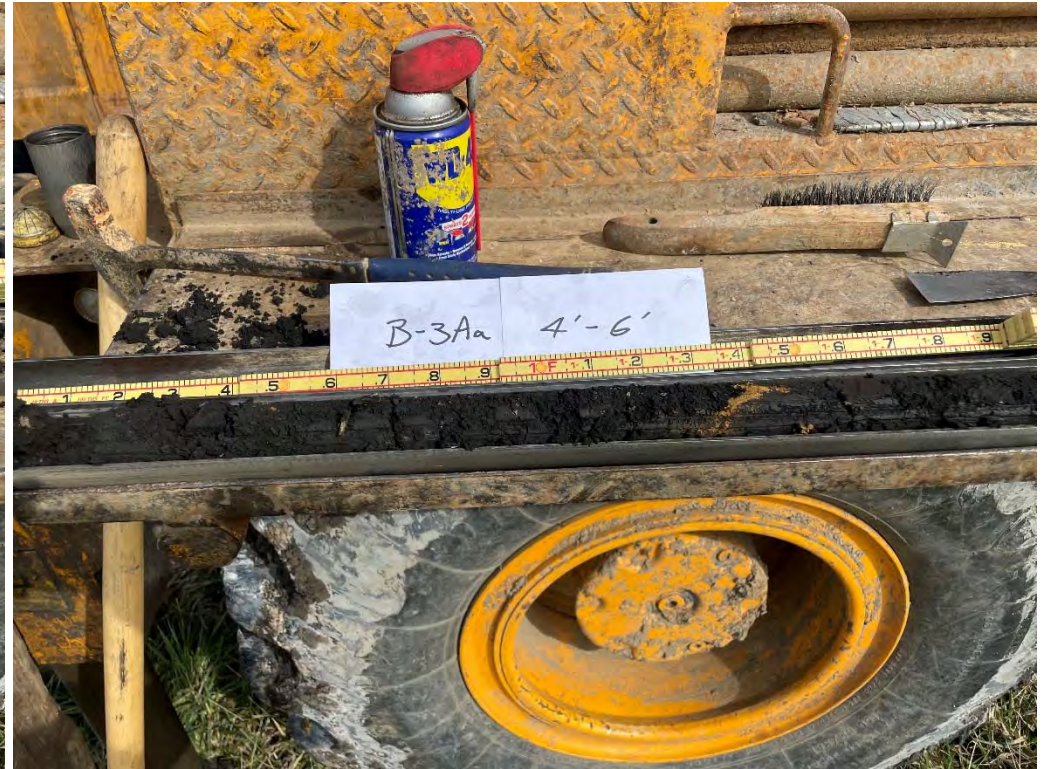


Boring B3b





Boring B3Aa



Boring B4a

Boring B4a 0-2' photograph missing



Boring S6b



Boring S6b 2-4' photograph missing



Boring B3a





Boring B3b





Boring SFAa



Boring SFAb





Boring B3c was inaccessible



Floor of Pond A1 is bedrock surface





Boring S6a was inaccessible



Attachment D

Laboratory Results of Polarized Light Microscopy (PLM)

- PLM Laboratory Report for Pond Sediment Samples
- PLM Laboratory Report for Berm Samples
- PLM Laboratory Report for Control Samples

May 24, 2021

Dr. Rhon Hassenyager
Hanson Professional Services, Inc.
1525 S. Sixth Street
Springfield, IL 62703

RE: Evaluation of Granular Samples for Coal Combustion By-Product Content
RJ Lee Group Project No. AOH1061659-1

Dear Dr. Bradley,

At your request, a set of 15 granular samples were examined and analyzed to determine their coal combustion by-products (CCB) contents. The samples were analyzed using polarized light microscopy (PLM) techniques and applying a 100-point count to stereologically determine the percentages of CCB down to a detection limit of 1%. The samples received for analysis were identified as follows.

Table 1. Sample Identifications

Haley & Aldrich ID	RJLG ID
B-3a 4'-6'	10535707
S-3An	10536326
S-3Ax	10536327
S-3n	10536328
S-3x	10536329
S-S6n	10536330
S-S6x	10536331
S-4n	10536332
S-4x	10536333
S-4gp	10536334
S-4gs	10536335
S-SFAn	10536336
S-SFAx	10536337
S-SFAgn	10536338
S-SFAgx	10536339

The PLM analysis utilized optical properties and morphology of the constituents to identify the CCB components. The results of the PLM analyses are contained as follows in Table 2.

Table 2. Results of PLM Analysis of Granular Samples

Haley & Aldrich ID	Sample Description	Fly Ash	Bottom Ash	Slag	Coal	Other	Total
B-3a 4'-6'	Grey Powder	2%	16%	0%	7%	75%	100%
S-3An	Grey Powder	1%	8%	11%	13%	67%	100%
S-3Ax	Black Powder	1%	6%	27%	48%	18%	100%
S-3n	Brown Powder	17%	5%	1%	7%	70%	100%
S-3x	Grey Sediment	22%	7%	5%	4%	62%	100%
S-S6n	Grey Powder	27%	3%	0%	2%	68%	100%
S-S6x	Grey Sediment	32%	10%	11%	0%	47%	100%
S-4n	Grey Powder	1%	1%	23%	23%	52%	100%
S-4x	Dark Grey Sediment	13%	19%	32%	0%	36%	100%
S-4gp	Grey Sediment	8%	22%	38%	0%	32%	100%
S-4gs	Dark Grey Sediment	10%	16%	32%	1%	41%	100%
S-SFAn	Dark Grey Sediment	18%	26%	20%	2%	34%	100%
S-SFAx	Light Grey Sediment	11%	4%	13%	5%	67%	100%
S-SFAgn	Grey Powder	2%	6%	2%	6%	84%	100%
S-SFAgx	Brown Sediment	9%	32%	17%	1%	41%	100%

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. The samples for this project will be stored a period of 60 days.

Should you have any questions or feel that I may be of further assistance, please do not hesitate to contact me.

Sincerely,

Keith E. Wagner
 Senior Materials Scientist

April 21, 2021

Lisa JN Bradley, Ph.D., DABT
 Haley & Aldrich, Inc.
 201 N Westshore Drive, #1807
 Chicago, IL 60601

RE: Evaluation of Granular Samples for Coal Combustion By-Product Content
 RJ Lee Group Project No. AOH1061659

Dear Dr. Bradley,

At your request, a set of 5 granular samples were examined and analyzed to determine their coal combustion by-products (CCB) contents. The samples were analyzed using polarized light microscopy (PLM) techniques and applying a 100-point count to stereologically determine the percentages of CCB down to a detection limit of 1%. The samples received for analysis were identified as follows.

Table 1. Sample Identifications

Haley & Aldrich ID	RJLG ID
B-3a 4'-6'	10535707
B-3Aa 2'-4'	10535708
B-3Aa 8'-10'	10535709
B-4a 0'-2'	10535710
B-4a 2'-4'	10535711

The PLM analysis utilized optical properties and morphology of the constituents to identify the CCB components. The results of the PLM analysis are contained in Table 2.

Haley & Aldrich ID	Description	Area % Fly Ash
B-3a 4'-6'	Dark Grey Sediment	23%
B-3Aa 2'-4'	Black Sediment	90%
B-3Aa 8'-10'	Dark Brown Sediment	91%
B-4a 0'-2'	Grey Sediment	11%
B-4a 2'-4'	Very Pale Brown Sediment	7%
QC_B-4a 0'2'	Grey Sediment	15%

The PLM Laboratory Report is included in the attached Appendix.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. The samples for this project will be stored a period of 60 days.

Should you have any questions or feel that I may be of further assistance, please do not hesitate to contact me.

Sincerely,

Keith E. Wagner
Senior Materials Scientist

Appendix

Mineral Identification

Polarized Light Microscopy (PLM) Laboratory Report



Keith Wagner
 350 Hochberg Road
 Monroeville, PA 15146
 Email: kwagner@rjlg.com
 Main: 724-387-1847 Fax: 724-733-1799

Report Date: 04/19/2021
 Sample Received Date: 04/01/2021
 RJLG Project: AOH1061659-0
 Customer COC:
 Purchase Order:
 Analytical Method: Fly Ash Determination by PLM

Customer Sample # :	RJLG ID	Date Analyzed	Date Collected	Area % Fly Ash	Non-Fly Ash Components	Comments
B-3a 4'-6'	10535707	04/19/2021	03/22/2021	23%	Clay Misc. Silicates Opaques Quartz	Dark Grey Sediment
B-3Aa 2'-4'	10535708	04/19/2021	03/22/2021	90%	Misc. Silicates Opaques Quartz Coal	Black Sediment
B-3Aa 8'-10'	10535709	04/19/2021	03/22/2021	91%	Misc. Silicates Opaques Quartz	Dark Brown Sediment
B-4a 0'-2'	10535710	04/19/2021	03/22/2021	11%	Carbonate Clay Mica Misc. Silicates Opaques Quartz Coal	Grey Sediment

Customer Sample #	RJLG ID	Date Analyzed	Date Collected	Area % Fly Ash	Non-Fly Ash Components	Comments
B-4a 2'-4'	10535711	04/19/2021	03/22/2021	7%	Carbonate Clay Feldspar Mica Misc. Silicates Opaques Quartz Coal	Very Pale Brown Sediment
QC_B-4a 0'-2'	10535712	04/19/2021	03/22/2021	15%	NA	Dark Grey Sediment

Disclaimer Notes

- * Samples will be returned to client immediately upon the release of final report.
- * These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
- * This test report relates to the items tested.
- * Any reproduction of this document must include the entire document in order for the report to be valid.
- * This report may not be used to claim product endorsement by NVLAP Lab Code 101208-0 or any agency of the U.S. Government.
- * Sample(s) for this project were analyzed at our: Monroeville, PA (AIHA # 100364, NVLAP # 101208-0, NY ELAP # 10884) facility.
- * If RJ Lee Group, Inc. did not collect the samples analyzed, the verifiability of the laboratory's results is limited to the reported values.
- * For the purposes of this method, Fly Ash is defined as any particle consistent with Coal Ash.
- * The method reporting level is 1% and anything <1% is considered a not-detected.

Quartz – Angular anisotropic particulate with low relief.

Feldspar – Angular to blocky anisotropic particulate, low to moderate relief, biaxial, can have polysynthetic twinning.

Clay – Sheet silicates with polycrystalline or display non-uniform extinction with low to moderate relief, and zero to low birefringence. Clay also refers to particles that are less than 2.0 microns.

Opauques – Opauque is a generic term for a particle that does not transmit light. Opauque minerals are distinguished from opaque bottom ash based on morphology of fracture.

Fly Ash – Isotropic to opaque spheres, agglomeration of spheres, and angular ash particles.

Organic Particulate – Pollen, plant and insect matter, and carbonaceous matter.

Carbonates – High birefringent, can be rhombohedral, with high relief.

Diatoms – Silica rich isotropic particles with various morphologies.

Mica – Sheet silicate with moderate to high relief and low birefringence, mono-crystalline, and normal extinction.

Miscellaneous Silicate – Isotropic and anisotropic silicates, with low to high relief, identification unsure and beyond the scope of the method to identify.

Amphibole – Elongated anisotropic particulate with moderate to high relief.

Coal – Irregular to angular particles with moderate opacity, edges and thin particles are reddish brown in color.

<1% Fly Ash – Fly Ash observed, none counted.

ND – No Fly Ash detected.



June 25, 2021

Amy Antonioli, Esq.
Schiff Harden, LLP
233 South Wacker Drive
Suite 7100
Chicago, IL 60606

RE: Evaluation of Granular Reference Samples for Coal Combustion By-Product Content
RJ Lee Group Project No. AOH1061659-2

Dear Ms. Antonioli,

At your request, a set of 4 granular samples were examined and analyzed to determine their compositions. The samples were analyzed using polarized light microscopy (PLM) techniques and applying a 100-point count to stereologically determine the percentages of the respective components down to a detection limit of 1%. The samples received for analysis were identified as follows.

Table 1. Sample Identifications

	Haley & Aldrich ID	RJLG ID
Unit 123	SIPC Bed Ash, 5/25/21	10540414
	SIPC Sludge, 5/25/21	10540415
Unit 123	SIPC Fly Ash, 5/25/21	10540416
	SIPC Coal Sample, 5/25/21	10540417

The PLM analysis utilized optical properties and morphology of the constituents to identify the respective components. The results of the PLM analyses are contained as follows in Table 2.

Table 2. Results of PLM Analysis of Granular Samples

	Haley & Aldrich ID	Sample Description	Fly Ash (%)	Bottom Ash (%)	Slag (%)	Bed Ash (%)	Coal (%)	Other (%)	Total (%)
Unit 123	SIPC Bed Ash, 5/25/21	Beige Material	1	2	0	68	2	27	100
	SIPC Sludge, 5/25/21	Very Pale Yellow Fine Sediment	0	0	0	0	0	100	100
Unit 123	SIPC Fly Ash, 5/25/21	Light Brownish Grey Sediment	9	53	11	0	1	26	100
	SIPC Coal Sample, 5/25/21	Black Material	0	0	0	0	100	0	100

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. The samples for this project will be stored a period of 60 days.

Should you have any questions or feel that I may be of further assistance, please do not hesitate to contact me.

Sincerely,

Keith E. Wagner
Senior Materials Scientist

July 23, 2021

Amy Antonioli, Esq.
 Schiff Harden, LLP
 233 South Wacker Drive
 Suite 7100
 Chicago, IL 60606

RE: Evaluation of SIPC Unit 4 Fly Ash Reference Sample
 RJ Lee Group Project No. AOH1061659-3

Dear Ms. Antonioli,

At your request, one granular sample was examined and analyzed to determine its composition. The sample was analyzed using polarized light microscopy (PLM) techniques and applying a 100-point count to stereologically determine the percentages of the respective components down to a detection limit of 1%. The sample received for analysis was identified as follows in Table 1.

Table 1. Sample Identification

Schiff Harden ID	RJLG ID
SIPC Unit 4 Fly Ash, 7/8/21	10544064

The PLM analysis utilized optical properties and morphology of the constituents to identify the respective components. The results of the PLM analysis are contained as follows in Table 2.

Table 2. Results of PLM Analysis of Granular Sample

Haley & Aldrich ID	Sample Description	Fly Ash (%)	Bottom Ash (%)	Slag (%)	Coal (%)	Other*	Total (%)
SIPC Unit 4 Fly Ash, 7/8/21	Brown Powder	36	2	0	0	62	100

*comprised primarily of quartz and clay particles

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. The samples for this project will be stored a period of 60 days.

Should you have any questions or feel that I may be of further assistance, please do not hesitate to contact me.

Sincerely,

Keith E. Wagner
 Senior Materials Scientist

Attachment E

Analytical Results for Pond B-3 Sediment Samples Collected in 2017

Electronic Filing: Received, Clerk's Office 09/02/2021

MARION STATION - POND B-3 SOIL SAMPLE EXTRACTION ANALYSIS

Parameter	Units	Part 620 – Groundwater Quality Class I Potable Resource Groundwater (a)	Part 620 – Groundwater Quality Class II General Resource Groundwater (b)	Pond B-3 – Group 1 (c)						Pond B-3 – Group 2 (c)		
				West Bank	East Bank	South End	Middle	Sample 1	Sample 4	Sample 3	Sample 4	Sample 5
				09/18/2017	09/18/2017	09/18/2017	09/18/2017	07/28/2017	07/28/2017	03/08/2017	03/08/2017	03/08/2017
Antimony	mg/L	0.006	0.024	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.003	< 0.0010	< 0.0010	0.0011	< 0.0010
Arsenic	mg/L	0.010	0.2	< 0.0010	0.0088	0.0031	< 0.0010	0.0244	< 0.0010	0.0062	0.0010	< 0.0010
Barium	mg/L	2	2	0.0566	0.0094	0.0096	< 0.0025	0.0378	< 0.0025	< 0.0025	0.0345	0.0499
Beryllium	mg/L	0.004	0.5	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Boron	mg/L	2	2	0.0381	0.0538	0.0202	< 0.0200	0.238	< 0.0200	< 0.0200	0.0715	0.256
Cadmium	mg/L	0.005	0.05	0.0032	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Chromium	mg/L	0.1	1	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Cobalt	mg/L	1	1	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Copper	mg/L	0.65	0.65	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050 B	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Iron	mg/L	5	5	0.0470	0.0394	1.38	0.0303	< 0.0200	0.0252	< 0.0200	< 0.0200	< 0.0200
Lead	mg/L	0.0075	0.1	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Manganese	mg/L	0.15	10	0.0120	< 0.0030	0.0128	< 0.0030	< 0.0030	0.0095	< 0.0030	< 0.0030	0.0042
Mercury	mg/L	0.002	0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Nickel	mg/L	0.1	2	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
pH	S.U.	6.5-9	6.5-9	--	--	--	--	--	--	9.09	7.58	7.64
Selenium	mg/L	0.05	0.05	< 0.0010	0.0079	0.0033	< 0.0010	0.0123	< 0.0010	0.0025	0.0022	0.0013
Silver	mg/L	0.05	NA	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Sulfate	mg/L	400	400	--	--	--	--	--	--	< 10	139	100
Thallium	mg/L	0.002	0.02	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Zinc	mg/L	5	10	0.0731	< 0.0100	< 0.0100	< 0.0100	< 0.0100	0.0134	< 0.0100	< 0.0100	< 0.0100

Notes:

- < - Not detected above the indicated reporting limit.
- Not sampled.
- B - Analyte detected in associated Method Blank.
- mg/L - Milligrams per liter.
- NA - Not available.
- S.U. - Standard Units.

(a) - Illinois Administrative Code. (July 2013). Title 35: Environmental Protection. Subtitle F: Public Water Supplies. Chapter I: Pollution Control Board. Part 620: Groundwater Quality. Subpart D: Groundwater Quality Standards. Section 620.410 Groundwater Quality Standards for Class I: Potable Resource Groundwater.

<https://pcb.illinois.gov/documents/dsweb/Get/Document-33425/>

(b) - Illinois Administrative Code. (July 2013). Title 35: Environmental Protection. Subtitle F: Public Water Supplies. Chapter I: Pollution Control Board. Part 620: Groundwater Quality. Subpart D: Groundwater Quality Standards. Section 620.420 Groundwater Quality Standards for Class II: General Resource Groundwater.

<https://pcb.illinois.gov/documents/dsweb/Get/Document-33425/>

(c) - Data from Teklab, Inc. Environmental Laboratory. September 22, 2017. Analysis by ASTM D3987, SW-846 3005A, 6010B, 6020A, Metals in Shake Extract by ICPMS, and ASTM D3987, SW-846 7470A in Shake Extract.



Greater than the Groundwater Quality Class I Potable Resource Groundwater

Greater than both the Groundwater Quality Class I Potable Resource Groundwater and Groundwater Quality Class II General Resource Groundwater





Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 17091066

Client Project: Modified Leachate Testing

Report Date: 22-Sep-17

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

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



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 17091066

Client Project: Modified Leachate Testing

Report Date: 22-Sep-17

Lab ID: 17091066-001

Client Sample ID: West Bank

Matrix: SOLID

Collection Date: 09/18/2017 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0566	mg/L	1	09/21/2017 10:58	134350
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	09/21/2017 10:58	134350
Boron	NELAP	0.0200		0.0381	mg/L	1	09/21/2017 10:58	134350
Cadmium	NELAP	0.0020		0.0032	mg/L	1	09/21/2017 10:58	134350
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 10:58	134350
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 10:58	134350
Copper	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 10:58	134350
Iron	NELAP	0.0200		0.0470	mg/L	1	09/21/2017 10:58	134350
Manganese	NELAP	0.0030		0.0120	mg/L	1	09/21/2017 10:58	134350
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 10:58	134350
Silver	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 10:58	134350
Zinc	NELAP	0.0100		0.0731	mg/L	1	09/21/2017 10:58	134350
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:28	134351
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:28	134351
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:28	134351
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:28	134351
Thallium	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:28	134351
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	09/21/2017 14:15	134356



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 17091066

Client Project: Modified Leachate Testing

Report Date: 22-Sep-17

Lab ID: 17091066-002

Client Sample ID: East Bank

Matrix: SOLID

Collection Date: 09/18/2017 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0094	mg/L	1	09/21/2017 11:02	134350
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	09/21/2017 11:02	134350
Boron	NELAP	0.0200		0.0538	mg/L	1	09/21/2017 11:02	134350
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	09/21/2017 11:02	134350
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:02	134350
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:02	134350
Copper	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:02	134350
Iron	NELAP	0.0200		0.0394	mg/L	1	09/21/2017 11:02	134350
Manganese	NELAP	0.0030		< 0.0030	mg/L	1	09/21/2017 11:02	134350
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:02	134350
Silver	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:02	134350
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	09/21/2017 11:02	134350
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:37	134351
Arsenic	NELAP	0.0010		0.0088	mg/L	5	09/21/2017 11:37	134351
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:37	134351
Selenium	NELAP	0.0010		0.0079	mg/L	5	09/21/2017 11:37	134351
Thallium	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:37	134351
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	09/21/2017 14:23	134356



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 17091066

Client Project: Modified Leachate Testing

Report Date: 22-Sep-17

Lab ID: 17091066-003

Client Sample ID: South End

Matrix: SOLID

Collection Date: 09/18/2017 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0096	mg/L	1	09/21/2017 11:06	134350
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	09/21/2017 11:06	134350
Boron	NELAP	0.0200		0.0202	mg/L	1	09/21/2017 11:06	134350
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	09/21/2017 11:06	134350
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:06	134350
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:06	134350
Copper	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:06	134350
Iron	NELAP	0.0200		1.38	mg/L	1	09/21/2017 11:06	134350
Manganese	NELAP	0.0030		0.0128	mg/L	1	09/21/2017 11:06	134350
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:06	134350
Silver	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:06	134350
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	09/21/2017 11:06	134350
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:45	134351
Arsenic	NELAP	0.0010		0.0031	mg/L	5	09/21/2017 11:45	134351
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:45	134351
Selenium	NELAP	0.0010		0.0033	mg/L	5	09/21/2017 11:45	134351
Thallium	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 11:45	134351
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	09/21/2017 14:27	134356



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 17091066

Client Project: Modified Leachate Testing

Report Date: 22-Sep-17

Lab ID: 17091066-004

Client Sample ID: Middle

Matrix: SOLID

Collection Date: 09/18/2017 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		< 0.0025	mg/L	1	09/21/2017 11:30	134350
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	09/21/2017 11:30	134350
Boron	NELAP	0.0200		< 0.0200	mg/L	1	09/21/2017 11:30	134350
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	09/21/2017 11:30	134350
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:30	134350
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:30	134350
Copper	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:30	134350
Iron	NELAP	0.0200		0.0303	mg/L	1	09/21/2017 11:30	134350
Manganese	NELAP	0.0030		< 0.0030	mg/L	1	09/21/2017 11:30	134350
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:30	134350
Silver	NELAP	0.0050		< 0.0050	mg/L	1	09/21/2017 11:30	134350
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	09/21/2017 11:30	134350
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 12:53	134351
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 12:53	134351
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 12:53	134351
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 12:53	134351
Thallium	NELAP	0.0010		< 0.0010	mg/L	5	09/21/2017 12:53	134351
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	09/21/2017 14:29	134356



Receiving Check List

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

Client: Southern Illinois Power Cooperation

Work Order: 17091066

Client Project: Modified Leachate Testing

Report Date: 22-Sep-17

Carrier: UPS

Received By: AMD

Completed by:

On:
19-Sep-17

Amber M. Dilallo
Amber M. Dilallo

Reviewed by:

On:
19-Sep-17

Elizabeth A. Hurley
Elizabeth A. Hurley

Pages to follow: Chain of custody Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C <input type="text" value="N/A"/>
Type of thermal preservation?	None <input checked="" type="checkbox"/>	Ice <input type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials <input checked="" type="checkbox"/>	
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
NPDES/CWA TCN interferences checked/treated in the field?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	

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

South End is labeled as South Bank. Jason McLaurin was notified of this error via work order summary. AMD 9/19/17



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 17071789

Client Project: Leachate Test

Report Date: 09-Aug-17

Lab ID: 17071789-001

Client Sample ID: Sample 1

Matrix: SOLID

Collection Date: 07/28/2017 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0378	mg/L	1	08/02/2017 20:22	132769
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	08/02/2017 20:22	132769
Boron	NELAP	0.0200		0.238	mg/L	1	08/02/2017 20:22	132769
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	08/02/2017 20:22	132769
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:22	132769
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:22	132769
Copper	NELAP	0.0050	B	< 0.0050	mg/L	1	08/02/2017 20:22	132769
Iron	NELAP	0.0200		< 0.0200	mg/L	1	08/02/2017 20:22	132769
Manganese	NELAP	0.0030		< 0.0030	mg/L	1	08/02/2017 20:22	132769
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:22	132769
Silver	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:22	132769
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	08/02/2017 20:22	132769
<i>Contamination present in MBLK for Cu. Sample results below the RL are reportable per 2009 TNI Standard (Volume 1, Module 4, section 1.7.4.1).</i>								
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0030	mg/L	5	08/04/2017 7:30	132770
Arsenic	NELAP	0.0010		0.0244	mg/L	5	08/07/2017 22:25	132770
Lead	NELAP	0.0010		< 0.0010	mg/L	5	08/04/2017 7:30	132770
Selenium	NELAP	0.0010		0.0123	mg/L	5	08/04/2017 7:30	132770
Thallium	NELAP	0.0010		< 0.0010	mg/L	5	08/04/2017 7:30	132770
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	08/02/2017 12:38	132771



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 17071789

Client Project: Leachate Test

Report Date: 09-Aug-17

Lab ID: 17071789-004

Client Sample ID: Sample 4

Matrix: SOLID

Collection Date: 07/28/2017 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		< 0.0025	mg/L	1	08/02/2017 20:33	132769
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	08/02/2017 20:33	132769
Boron	NELAP	0.0200		< 0.0200	mg/L	1	08/02/2017 20:33	132769
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	08/02/2017 20:33	132769
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:33	132769
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:33	132769
Copper	NELAP	0.0050		< 0.0050	mg/L	1	08/07/2017 13:32	132930
Iron	NELAP	0.0200		0.0252	mg/L	1	08/02/2017 20:33	132769
Manganese	NELAP	0.0030		0.0095	mg/L	1	08/02/2017 20:33	132769
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:33	132769
Silver	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:33	132769
Zinc	NELAP	0.0100		0.0134	mg/L	1	08/02/2017 20:33	132769
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	08/04/2017 7:55	132770
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	08/07/2017 23:06	132770
Lead	NELAP	0.0010		< 0.0010	mg/L	5	08/04/2017 7:55	132770
Selenium	NELAP	0.0010		< 0.0010	mg/L	5	08/04/2017 7:55	132770
Thallium	NELAP	0.0010		< 0.0010	mg/L	5	08/04/2017 7:55	132770
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	08/02/2017 12:57	132771



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 17030824

Client Project: Modified Leachate Testing

Report Date: 21-Mar-17

Lab ID: 17030824-003

Client Sample ID: Sample #3

Matrix: SOLID

Collection Date: 03/08/2017 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE		10		< 10	mg/L	1	03/17/2017 18:42	R230557
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH		1.00		9.09		1	03/16/2017 23:05	128139
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		< 0.0025	mg/L	1	03/16/2017 18:54	128169
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	03/16/2017 18:54	128169
Boron	NELAP	0.0200		< 0.0200	mg/L	1	03/16/2017 18:54	128169
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/16/2017 18:54	128169
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:54	128169
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:54	128169
Copper	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:54	128169
Iron	NELAP	0.0200		< 0.0200	mg/L	1	03/16/2017 18:54	128169
Manganese	NELAP	0.0030		< 0.0030	mg/L	1	03/16/2017 18:54	128169
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:54	128169
Silver	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:54	128169
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	03/16/2017 18:54	128169
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/18/2017 5:49	128171
Arsenic	NELAP	0.0010		0.0062	mg/L	5	03/18/2017 5:49	128171
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/18/2017 5:49	128171
Selenium	NELAP	0.0010		0.0025	mg/L	5	03/18/2017 5:49	128171
Thallium	NELAP	0.0010		< 0.0010	mg/L	5	03/18/2017 5:49	128171
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	03/17/2017 10:11	128173



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 17030824

Client Project: Modified Leachate Testing

Report Date: 21-Mar-17

Lab ID: 17030824-004

Client Sample ID: Sample #4

Matrix: SOLID

Collection Date: 03/08/2017 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE		100		139	mg/L	10	03/17/2017 19:09	R230557
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH		1.00		7.58		1	03/16/2017 23:06	128139
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0345	mg/L	1	03/16/2017 18:58	128169
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	03/16/2017 18:58	128169
Boron	NELAP	0.0200		0.0715	mg/L	1	03/16/2017 18:58	128169
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/16/2017 18:58	128169
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:58	128169
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:58	128169
Copper	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:58	128169
Iron	NELAP	0.0200		< 0.0200	mg/L	1	03/16/2017 18:58	128169
Manganese	NELAP	0.0030		< 0.0030	mg/L	1	03/16/2017 18:58	128169
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:58	128169
Silver	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 18:58	128169
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	03/16/2017 18:58	128169
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0011	mg/L	5	03/18/2017 5:57	128171
Arsenic	NELAP	0.0010		0.0010	mg/L	5	03/18/2017 5:57	128171
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/18/2017 5:57	128171
Selenium	NELAP	0.0010		0.0022	mg/L	5	03/18/2017 5:57	128171
Thallium	NELAP	0.0010		< 0.0010	mg/L	5	03/18/2017 5:57	128171
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	03/17/2017 10:13	128173



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 17030824

Client Project: Modified Leachate Testing

Report Date: 21-Mar-17

Lab ID: 17030824-005

Client Sample ID: Sample #5

Matrix: SOLID

Collection Date: 03/08/2017 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE		100		100	mg/L	10	03/17/2017 19:17	R230557
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH		1.00		7.64		1	03/16/2017 23:08	128139
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0499	mg/L	1	03/16/2017 19:02	128169
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	03/16/2017 19:02	128169
Boron	NELAP	0.0200		0.256	mg/L	1	03/16/2017 19:02	128169
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/16/2017 19:02	128169
Chromium	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 19:02	128169
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 19:02	128169
Copper	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 19:02	128169
Iron	NELAP	0.0200		< 0.0200	mg/L	1	03/16/2017 19:02	128169
Manganese	NELAP	0.0030		0.0042	mg/L	1	03/16/2017 19:02	128169
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 19:02	128169
Silver	NELAP	0.0050		< 0.0050	mg/L	1	03/16/2017 19:02	128169
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	03/16/2017 19:02	128169
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	03/18/2017 6:05	128171
Arsenic	NELAP	0.0010		< 0.0010	mg/L	5	03/18/2017 6:05	128171
Lead	NELAP	0.0010		< 0.0010	mg/L	5	03/18/2017 6:05	128171
Selenium	NELAP	0.0010		0.0013	mg/L	5	03/18/2017 6:05	128171
Thallium	NELAP	0.0010		< 0.0010	mg/L	5	03/18/2017 6:05	128171
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	03/17/2017 10:20	128173



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12100884

Client Project: Leachate and Trace Element Testing

Report Date: 25-Oct-12

Lab ID: 12100884-002

Client Sample ID: Pond A-1 #2

Matrix: SOLID

Collection Date: 10/11/2012 0:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)								
Sulfate, SHAKE		10		20	mg/L	1	10/23/2012 14:30	R169686
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH		1.00		7.28		1	10/23/2012 12:37	82706
SW-846 9036 (TOTAL)								
Sulfate		100		200	mg/Kg	1	10/23/2012 12:04	82774
SW-846 9045C								
pH (1:1)	NELAP	1.00		7.72		1	10/22/2012 12:51	R169584
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Boron		0.0200		0.565	mg/L	1	10/24/2012 16:49	82767
Cadmium		0.0020		< 0.0020	mg/L	1	10/24/2012 16:49	82767
Copper		0.0100		< 0.0100	mg/L	1	10/24/2012 16:49	82767
Iron		0.0200	J	0.0094	mg/L	1	10/24/2012 16:49	82767
Manganese		0.0050		0.0151	mg/L	1	10/24/2012 16:49	82767
Molybdenum		0.0100		0.289	mg/L	1	10/24/2012 16:49	82767
Selenium		0.0500		< 0.0500	mg/L	1	10/24/2012 16:49	82767
ASTM D3987, SW-846 3020A, METALS IN SHAKE EXTRACT BY GFAA								
Arsenic, SHAKE by GFAA	7060A	0.0030		< 0.0030	mg/L	1	10/24/2012 13:27	82766
Lead, SHAKE by GFAA	7421	0.0020		< 0.0020	mg/L	1	10/24/2012 15:34	82766
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.36		4.66	mg/Kg-dry	1	10/23/2012 22:32	82730
Boron	NELAP	1.89		9.63	mg/Kg-dry	1	10/23/2012 22:32	82730
Cadmium	NELAP	0.19		< 0.19	mg/Kg-dry	1	10/23/2012 22:32	82730
Copper	NELAP	0.94		12.3	mg/Kg-dry	1	10/23/2012 22:32	82730
Iron	NELAP	1.89		20500	mg/Kg-dry	1	10/23/2012 22:32	82730
Lead	NELAP	3.77		11.7	mg/Kg-dry	1	10/23/2012 22:32	82730
Manganese	NELAP	0.47		575	mg/Kg-dry	1	10/23/2012 22:32	82730
Molybdenum	NELAP	0.94		11.8	mg/Kg-dry	1	10/23/2012 22:32	82730
Selenium	NELAP	3.77		< 3.77	mg/Kg-dry	1	10/23/2012 22:32	82730



CERTIFICATE OF ANALYSIS

7060959

Southern Illinois Power Coop.
Jason McLaurin

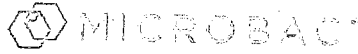
Date Due 07/03/2017
Date Received 06/22/2017

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 08 Well S-6													
Sampled By David Richardson											Sampled	06/22/2017 @ 12:04	
Sulfate			51	mg/L	5			EPA 300.0	2.5			06/29/2017 20:42	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			06/26/2017 22:18	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 22:18	EML
Iron			10	mg/L	1			EPA 200.7	0.010			06/26/2017 22:18	EML

QUALIFIER DEFINITIONS

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CERTIFICATE OF ANALYSIS

7031434

Southern Illinois Power Coop.
Leonard Hopkins

Date Due 04/04/2017
Date Received 03/24/2017

Quarterly Well Sampling 2014 Thru 2016

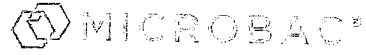
Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 08													
Well S-6													
Sampled By												03/23/2017 @ 11:51	
David Richardson													
Sulfate			54	mg/L	5			EPA 300.0	2.5			03/29/2017 18:11	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			03/28/2017 15:31	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 15:31	EML
Iron			2.7	mg/L	1			EPA 200.7	0.010			03/28/2017 15:31	EML

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

6121231

Southern Illinois Power Coop.
Leonard Hopkins

Date Due 12/28/2016
Date Received 12/16/2016

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 08 Well S-6													
Sampled By David Richardson												Sampled	12/16/2016 @ 12:39
Sulfate			44	mg/L	20			EPA 300.0	10			12/22/2016 17:32	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/21/2016 19:46	JGF
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 19:46	JGF
Iron			34	mg/L	1			EPA 200.7	0.010			12/21/2016 19:46	JGF

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

6091197

Southern Illinois Power Coop.
Leonard Hopkins

Date Due 10/04/2016
Date Received 09/23/2016

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOB	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 09 Well S-6											09/20/2016 @ 11:15	
Sampled By: David Richardson												
Sulfate			47 mg/L	10			EPA 300.0	5.0			09/26/2016 22:43	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 12:03	EML
Cadmium		J1	0.0039 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 16:45	EML
Iron			86 mg/L	10			EPA 200.7	0.10			09/27/2016 17:28	EML

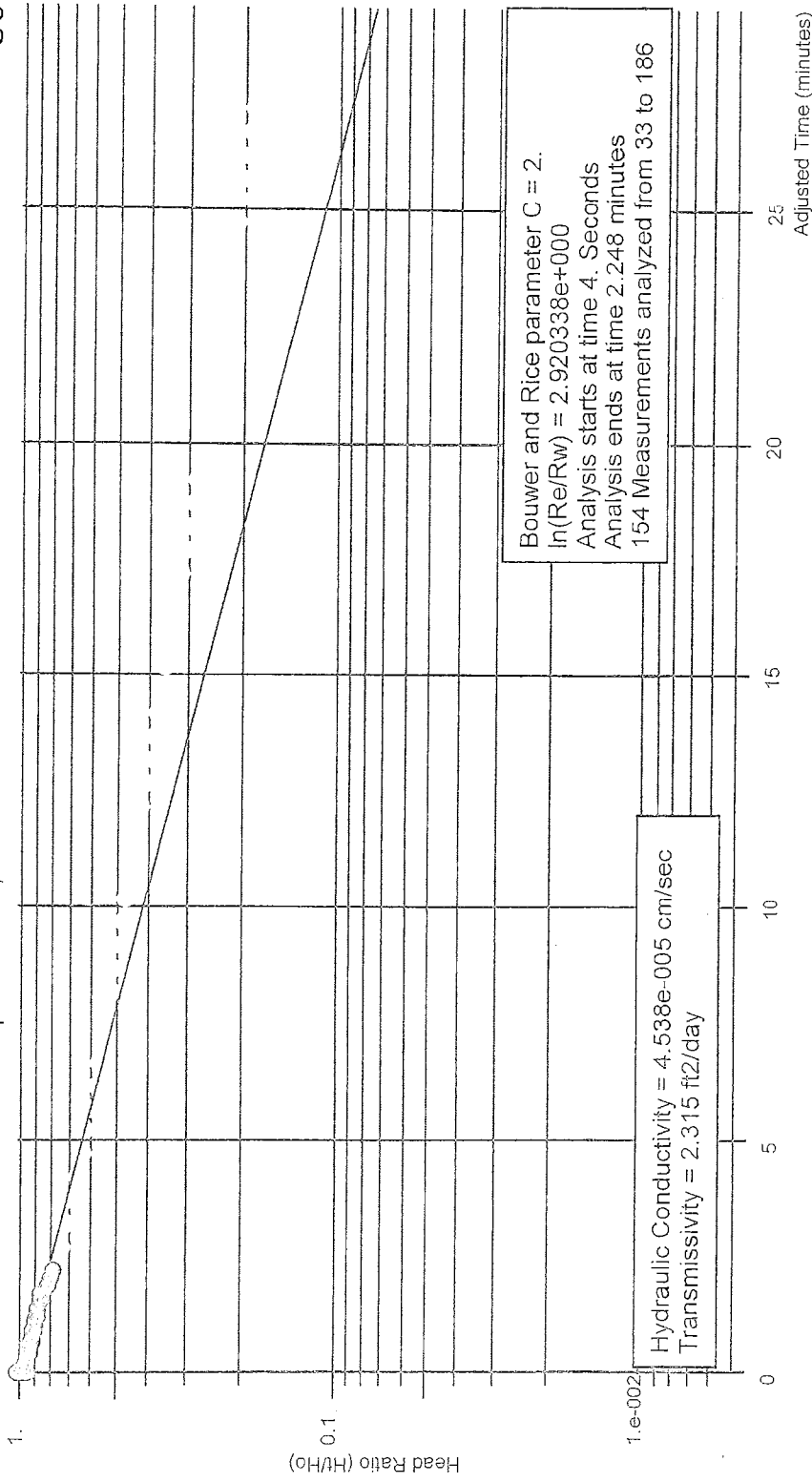
Qualifier Definitions

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Southern Illinois Power Coop

Falling Head Slug Test January 27, 2017
Southern Illinois Power Coop Marion, IL
Bouwer and Rice Graph S6



Project Number: 4225-304-10-01 for HFE
Analysis by Starpoint Software

Southern Illinois Power Coop

Falling Head Slug Test

Site Name: Southern Illinois Power Coop
 Location: Marion, IL
 Test Date: January 27, 2017
 Client: HFE
 Project Number: 4225-304-10-01
 Import File: C:\Projects\Holcomb\SIPC\S6 Slug in.txt

Well Label: S6
 Aquifer Thickness: 18. feet
 Screen Length: 10. feet
 Casing Radius: 1. Inches
 Effective Radius: 4. Inches
 Static Water Level: 6.2 feet
 Water Table to Screen Bottom: 18. feet
 Anisotropy Ratio: 1.
 Time Adjustment: 4. Seconds

Test starts with trial 11

There are 240 time and drawdown measurements

Maximum head is 1.762 feet

Minimum head is -2.6e-002 feet

Trial	Time (Seconds)	Adjusted Time (Seconds)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	-4.	6.174	-2.6e-002	-1.476e-002
2	0.1	-3.9	6.474	0.274	0.1555
3	0.2	-3.8	6.892	0.692	0.3927
4	0.3	-3.7	7.445	1.245	0.7066
5	0.5	-3.5	7.779	1.579	0.8961
6	0.6	-3.4	7.769	1.569	0.8905
7	0.7	-3.3	7.57	1.37	0.7775
8	0.9	-3.1	7.495	1.295	0.735
9	1.	-3	7.53	1.33	0.7548
10	1.1	-2.9	7.736	1.536	0.8717
11	1.2	-2.8	7.936	1.736	0.9852
12	1.4	-2.6	7.962	1.762	1.
13	1.5	-2.5	7.828	1.628	0.924
14	1.6	-2.4	7.704	1.504	0.8536
15	1.7	-2.3	7.701	1.501	0.8519
16	1.9	-2.1	7.746	1.546	0.8774
17	2.	-2.	7.811	1.611	0.9143
18	2.1	-1.9	7.732	1.532	0.8695
19	2.2	-1.8	7.556	1.356	0.7696
20	2.4	-1.6	7.302	1.102	0.6254
21	2.5	-1.5	7.202	1.002	0.5687
22	2.6	-1.4	7.328	1.128	0.6402
23	2.8	-1.2	7.558	1.358	0.7707
24	2.9	-1.1	7.647	1.447	0.8212
25	3.	-1.	7.697	1.497	0.8496
26	3.1	-0.9	7.626	1.426	0.8093
27	3.2	-0.8	7.481	1.281	0.727
28	3.4	-0.6	7.424	1.224	0.6947
29	3.5	-0.5	7.483	1.283	0.7281
30	3.6	-0.4	7.586	1.386	0.7866
31	3.7	-0.3	7.643	1.443	0.819
32	3.9	-1.e-001	7.614	1.414	0.8025
33	4.	0.	7.579	1.379	0.7826

Electronic Filing: Received, Clerk's Office 09/02/2021

Southern Illinois Power Coop

34	4.1	1.e-001	7.542	1.342	0.7616
35	4.2	0.2	7.509	1.309	0.7429
36	4.4	0.4	7.535	1.335	0.7577
37	4.5	0.5	7.579	1.379	0.7826
38	4.6	0.6	7.603	1.403	0.7963
39	4.7	0.7	7.584	1.384	0.7855
40	4.9	0.9	7.544	1.344	0.7628
41	5.	1.	7.53	1.33	0.7548
42	5.1	1.1	7.525	1.325	0.752
43	5.2	1.2	7.537	1.337	0.7588
44	5.4	1.4	7.56	1.36	0.7719
45	5.5	1.5	7.57	1.37	0.7775
46	5.6	1.6	7.56	1.36	0.7719
47	5.7	1.7	7.542	1.342	0.7616
48	5.9	1.9	7.53	1.33	0.7548
49	6.	2.	7.532	1.332	0.756
50	6.12	2.12	7.539	1.339	0.7599
51	6.24	2.24	7.546	1.346	0.7639
52	6.37	2.37	7.551	1.351	0.7667
53	6.49	2.49	7.546	1.346	0.7639
54	6.62	2.62	7.537	1.337	0.7588
55	6.75	2.75	7.532	1.332	0.756
56	6.87	2.87	7.535	1.335	0.7577
57	7.	3.	7.542	1.342	0.7616
58	7.12	3.12	7.546	1.346	0.7639
59	7.25	3.25	7.546	1.346	0.7639
60	7.37	3.37	7.544	1.344	0.7628
61	7.5	3.5	7.542	1.342	0.7616
62	7.62	3.62	7.539	1.339	0.7599
63	7.75	3.75	7.539	1.339	0.7599
64	7.87	3.87	7.542	1.342	0.7616
65	8.	4.	7.544	1.344	0.7628
66	8.12	4.12	7.544	1.344	0.7628
67	8.25	4.25	7.544	1.344	0.7628
68	8.37	4.37	7.542	1.342	0.7616
69	8.5	4.5	7.539	1.339	0.7599
70	8.62	4.62	7.542	1.342	0.7616
71	8.75	4.75	7.542	1.342	0.7616
72	8.87	4.87	7.542	1.342	0.7616
73	9.	5.	7.542	1.342	0.7616
74	9.13	5.13	7.542	1.342	0.7616
75	9.25	5.25	7.539	1.339	0.7599
76	9.38	5.38	7.539	1.339	0.7599
77	9.5	5.5	7.539	1.339	0.7599
78	9.63	5.63	7.539	1.339	0.7599
79	9.75	5.75	7.539	1.339	0.7599
80	9.88	5.88	7.539	1.339	0.7599
81	10.	6.	7.537	1.337	0.7588
82	10.13	6.13	7.537	1.337	0.7588
83	10.25	6.25	7.537	1.337	0.7588
84	10.38	6.38	7.537	1.337	0.7588
85	10.5	6.5	7.537	1.337	0.7588
86	10.63	6.63	7.537	1.337	0.7588
87	10.75	6.75	7.537	1.337	0.7588
88	10.88	6.88	7.537	1.337	0.7588
89	11.	7.	7.537	1.337	0.7588
90	11:13	7.13	7.537	1.337	0.7588

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91	11.25	7.25	7.537	1.337	0.7588
92	11.38	7.38	7.537	1.337	0.7588
93	11.51	7.51	7.537	1.337	0.7588
94	11.63	7.63	7.537	1.337	0.7588
95	11.76	7.76	7.535	1.335	0.7577
96	11.88	7.88	7.535	1.335	0.7577
97	12.01	8.01	7.535	1.335	0.7577
98	12.13	8.13	7.535	1.335	0.7577
99	12.26	8.26	7.535	1.335	0.7577
100	12.38	8.38	7.535	1.335	0.7577
101	12.51	8.51	7.535	1.335	0.7577
102	12.63	8.63	7.535	1.335	0.7577
103	12.76	8.76	7.535	1.335	0.7577
104	12.88	8.88	7.532	1.332	0.756
105	13.01	9.01	7.532	1.332	0.756
106	13.13	9.13	7.532	1.332	0.756
107	13.26	9.26	7.532	1.332	0.756
108	13.38	9.38	7.532	1.332	0.756
109	13.51	9.51	7.532	1.332	0.756
110	13.63	9.63	7.532	1.332	0.756
111	13.76	9.76	7.532	1.332	0.756
112	13.88	9.88	7.532	1.332	0.756
113	14.01	10.01	7.532	1.332	0.756
114	14.14	10.14	7.532	1.332	0.756
115	14.26	10.26	7.532	1.332	0.756
116	14.39	10.39	7.532	1.332	0.756
117	14.51	10.51	7.53	1.33	0.7548
118	14.64	10.64	7.53	1.33	0.7548
119	14.76	10.76	7.53	1.33	0.7548
120	14.89	10.89	7.53	1.33	0.7548
121	15.9	11.9	7.528	1.328	0.7537
122	16.9	12.9	7.528	1.328	0.7537
123	17.9	13.9	7.525	1.325	0.752
124	18.9	14.9	7.523	1.323	0.7509
125	19.9	15.9	7.514	1.314	0.7457
126	20.9	16.9	7.514	1.314	0.7457
127	21.9	17.9	7.511	1.311	0.744
128	22.9	18.9	7.509	1.309	0.7429
129	23.9	19.9	7.507	1.307	0.7418
130	24.9	20.9	7.507	1.307	0.7418
131	25.9	21.9	7.504	1.304	0.7401
132	26.9	22.9	7.504	1.304	0.7401
133	27.9	23.9	7.502	1.302	0.7389
134	28.9	24.9	7.5	1.3	0.7378
135	29.9	25.9	7.497	1.297	0.7361
136	30.9	26.9	7.497	1.297	0.7361
137	31.9	27.9	7.495	1.295	0.735
138	32.9	28.9	7.493	1.293	0.7338
139	33.9	29.9	7.49	1.29	0.7321
140	34.9	30.9	7.49	1.29	0.7321
141	35.9	31.9	7.488	1.288	0.731
142	36.9	32.9	7.486	1.286	0.7299
143	37.9	33.9	7.483	1.283	0.7281
144	38.9	34.9	7.483	1.283	0.7281
145	39.9	35.9	7.481	1.281	0.727
146	40.9	36.9	7.479	1.279	0.7259
147	41.9	37.9	7.479	1.279	0.7259

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148	42.9	38.9	7.476	1.276	0.7242
149	43.9	39.9	7.474	1.274	0.723
150	44.9	40.9	7.474	1.274	0.723
151	45.9	41.9	7.472	1.272	0.7219
152	46.9	42.9	7.469	1.269	0.7202
153	47.9	43.9	7.469	1.269	0.7202
154	48.9	44.9	7.467	1.267	0.7191
155	49.9	45.9	7.465	1.265	0.7179
156	50.9	46.9	7.465	1.265	0.7179
157	51.9	47.9	7.462	1.262	0.7162
158	52.9	48.9	7.46	1.26	0.7151
159	53.9	49.9	7.46	1.26	0.7151
160	54.9	50.9	7.458	1.258	0.714
161	55.9	51.9	7.455	1.255	0.7123
162	56.9	52.9	7.453	1.253	0.7111
163	57.9	53.9	7.453	1.253	0.7111
164	58.9	54.9	7.451	1.251	0.71
165	59.9	55.9	7.451	1.251	0.71
166	60.9	56.9	7.448	1.248	0.7083
167	61.9	57.9	7.448	1.248	0.7083
168	62.9	58.9	7.446	1.246	0.7072
169	63.9	59.9	7.444	1.244	0.706
170	64.9	60.9	7.441	1.241	0.7043
171	65.9	61.9	7.441	1.241	0.7043
172	66.9	62.9	7.439	1.239	0.7032
173	67.9	63.9	7.439	1.239	0.7032
174	68.9	64.9	7.437	1.237	0.702
175	69.9	65.9	7.434	1.234	0.7003
176	70.9	66.9	7.432	1.232	0.6992
177	71.9	67.9	7.432	1.232	0.6992
178	72.9	68.9	7.432	1.232	0.6992
179	73.9	69.9	7.43	1.23	0.6981
180	74.9	70.9	7.427	1.227	0.6964
181	84.9	80.9	7.413	1.213	0.6884
182	94.9	90.9	7.399	1.199	0.6805
183	104.9	100.9	7.385	1.185	0.6725
184	114.9	110.9	7.324	1.124	0.6379
185	124.9	120.9	7.301	1.101	0.6249
186	134.9	130.9	7.282	1.082	0.6141
187	164.9	160.9	7.223	1.023	0.5806
188	194.9	190.9	7.179	0.979	0.5556
189	224.9	220.9	7.144	0.944	0.5358
190	254.9	250.9	7.111	0.911	0.517
191	284.9	280.9	7.083	0.883	0.5011
192	314.9	310.9	7.057	0.857	0.4864
193	344.9	340.9	7.031	0.831	0.4716
194	374.9	370.9	7.007	0.807	0.458
195	404.9	400.9	6.982	0.782	0.4438
196	434.9	430.9	6.963	0.763	0.433
197	464.9	460.9	6.939	0.739	0.4194
198	494.9	490.9	6.918	0.718	0.4075
199	524.9	520.9	6.9	0.7	0.3973
200	554.9	550.9	6.881	0.681	0.3865
201	584.9	580.9	6.862	0.662	0.3757
202	614.9	610.9	6.846	0.646	0.3666
203	644.9	640.9	6.827	0.627	0.3558
204	674.9	670.9	6.81	0.61	0.3462

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205	704.9	700.9	6.792	0.592	0.336
206	734.9	730.9	6.775	0.575	0.3263
207	764.9	760.9	6.757	0.557	0.3161
208	794.9	790.9	6.742	0.542	0.3076
209	824.9	820.9	6.728	0.528	0.2997
210	854.9	850.9	6.714	0.514	0.2917
211	884.9	880.9	6.698	0.498	0.2826
212	914.9	910.9	6.686	0.486	0.2758
213	944.9	940.9	6.672	0.472	0.2679
214	974.9	970.9	6.66	0.46	0.2611
215	1005	1001	6.649	0.449	0.2548
216	1035	1031	6.637	0.437	0.248
217	1065	1061	6.623	0.423	0.2401
218	1095	1091	6.611	0.411	0.2333
219	1125	1121	6.599	0.399	0.2264
220	1155	1151	6.59	0.39	0.2213
221	1185	1181	6.578	0.378	0.2145
222	1215	1211	6.569	0.369	0.2094
223	1245	1241	6.56	0.36	0.2043
224	1275	1271	6.55	0.35	0.1986
225	1305	1301	6.541	0.341	0.1935
226	1335	1331	6.532	0.332	0.1884
227	1365	1361	6.525	0.325	0.1844
228	1395	1391	6.515	0.315	0.1788
229	1425	1421	6.508	0.308	0.1748
230	1455	1451	6.499	0.299	0.1697
231	1485	1481	6.492	0.292	0.1657
232	1515	1511	6.485	0.285	0.1617
233	1545	1541	6.48	0.28	0.1589
234	1575	1571	6.473	0.273	0.1549
235	1605	1601	6.466	0.266	0.151
236	1635	1631	6.459	0.259	0.147
237	1665	1661	6.454	0.254	0.1442
238	1695	1691	6.45	0.25	0.1419
239	1725	1721	6.445	0.245	0.139
240	1755	1751	6.44	0.24	0.1362

Attachment F

Long-Term Sulfate Concentration Data for Site Monitoring Wells

Boring Logs of Site Monitoring Wells (S1, S2, S3, S4, S5, S6, C1, and C2)

Analytical Reports for Site Monitoring Wells for the Period between 2010 and 2020

Electronic Filing: Received, Clerk's Office 09/02/2021

MARION STATION GROUNDWATER MONITORING WELL ANALYSIS SULFATE CONCENTRATION DATA

*Results Expressed in mg/l

DATE	PARAMETER	BACKGROUND WELLS								
		C1	C2	C3	S1	S2	S3	S4	S5	S6
12/23/2020	Sulfate	440	190	110	27	180	21	55	310	81
9/27/2020	Sulfate	290	98	70	33	110	25	50	220	64
6/23/2020	Sulfate	290	160	82	34	94	18	51	220	66
3/26/2020	Sulfate	300	280	93	27	120	3.7	49	260	75
12/14/2019	Sulfate	300	220	66	26	150	18	45	230	64
9/12/2019	Sulfate	300	120	82	21	88	17	43	230	65
6/13/2019	Sulfate	320	270	110	24	130	4.7	47	230	67
3/8/2019	Sulfate	300	270	72	21	110	7	41	230	61
11/29/2018	Sulfate	270	240	49	20	130	8.7	40	200	56
8/27/2018	Sulfate	260	160	50	24	56	23	37	200	55
6/28/2018	Sulfate	240	170	60	18	54	8.7	35	200	55
3/22/2018	Sulfate	240	240	56	55.4	76	13	38	190	54
12/11/2017	Sulfate	170	130	76	21	140	11	38	160	48
9/28/2017	Sulfate	210	89	120	19	100	<2.5	40	160	54
6/22/2017	Sulfate	220	180	160	18	63	<2.5	36	200	51
3/24/2017	Sulfate	230	300	170	19	140	<2.5	40	220	54
12/16/2016	Sulfate	240	150	74	130	7.3	28	170	44	21
9/23/2016	Sulfate	240	130	83	19	92	<2.5	30	190	47
6/10/2016	Sulfate	300	230	<0.50	62	<0.50	<0.50	2300*	66	570
3/30/2016	Sulfate	250	250	80	26	100	0.92	45	180	68
12/17/2015	Sulfate	230	290	63	27	110	13	44	180	62
8/31/2015	Sulfate	230	140	83	29	69	14	44	180	58
6/19/2015	Sulfate	220	190	84	23	27	3	45	180	71
3/19/2015	Sulfate	300	280	68	25	110	0.96	44	190	52
12/12/2014	Sulfate	250	260	84	25	110	4.1	45	180	75
9/22/2014	Sulfate	180	130	110	23	88	7.2	42	190	70
4/10/2014	Sulfate	320	370	120	28	71	2.3	34	210	60
3/25/2014	Sulfate	320	380	140	28	160	<12	49	210	64
12/4/2013	Sulfate	268	338	116	26	77	23	41	212	71
9/13/2013	Sulfate	273	227	155	28	100	18	45	178	71
6/17/2013	Sulfate	307	216	194	26	41	<10	39	226	65
3/11/2013	Sulfate	395	232	44	25	23	22	49	289	67
12/5/2012	Sulfate	265	282	56	30	47	13	50	235	86
9/14/2012	Sulfate	230	214	57	25	36	<10	46	166	70
6/18/2012	Sulfate	260	151	72	25	25	<10	42	189	68
3/5/2012	Sulfate	272	214	61	23	39	<10	45	222	69
12/14/2011	Sulfate	275	169	48	23	22	14	43	220	69
9/13/2011	Sulfate	150	158	66	28	<10	13	43	172	78
6/28/2011	Sulfate	334	184	95	24	9	17	68	199	85
3/22/2011	Sulfate	325	219	72	33	88	7	69	213	89
12/8/2010	Sulfate	336	190	72	28	191	5	65	178	83
9/17/2010	Sulfate	362	164	84	29	184	<5	55	176	80
6/10/2010	Sulfate	398	156	120	29	184	6	61	209	84
3/29/2010	Sulfate	298	168	91	29	194	11	60	190	81
10/1/2009	Sulfate			57	26	100	<0.5	41	180	66
9/3/2009	Sulfate			63	16	72	2.6	41	190	71
5/21/2009	Sulfate			68	24	99	20	42	180	73
3/19/2009	Sulfate			36	24	96	<2.5	42	200	62
10/30/2008	Sulfate			51	27	73	<2.5	39	159	66
9/18/2008	Sulfate			59	12	68	3.9	40	160	68
6/16/2008	Sulfate			55	74	82	1.4	40	180	63
3/25/2008	Sulfate			38	60	20	15	42	210	62
10/4/2007	Sulfate			42	28	150	<0.5	48	150	65
9/20/2007	Sulfate			37	26	140	<0.5	43	150	68
5/24/2007	Sulfate			35	25	110	1	41	170	64
1/4/2007	Sulfate			28	26	200	<0.5	47	170	67
12/7/2006	Sulfate			28	13	38	14	40	240	61
9/7/2006	Sulfate			36	27	89	3.8	41	150	63
6/15/2006	Sulfate			35	26	94	0.5	41	200	67
3/16/2006	Sulfate			26	25	45	25	44	170	59
10/27/2005	Sulfate			35	32	95	<0.5	44	150	63
9/22/2005	Sulfate	83		39	29	96	1.7	44	140	70
6/16/2005	Sulfate	220		33	32	82	1.5	43	150	64
3/17/2005	Sulfate	220		41	30	84	<0.5	41	180	57
12/16/2004	Sulfate	200		200		180	1.03	48	200	73
9/24/2004	Sulfate	236		45		82	15	35	127	68
6/24/2004	Sulfate	264		56		97	9	43	197	97
3/18/2004	Sulfate	291		77		194	8	60	301	109
10/23/2003	Sulfate	204		34	31	82	48	62	227	101
9/11/2003	Sulfate	252		46	31	103	<8	49	199	101
5/28/2003	Sulfate	307		49	40	121	23	49	193	101
3/17/2003	Sulfate	298		38	47	136	51	94	286	126
10/17/2002	Sulfate	221		35	41	191	86	123	200	177
8/15/2002	Sulfate	325		45	33	87	26	39	159	168
6/14/2002	Sulfate	190		414	35	129	58	106	343	482
3/14/2002	Sulfate	181		37	19	107	<8	33	176	48
10/9/2001	Sulfate	167		<8	20	50	<8	30	128	43
8/30/2001	Sulfate	212		34	30	137	<8	42	183	71
5/25/2001	Sulfate	108	13	27	16	105	<8	23	140	62
3/13/2001	Sulfate	204	41	<8	35	340	<8	43	207	75
Sample event counts:		63	46	77	76	78	55	79	80	80

Note: * = possible data error

HOLCOMB FOUNDATION ENGINEERING CO.

*Geotechnical Engineering - Soil Borings - Monitoring Wells
Construction Materials Engineering and Testing*

WOOD ROAD

P.O. BOX 88
CARBONDALE, ILLINOIS 62903-0088

618-629-8262
800-333-1740
FAX 618-457-8881

September 23, 1993

Southern Illinois Power Co-Operative
Rt. 4, Box 607
Marion, Illinois 62959

Attention: Mr. Leonard Hopkins

Re: Soil Borings and Monitoring Well Installations
SIPC Wells
Williamson County, Illinois
HFE File No. H-93196
SIPC Purchase Order #91-5041A

Dear Sir:

Enclosed are the Boring Logs and Well Completion Reports for the above referenced project drilled September 20 and 21, 1993.

If you should have any questions, please feel free to contact me at your convenience.

Sincerely,

HOLCOMB FOUNDATION ENGINEERING

Timothy J. Holcomb, P.E.

TJH/jar

Encls.

Well S-1

LOG OF BORING

1

UNCONFINED COMPRESSIVE STRENGTH, TONS/FT ²																			
1 2 3 4 5 6										DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL					
PLASTIC LIMIT % WATER CONTENT % LIQUID LIMIT %	□	○	△							SURFACE ELEVATION									
STANDARD "N" PENETRATION, BLOWS/FT																			
10 20 30 40 50 60																			
										5				1 au	Brown Silty CLAY (CL)				
										10					Gray Silty CLAY (CL) w/Sand				
										15					Gray Sandstone				
										20					End of Boring @ -25'				
<p>GROUND WATER DATA</p> <p style="text-align:center;">Ground water encountered @ -13' during drilling; @ -14' upon completion.</p>										PROJECT					DATE OF BORING				
										SIPC Wells Williamson County, Illinois					9-20-93				
<p>CLIENT</p> <p style="text-align:center;">Southern Illinois Power Co-Operative Marion, Illinois</p>										PROJECT NO.					H-93196				



Illinois Environmental Protection Agency

Well Completion Report

Site #: _____ County Williamson Well # 1
 Site Name: Southern Illinois Power Co-Op Grid Coordinate: Northing _____ Easting _____
 Drilling Contractor: Holcomb Foundation Engineering Co., Inc. Date Drilled Start: 9/20/93
 Driller: J. Carter Geologist: T. Holcomb Date Completed: 9/20/93
 Drilling Method: Hollow Stem Augers Drilling Fluids (type): None

Annular Space Details

Elevations — .01 ft.

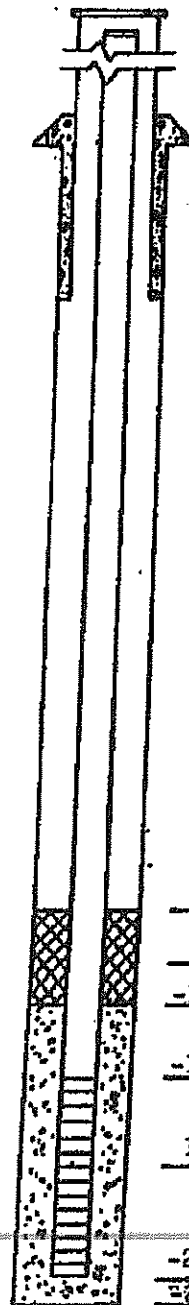
Type of Surface Seal: Quickcrete
 Type of Annular Sealant: Cement/Bentonite
 Amount of cement: # of bags 2 lbs. per bag 94
 Amount of bentonite: # of bags 3 lbs. per bag 9
 Type of Bentonite Seal (Granular, Pellet): Granular

3 _____ MSL Top of Protective Casing
3 _____ MSL Top of Riser Pipe
 _____ ft. Casing Bitcusp
 _____ MBL Ground Surface
-2 _____ ft. Top of Annular Sealant

Amount of bentonite: # of Bags 1 lbs. per bag 50
 Type of Sand Pack: Silica Sand
 Source of Sand: Colorado Silica
 Amount of Sand: # of bags 3 lbs. per bag 100

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	SS304			
Riser pipe above w.t.	SS304			
Riser pipe below w.t.	SS304			
Screen	SS304			
Coupling joint screen to riser	SS304			
Protective casing				



-2 _____ ft. Top of Seal
11 _____ ft. Total Seal Interval
-13 _____ ft. Top of Sand
-15 _____ ft. Top of Screen
10 _____ ft. Total Screen Interval
-25 _____ ft. Bottom of Screen
-25 _____ ft. Bottom of Borehole

Measurements

to .01 ft. (where applicable)

Riser pipe length	15
Protective casing length	-
Screen length	9.8
Bottom of screen to end cap	0.1
Top of screen to first joint	0.1
Total length of casing	-
Screen slot size	0.010 ^B
% of openings in screen	-
Diameter of borehole (in)	8
ID of riser pipe (in)	2

Completed by: T. Holcomb Surveyed by: _____ Ill. registration # _____

Well S-3

LOG OF BORING 3

UNCONFINED COMPRESSIVE STRENGTH, TONS/FT ²		DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL				
1	2						3	4	5	6
PLASTIC LIMIT %	WATER CONTENT %						LIQUID LIMIT %	STANDARD "N" PENETRATION, BLOWS/FT		
10	20	30	40	50	60	SURFACE ELEVATION				
						3" Topsoil				
		5				Brown Silty CLAY (CL)				
		10				Brown Silty CLAY (CL) w/Sand				
		15	1	au		Gray Silty CLAY (CL) w/Sand				
		20								
		25				End of Boring @ -25'				
GROUND WATER DATA										
Ground water encountered @ -18' during drilling; @ -25' upon completion.										
PROJECT					DATE OF BORING					
SIPC Wells Williamson County, Illinois					9-20-93					
CLIENT					PROJECT NO.					
Southern Illinois Power Co-Operative Marion, Illinois					H-93196					



Illinois Environmental Protection Agency

Well Completion Report

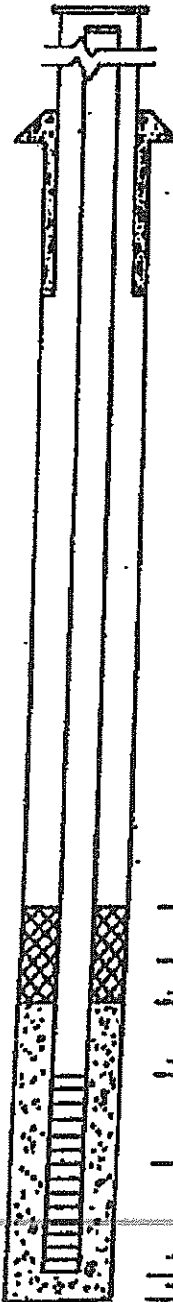
Site #: _____ County Williamson Well # 3
 Site Name: Southern Illinois Power Co-Op Grid Coordinate: Northing _____ Easting _____
 Drilling Contractor: Holcomb Foundation Engineering Co., INC. Date Drilled Start: 9/20/93
 Driller: J. Carter Geologist: T. Holcomb Date Completed: 9/20/93
 Drilling Method: Hollow Stem Augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Quickcrete
 Type of Annular Sealant: Cement/Bentonite
 Amount of cement: # of bags 2 lbs. per bag 94
 Amount of bentonite: # of bags 1 lbs. per bag 9
 Type of Bentonite Seal (Granular, Pellet): Granular
 Amount of bentonite: # of Bags 1 lbs. per bag 50
 Type of Sand Pack: Silica Sand
 Source of Sand: Colorado Silica
 Amount of Sand: # of bags 3 lbs. per bag 100

Elevations -- .01 ft.

- 3 MBL Top of Protective Casing
- 3 MBL Top of Riser Pipe
- 3 ft. Casing Bitcusp
- 2 MBL Ground Surface
- 2 ft. Top of annular sealant



- 2 ft. Top of Seal
- 11 ft. Total Seal Interval
- 13 ft. Top of Sand
- 15 ft. Top of Screen
- 10 ft. Total Screen Interval
- 25 ft. Bottom of Screen
- 25 ft. Bottom of Borehole

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	SS304			
Riser pipe above w.L.	SS304			
Riser pipe below w.L.	SS304			
Screen	SS304			
Coupling joint screen to riser	SS304			
Protective casing				

Measurements

to .01 ft. (where applicable)

Riser pipe length	15
Protective casing length	-
Screen length	9.8
Bottom of screen to end cap	0.1
Top of screen to first joint	0.1
Total length of casing	-
Screen slot size	0.010"
% of openings in screen	-
Diameter of borehole (in)	8
ID of riser pipe (in)	2

Completed by: T. Holcomb Surveyed by: _____ ILL. registration # _____

Well S-4

LOG OF BORING 4

UNCONFINED COMPRESSIVE STRENGTH, TONS/FT ²	DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
1 2 3 4 5 6					SURFACE ELEVATION
PLASTIC LIMIT % WATER CONTENT % LIQUID LIMIT % □ ○ △					5" topsoil
STANDARD "N" PENETRATION, BLOWS/FT 10 20 30 40 50 60					Brown Silty CLAY (CL) w/Sand
	5				1 au
	10				Brown Sandstone
	15				End of Boring @ -18'
	20				
GROUND WATER DATA No ground water encountered during drilling.					
PROJECT SIPC Wells Williamson County, Illinois			DATE OF BORING 9-21-93		
CLIENT Southern Illinois Power Co-Operative Marion, Illinois			PROJECT NO. H-93196		

Well S-4



Illinois Environmental Protection Agency

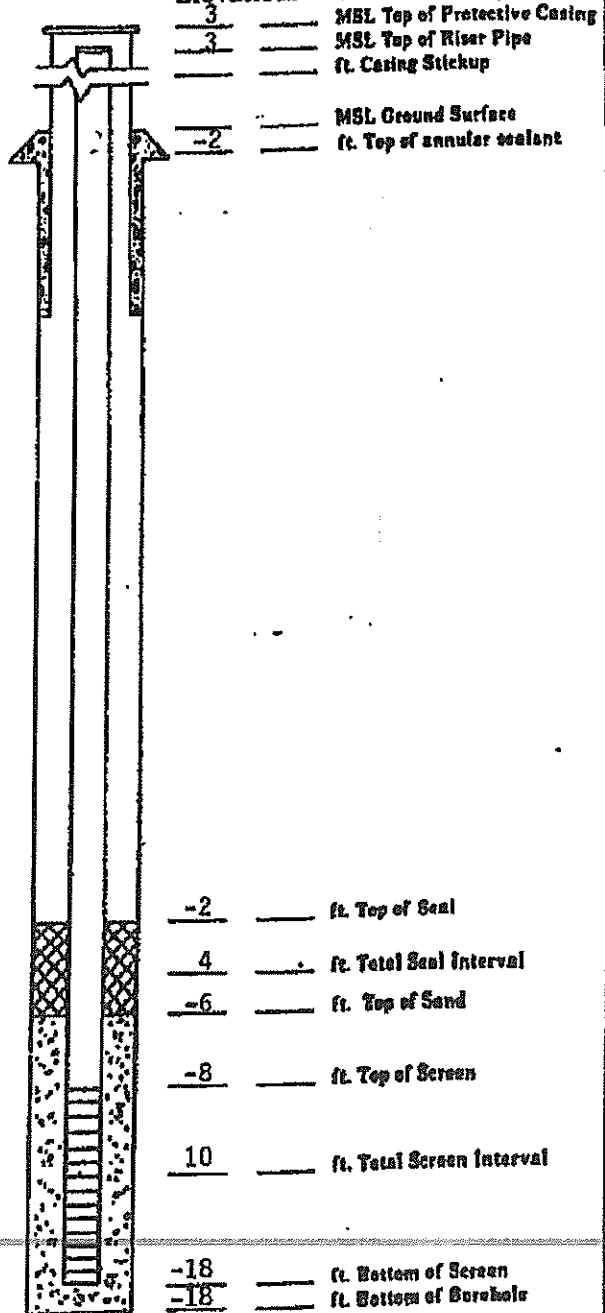
Well Completion Report

Site #: _____ County Williamson Well # 4
 Site Name: Southern Illinois Power Co-Op Grid Coordinate: Northing _____ Easting _____
 Drilling Contractor: Holcomb Foundation Engineering Co., Inc. Date Drilled Start: 9/21/93
 Driller: J. Carter Geologist: T. Holcomb Date Completed: 9/21/93
 Drilling Method: Hollow Stem Augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Quickcrete
 Type of Annular Sealant: Cement/Bentonite
 Amount of cement: # of bags 1 lbs. per bag 94
 Amount of bentonite: # of bags 1 lbs. per bag 4.5
 Type of Bentonite Seal (Granular, Pellet): Granular
 Amount of bentonite: # of Bags 1 lbs. per bag 50
 Type of Sand Pack: Silica Sand
 Source of Sand: Colorado Silica
 Amount of Sand: # of bags 3 lbs. per bag 100

Elevations - .01 ft.



Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	SS304			
Riser pipe above w.t.	SS304			
Riser pipe below w.t.	SS304			
Screen	SS304			
Coupling joint screen to riser	SS304			
Protective casing				

Measurements to .01 ft. (where applicable)

Riser pipe length	8
Protective casing length	-
Screen length	9.8
Bottom of screen to end cap	0.1
Top of screen to first joint	0.1
Total length of casing	-
Screen slot size	0.010"
% of openings in screen	
Diameter of borehole (in)	8
ID of riser pipe (in)	2

Completed by: T. Holcomb Surveyed by: _____ ILL. registration # _____

Well S-5

LOG OF BORING 5

UNCONFINED COMPRESSIVE STRENGTH, TONS/FT ²			DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL					
1	2	3						4	5	6		
PLASTIC LIMIT %							WATER CONTENT %			LIQUID LIMIT %		
□							○			△		
STANDARD "N" PENETRATION, BLOWS/FT							SURFACE ELEVATION					
10 20 30 40 50 60							X					
							5" Topsoil					
							Brown Silty CLAY (CL)					
							Brown Silty CLAY (CL) w/Sand					
							Brown Sandstone					
							End of Boring @ -22 1/2'					
GROUND WATER DATA												
Ground water encountered @ -16' during drilling.												
PROJECT						DATE OF BORING						
SIPC Wells Williamson County, Illinois						9-20-93						
CLIENT						PROJECT NO.						
Southern Illinois Power Co-Operative Marion, Illinois						H-93196						



Illinois Environmental Protection Agency

Well Completion Report

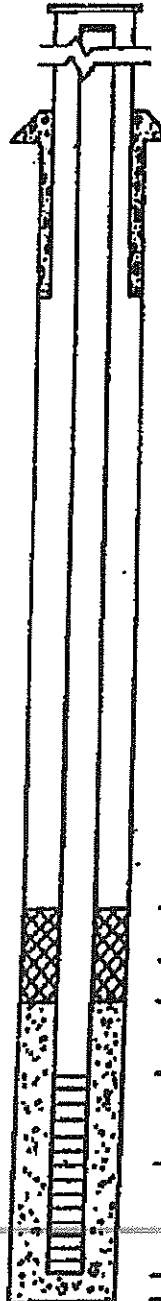
Site #: _____ County Williamson Well # 5
 Site Name: Southern Illinois Power Co-Op Grid Coordinate: Northing _____ Easting _____
 Drilling Contractor: Holcomb Foundation Engineering Co., Inc. Date Drilled Start: 9/20/93
 Driller: J. Carter Geologist: T. Holcomb Date Completed: 9/20/93
 Drilling Method: Hollow Stem Augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Quickrete
 Type of Annular Sealant: Cement/Bentonite
 Amount of cement: # of bags 2 lbs. per bag 94
 Amount of bentonite: # of bags 1 lbs. per bag 9
 Type of Bentonite Seal (Granular, Pellet): Granular
 Amount of bentonite: # of Bags 1 lbs. per bag 50
 Type of Sand Pack: Silica Sand
 Source of Sand: Colorado Silica
 Amount of Sand: # of bags 3 lbs. per bag 100

Elevations -- .01 ft.

- 3 _____ MSL Top of Protective Casing
- 3 _____ MSL Top of Riser Pipe
- _____ ft. Casing Stickup
- _____ MSL Ground Surface
- 2 _____ ft. Top of annular sealant



- 2 _____ ft. Top of Seal
- 8 _____ ft. Total Seal Interval
- 10 _____ ft. Top of Sand
- 12 _____ ft. Top of Screen
- 10 _____ ft. Total Screen Interval
- 22 _____ ft. Bottom of Screen
- 22 _____ ft. Bottom of Borehole

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	SS304			
Riser pipe above w.L.	SS304			
Riser pipe below w.L.	SS304			
Screen	SS304			
Coupling joint screen to riser	SS304			
Protective casing				

Measurements to .01 ft. (where applicable)

Riser pipe length	12
Protective casing length	-
Screen length	9.8
Bottom of screen to sand cap	0.1
Top of screen to first joint	0.1
Total length of casing	-
Screen slot size	0.010 ⁱⁿ
# of openings in screen	-
Diameter of borehole (in)	8
ID of riser pipe (in)	2

Completed by: T. Holcomb Surveyed by: _____ Ill. registration # _____

Well S-6

LOG OF BORING

6

UNCONFINED COMPRESSIVE STRENGTH, TONS/FT ²		DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL	
PLASTIC LIMIT %	WATER CONTENT %						LIQUID LIMIT %
STANDARD "N" PENETRATION, BLOWS/FT							
						SURFACE ELEVATION	
						5" Topsoil	
		5				Brown Silty CLAY (CL)	
		10				Brown Silty CLAY (CL) w/Sand	
		15					
		20				Brown Sandstone	
		25				End of Boring @ -22 1/2'	
GROUND WATER DATA							
Ground water encountered @ -7' during drilling.							
PROJECT	SIPC Wells Williamson County, Illinois				DATE OF BORING	9-20-93	
CLIENT	Southern Illinois Power Co-Operative Marion, Illinois				PROJECT NO.	H-93196	

Well S-6



Illinois Environmental Protection Agency

Well Completion Report

Site #: _____ County Williamson Well # 6

Site Name: Southern Illinois Power Co-Op Grid Coordinate: Northing _____ Easting _____

Drilling Contractor: Holcomb Foundation Engineering Co., Inc. Date Drilled Start: 9/20/93

Driller: J. Carter Geologist: T. Holcomb Date Completed: 9/20/93

Drilling Method: Hollow Stem Augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Quickcrete

Type of Annular Sealant: Cement/Bentonite

Amount of cement: # of bags 2 lbs. per bag 94

Amount of bentonite: # of bags 1 lbs. per bag 9

Type of Bentonite Seal (Granular, Pellet): Granular

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: Silica Sand

Source of Sand: Colorado Silica

Amount of Sand: # of bags 3 lbs. per bag 100

Well Construction Materials

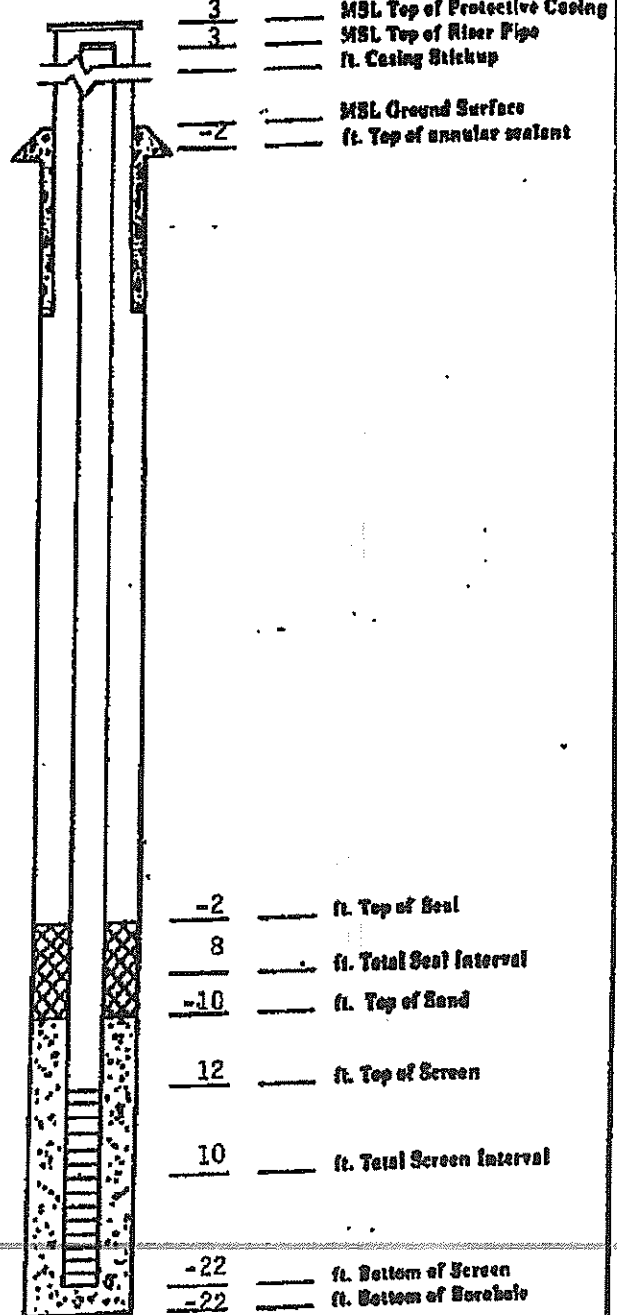
	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	SS304			
Riser pipe above w.t.	SS304			
Riser pipe below w.t.	SS304			
Screen	SS304			
Coupling joint screen to riser	SS304			
Protective casing				

Measurements

to .01 ft. (where applicable)

Riser pipe length	12
Protective casing length	-
Screen length	9.8
Bottom of screen to end cap	0.1
Top of screen to first joint	0.1
Total length of casing	-
Screen slot size	0.010"
% of openings in screen	-
Diameter of borehole (in)	8
ID of riser pipe (in)	2

Elevations -- .01 ft.



Completed by: T. Holcomb Surveyed by: _____ Ill. registration # _____

Holcomb Foundation Engineering Co., Inc.

SOILS • BITUMINOUS • CONCRETE • ENGINEERING AND TESTING

SHIPPING ADDRESS
393 Wood Road
Carbondale, IL 62901

MAILING ADDRESS
PO Box 88
Carbondale, IL 62903

PHONE 618-529-5262
TOLL FREE 800-333-1740
FAX 618-457-8991

February 21, 2011

Southern Illinois Power Cooperative
11543 Lake of Egypt
Marion, Illinois 62959

Attention: Mr. Jason McLaurin


Re: Monitoring Well Installation
Southern Illinois Power Cooperative
Marion, Illinois
HFE File H-10037

Dear Sir:

In response to your request, on February 18, 2011, we drilled and installed monitoring well # S2 at the above referenced site, and abandoned and grouted the old well #S2. Enclosed are the Boring Log and Monitoring Well Completion Diagram. If you should have any questions, please feel free to contact us at your convenience.

Sincerely,

HOLCOMB FOUNDATION ENGINEERING CO.



Timothy J. Holcomb, P.E.

Enclosures



Holcomb Foundation
 Engineering Co.
 PO Box 88 Carbondale, Illinois

LOG of BORING S2

Unconfined Compressive Strength (Tons/Sq. Ft.)		Depth in Feet	Sample No.	Type Sample	Sample Distance	Description of Material
1	2					
Water Content (%)						
Standard N Penetration, Blows/Ft.						
10 20 30 40 50 60						Surface Elevation
		5	1	ss		Brown to Gray Silty CLAY (CL)
			2	ss		
			3	ss		
		10	4	ss		Gray Silty CLAY (CL) with sand
			5	ss		
		15	6	ss		Brown Mottled Gray Clayey SAND(SC)
			7	ss		Gray Clayey SAND (SC)
		20	8	ss		
			9	ss		Gray Silty CLAY (CL) with sand
		25	10	ss		Gray Clayey SAND (SC)
			11	ss		Gray Sandy CLAY (CL)
		30				End of Boring @ -27.5'
		35				

Ground Water Data
 Ground Water Encountered @ -9.0' During Drilling.

Project: SIPC Monitoring Well Installation Marion, Illinois	Date of Boring February 18, 2011
Client: Southern Illinois Power Cooperative Plant Marion, Illinois	Project No. H-10037

Holcomb Foundation Engineering Company

Monitoring Well Completion Report

Site # H-10037 County Williamson Well # S2

Site Name Southern Illinois Power Cooperative Grid Coordinate Northing _____ Easting _____

Drilling Contractor Holcomb Foundation Engineering Date Drilled Start: 2/18/2010

Driller Dan Russell Geologist Tim Holcomb Date Completed: 2/18/2010

Drilling Method Hollow Stem Augers

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite Chips
Amount of Cement: # of bags _____ lbs. per bag _____

Amount of bentonite: # of bags _____ lbs. per bag _____

Type of Bentonite Seal (Granular, Pellet): Granular Chips

Amount of Bentonite: # of bags 5 lbs. per bag 50

Type of Sand Pack: FilterSil #1 10-20

Source of Sand: FilterSil Junction City, GA

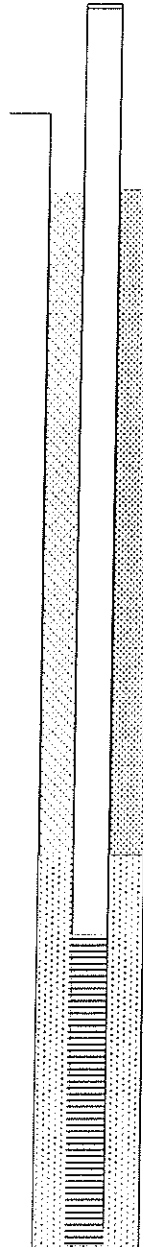
Amount of Sand: # of bags 2 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			Sch 40	
Riser pipe above wt			Sch 40	
Riser pipe below wt			Sch 40	
**Screen			Sch 40	
Coupling joint screen to riser			Sch 40	
Protective Casing			5 ft	

Measurements to .1 ft. (where applicable)

Riser pipe length		19'	
Protective casing length			
Screen length		9.8'	
Bottom of screen to end cap		0.1'	
Top of screen to first joint		0.1'	
Total length of casing		---	
Screen slot size		0.010"	
% of openings in screen		---	
Diameter of borehole (in)		8.0"	
ID of riser pipe (in)		2.0"	



+3.0 MSL Top of Riser Pipe

0.0 MSL Ground Surface

1 ft. Concrete Seal

-1.0 ft. Top of Bentonite

13 ft. Bentonite Seal

-14.0 ft. Top of Sand

-16.0 ft. Top of Screen

10.0 ft. Total Screen Interval

26.0 ft. Bottom of Screen

-27.5 ft. Bottom of Borehole

Completed by: T Holcomb Surveyed by: _____ Ill. registration # _____

Holcomb Foundation Engineering Co., Inc.

SOILS • BITUMINOUS • CONCRETE • ENGINEERING AND TESTING

393 Wood Road
Carbondale, IL 62901

PHONE 618-529-5262
TOLL FREE 800-333-1740
FAX 618-457-8991

February 19, 2010

Southern Illinois Power Cooperative
11543 Lake of Egypt
Marion, Illinois 62959

Attention: Mr. Jason McLaurin

Re: Monitoring Well Installations and Abandonment
Southern Illinois Power Cooperative
Marion, Illinois
HFE File H-10037

Dear Sir:

On February 16, 2010, we abandoned one ground water monitoring well, installed two wells at this site. We also cut the existing metal covers off of seven wells, and installed J-plugs on the wells to seal the pipe. Enclosed are the Boring Logs, Well Completion Reports, and Water Well Sealing Form. We have submitted one copy of the Water Well Sealing Form to the Williamson County Health Department per Illinois Well Code.

If you should have any questions, or if we can be of further assistance, please feel free to contact us at your convenience.

Sincerely,

HOLCOMB FOUNDATION ENGINEERING CO.

Timothy J. Holcomb, P.E.

Holcomb Foundation Engineering Co. PO Box 88 Carbondale, Illinois		LOG of BORING <u>C1</u>			
Unconfined Compressive Strength (Tons/Sq. Ft.) 1 2 3 ● 4 5 6 ----- Water Content (%) ----- ○ ----- Standard N Penetration, Blows/Ft. 10 20 30 X 40 50 60					Description of Material
Depth in Feet Sample No. Type Sample Sample Distance					Surface Elevation
					3" Topsoil
					Brown Sandy CLAY (CL)
					Brown SANDSTONE
End of Boring @ -15.0'					
Ground Water Data No Ground Water Encountered During Drilling.					
Project: SIPC Monitoring Well Installation Marion, Illinois				Date of Boring February 16, 2010	
Client: Southern Illinois Power Cooperative Plant Marion, Illinois				Project No. H-10037	

Holcomb Foundation Engineering Company

Monitoring Well Completion Report

Site # H-10037 County Jackson Well # C1
 Site Name Southern Illinois Power Cooperative Grid Coordinate Northing _____ Easting _____
 Drilling Contractor Holcomb Foundation Engineering Date Drilled Start: 2/16/2010
 Driller Dan Russell Geologist Tim Holcomb Date Completed: 2/16/2010

Drilling Method Hollow Stem Augers

Annular Space Details

Type of Surface Seal: Concrete
 Type of Annular Sealant: Bentonite Chips
 Amount of Cement: # of bags _____ lbs. per bag _____
 Amount of bentonite: # of bags _____ lbs. per bag _____
 Type of Bentonite Seal (Granular, Pellet): Granular Chips
 Amount of Bentonite: # of bags 1 lbs. per bag 50

Type of Sand Pack: FilterSil #1 10-20

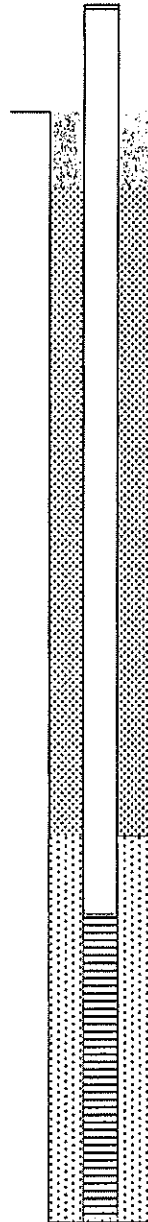
Source of Sand: FilterSil Junction City, GA
 Amount of Sand: # of bags 4 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			Sch 40	
Riser pipe above wt			Sch 40	
Riser pipe below wt			Sch 40	
Screen			Sch 40	
Coupling joint screen to riser			Sch 40	
Protective Casing				

Measurements to .1 ft. (where applicable)

Riser pipe length	8'
Protective casing length	
Screen length	9.8'
Bottom of screen to end cap	0.1'
Top of screen to first joint	0.1'
Total length of casing	--
Screen slot size	0.010"
% of openings in screen	--
Diameter of borehole (in)	8.0"
ID of riser pipe (in)	2.0"



+3.0 MSL Top of Riser Pipe
 0.0 MSL Ground Surface
 1 ft. Concrete Seal
 -1.0 ft. Top of Bentonite

 2 ft. Bentonite Seal

 -3.0 ft. Top of Sand
 -5.0 ft. Top of Screen

 10.0 ft. Total Screen Interval

 15.0 ft. Bottom of Screen
 -15.0 ft. Bottom of Borehole

Completed by: T. Holcomb Surveyed by: _____ Ill. registration # _____

Holcomb Foundation
Engineering Co.
PO Box 88 Carbondale, Illinois

LOG of BORING C2

Unconfined Compressive Strength (Tons/Sq. Ft.)		Depth in Feet	Sample No.	Type Sample	Sample Distance	Description of Material
1	2					
Water Content (%)						
Standard N Penetration, Blows/Ft.						
10	20	30	X	40	50	60
Surface Elevation						4" Crushed Stone
						Brown Silty CLAY (CL)
						Brown SANDSTONE
						Auger Refusal
						End of Boring @ -12.0'
Ground Water Data						
Ground Water Encountered @ -11.0' During Drilling and @ -5' Upon Completion.						
Project: SIPC Monitoring Well Installation Marion, Illinois					Date of Boring February 16, 2010	
Client: Southern Illinois Power Cooperative Plant Marion, Illinois					Project No. H-10037	

Holcomb Foundation Engineering Company

Monitoring Well Completion Report

Site # H-10037 County Williamson Well # C2

Site Name Southern Illinois Power Cooperative Grid Coordinate Northing _____ Easting _____

Drilling Contractor Holcomb Foundation Engineering Date Drilled Start: 2/16/2010

Driller Dan Russell Geologist Tim Holcomb Date Completed: 2/16/2010

Drilling Method Hollow Stem Augers

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite Chips
 Amount of Cement: # of bags _____ lbs. per bag _____

Amount of bentonite: # of bags _____ lbs. per bag _____

Type of Bentonite Seal (Granular, Pellet): Granular Chips

Amount of Bentonite: # of bags 1 lbs. per bag 50

Type of Sand Pack: FilterSil #1 10-20

Source of Sand: FilterSil Junction City, GA

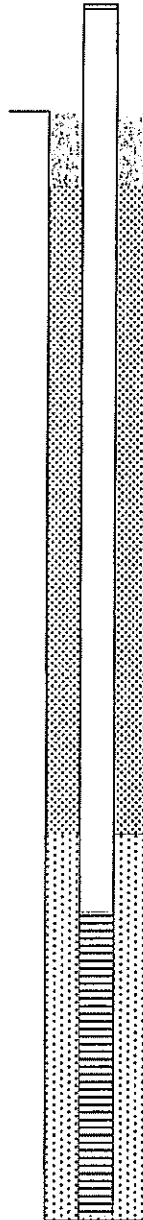
Amount of Sand: # of bags 4 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			Sch 40	
Riser pipe above wt			Sch 40	
Riser pipe below wt			Sch 40	
**Screen			Sch 40	
Coupling joint screen to riser			Sch 40	
Protective Casing				

Measurements to .1 ft. (where applicable)

Riser pipe length		5'
Protective casing length		
Screen length		9.8'
Bottom of screen to end cap		0.1'
Top of screen to first joint		0.1'
Total length of casing		---
Screen slot size		0.010"
% of openings in screen		---
Diameter of borehole (in)		8.0"
ID of riser pipe (in)		2.0"



+3.0 MSL Top of Riser Pipe

0.0 MSL Ground Surface

0.5 ft. Concrete Seal

-0.5 ft. Top of Bentonite

0.5 ft. Bentonite Seal

-1.0 ft. Top of Sand

-2.0 ft. Top of Screen

10.0 ft. Total Screen Interval

12.0 ft. Bottom of Screen

-12.0 ft. Bottom of Borehole

Completed by: T. Holcomb Surveyed by: _____ Ill registration # _____



Electronic Filing: Received, Clerk's Office 09/02/2021
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

1990555005
Southern Illinois Power
10825 Lake of Egypt Rd.
Marion, IL 62959

**On-Site Permit Exempt "815" Facility
2010 Annual Report**

35 Ill. Adm. Code 815 requires all **landfills** exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit **annual** reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due **February 15, 2011** and covers the period of January 1, 2010 thru December 31, 2010.

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's Waste Reduction and Compliance Section at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion Byproducts

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

930,160 (in place cubic yards)

IL 532 2428
LPC 536 Rev. Oct. 03

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

TEKLAB, INC.

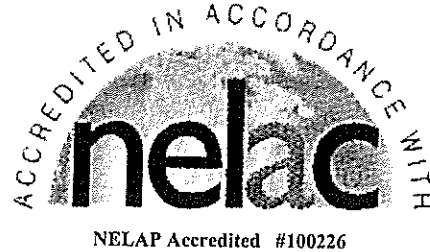
5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

March 29, 2010

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Agreement #10-5007

WorkOrder: 10030917

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 3/24/2010 1:30:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: Southern Illinois Power Cooperation
Project: Agreement #10-5007
LabOrder: 10030917
Report Date: 29-Mar-10

CASE NARRATIVE

Cooler Receipt Temp: 14.4 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

An employee of Teklab, Inc. collected the sample(s).

Qualifiers

DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below PQL
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	E - Value above quantitation range
Surr - Surrogate Standard added by lab	S - Spike Recovery outside accepted recovery limits	H - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	MI - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	DNI - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	IDPH - IL Dept. of Public Health	

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
 WorkOrder: 10030917
 Lab ID: 10030917-001
 Report Date: 29-Mar-10

Client Project: Agreement #10-5007
 Client Sample ID: C1
 Collection Date: 3/24/2010 9:00:00 AM
 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0713	mg/L	1	3/25/2010 8:27:55 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	3/25/2010 8:27:55 PM	LAL
Iron	NELAP	0.0200		5.64	mg/L	1	3/25/2010 8:27:55 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		298	mg/L	1	3/25/2010 3:23:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
 FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
 WorkOrder: 10030917
 Lab ID: 10030917-002
 Report Date: 29-Mar-10

Client Project: Agreement #10-5007
 Client Sample ID: C2
 Collection Date: 3/24/2010 9:18:00 AM
 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0303	mg/L	1	3/25/2010 8:34:34 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	3/25/2010 8:34:34 PM	LAL
Iron	NELAP	0.0200		13.7	mg/L	1	3/25/2010 8:34:34 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		168	mg/L	1	3/25/2010 3:23:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
 WorkOrder: 10030917
 Lab ID: 10030917-003
 Report Date: 29-Mar-10

Client Project: Agreement #10-5007
 Client Sample ID: S5
 Collection Date: 3/24/2010 9:37:00 AM
 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	3/25/2010 8:41:13 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	3/25/2010 8:41:13 PM	LAL
Iron	NELAP	0.0200		1.40	mg/L	1	3/25/2010 8:41:13 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		190	mg/L	1	3/25/2010 3:23:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10030917
Lab ID: 10030917-004
Report Date: 29-Mar-10

Client Project: Agreement #10-5007
Client Sample ID: C3
Collection Date: 3/24/2010 9:52:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0274	mg/L	1	3/25/2010 8:47:52 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	3/25/2010 8:47:52 PM	LAL
Iron	NELAP	0.0200	S	5.74	mg/L	1	3/25/2010 8:47:52 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		91	mg/L	1	3/25/2010 3:23:00 PM	DLW

Sample Narrative

SW-846 3005A, 6010B, Metals by ICP (Total)

Fe - Sample concentration was greater than 5 times the spike concentration.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10030917
Lab ID: 10030917-005
Report Date: 29-Mar-10

Client Project: Agreement #10-5007
Client Sample ID: S6
Collection Date: 3/24/2010 10:15:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	3/25/2010 9:09:00 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	3/25/2010 9:09:00 PM	LAL
Iron	NELAP	0.0200		1.61	mg/L	1	3/25/2010 9:09:00 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		81	mg/L	1	3/25/2010 3:23:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10030917
Lab ID: 10030917-006
Report Date: 29-Mar-10

Client Project: Agreement #10-5007
Client Sample ID: S1
Collection Date: 3/24/2010 10:29:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0208	mg/L	1	3/25/2010 9:15:41 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	3/25/2010 9:15:41 PM	LAL
Iron	NELAP	0.0200		55.0	mg/L	1	3/25/2010 9:15:41 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	5		29	mg/L	1	3/26/2010 11:58:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10030917
Lab ID: 10030917-007
Report Date: 29-Mar-10

Client Project: Agreement #10-5007
Client Sample ID: S2
Collection Date: 3/24/2010 10:54:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		3.08	mg/L	1	3/25/2010 9:22:19 PM	LAL
Cadmium	NELAP	0.0020		0.0040	mg/L	1	3/25/2010 9:22:19 PM	LAL
Iron	NELAP	0.0200		32.7	mg/L	1	3/25/2010 9:22:19 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		194	mg/L	1	3/25/2010 3:23:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10030917
Lab ID: 10030917-008
Report Date: 29-Mar-10

Client Project: Agreement #10-5007
Client Sample ID: S3
Collection Date: 3/24/2010 11:10:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0257	mg/L	1	3/25/2010 9:42:09 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	3/25/2010 9:42:09 PM	LAL
Iron	NELAP	0.0200		62.6	mg/L	1	3/25/2010 9:42:09 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	5		11	mg/L	1	3/26/2010 11:58:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10030917
Lab ID: 10030917-009
Report Date: 29-Mar-10

Client Project: Agreement #10-5007
Client Sample ID: S4
Collection Date: 3/24/2010 11:29:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	3/25/2010 9:48:49 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	3/25/2010 9:48:49 PM	LAL
Iron	NELAP	0.0200		42.3	mg/L	1	3/25/2010 9:48:49 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		60	mg/L	1	3/25/2010 3:23:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: Southern Illinois Power Cooperation
Project: Agreement #10-5007
Lab Order: 10030917
Report Date: 29-Mar-10

RECEIVING CHECK LIST

Carrier: Jacob Grimes

Received By: DB

Completed by:

On:

24-Mar-10

Dawn Brantley

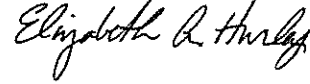


Reviewed by:

On:

24-Mar-10

Elizabeth A. Hurley



Pages to follow: Chain of custody

Extra pages included

- Shipping container/cooler in good condition? Yes No Not Present Temp °C 14.4
 - Type of thermal preservation? None Ice Blue Ice Dry Ice
 - Chain of custody present? Yes No
 - Chain of custody signed when relinquished and received? Yes No
 - Chain of custody agrees with sample labels? Yes No
 - Samples in proper container/bottle? Yes No
 - Sample containers intact? Yes No
 - Sufficient sample volume for indicated test? Yes No
 - All samples received within holding time? Yes No
 - Reported field parameters measured: Field Lab NA
 - Container/Temp Blank temperature in compliance? Yes No
- When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*
- Water - VOA vials have zero headspace? Yes No No VOA vials
 - Water - TOX containers have zero headspace? Yes No No TOX containers
 - Water - pH acceptable upon receipt? Yes No

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

CHAIN OF CUSTODY

pg. 10030917 of 10030917 Work Order # 10030917

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: SIRC
 Address: _____
 City / State / Zip: _____
 Contact: Sean Mcburin Phone: _____
 E-Mail: _____ Fax: _____

- * Are these samples known to be involved in litigation? If yes, a surcharge will apply. Yes No
- * Are these samples known to be hazardous? Yes No
- * Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in comment section. Yes No

Samples on: Ice Blue Ice No Ice 199 °C
 Preserved in: Lab Field **FOR LAB USE ONLY**
 Lab Notes: D8/GAT 3/24/10

Comments: _____

Project Name / Number	Sample Collector's Name	Billing Instructions		# and Type of Containers							MATRIX						Date / Time
		Results Requested <input type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)	Date/Time Sampled	UNPRS	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	Other	Water	Drinking Water	Soil	Sludge	Sp. Waste	
<u>0030917</u>	<u>Jacob Grimes / Tim Mathis</u>		<u>3/24/10 0900</u>	<input checked="" type="checkbox"/>													
<u>002</u>			<u>0918</u>														
<u>003</u>			<u>0737</u>														
<u>004</u>			<u>0952</u>														
<u>005</u>			<u>1015</u>														
<u>006</u>			<u>1029</u>														
<u>007</u>			<u>1034</u>														
<u>008</u>			<u>1110</u>														
<u>009</u>			<u>1129</u>														

Revised By: _____ Date / Time: 3/24/10 1330
 Received By: [Signature] Date / Time: 3/24/10 1330

The individual signing this agreement on behalf of client acknowledges that he/she has read and understands the terms and conditions of this agreement, on the reverse side, and that he/she has the authority to sign on behalf of client.

WHITE & YELLOW - LAB PINK - SAMPLER'S COPY

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

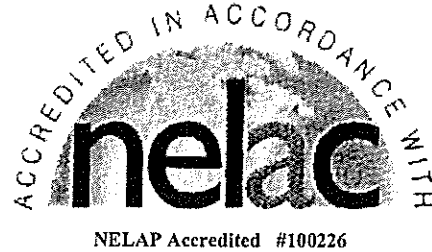
ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

June 17, 2010

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Agreement #10-5007

WorkOrder: 10060511

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 6/10/2010 2:15:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: Southern Illinois Power Cooperation
Project: Agreement #10-5007
LabOrder: 10060511
Report Date: 17-Jun-10

CASE NARRATIVE

Cooler Receipt Temp: 15.6 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

An employee of Teklab, Inc. collected the sample(s).

Qualifiers

DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below PQL
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	E - Value above quantitation range
Surr - Surrogate Standard added by lab	S - Spike Recovery outside accepted recovery limits	H - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	MI - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	DNI - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	IDPH - IL Dept. of Public Health	

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10060511
Lab ID: 10060511-001
Report Date: 17-Jun-10

Client Project: Agreement #10-5007
Client Sample ID: C1
Collection Date: 6/10/2010 9:00:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0386	mg/L	1	6/14/2010 9:33:08 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 9:33:08 PM	LAL
Iron	NELAP	0.0200		4.66	mg/L	1	6/14/2010 9:33:08 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	200		398	mg/L	4	6/15/2010 1:06:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10060511
Lab ID: 10060511-002
Report Date: 17-Jun-10

Client Project: Agreement #10-5007
Client Sample ID: C2
Collection Date: 6/10/2010 9:17:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0414	mg/L	1	6/14/2010 9:40:19 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 9:40:19 PM	LAL
Iron	NELAP	0.0200		7.46	mg/L	1	6/14/2010 9:40:19 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		156	mg/L	1	6/15/2010 1:06:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
 WorkOrder: 10060511
 Lab ID: 10060511-003
 Report Date: 17-Jun-10

Client Project: Agreement #10-5007
 Client Sample ID: C3
 Collection Date: 6/10/2010 9:52:00 AM
 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0276	mg/L	1	6/14/2010 9:59:43 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 9:59:43 PM	LAL
Iron	NELAP	0.0200		2.63	mg/L	1	6/14/2010 9:59:43 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		120	mg/L	1	6/15/2010 1:06:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10060511
Lab ID: 10060511-004
Report Date: 17-Jun-10

Client Project: Agreement #10-5007
Client Sample ID: S1
Collection Date: 6/10/2010 10:32:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0224	mg/L	1	6/14/2010 10:06:48 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 10:06:48 PM	LAL
Iron	NELAP	0.0200		55.1	mg/L	1	6/14/2010 10:06:48 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	5		29	mg/L	1	6/16/2010 10:59:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
 WorkOrder: 10060511
 Lab ID: 10060511-005
 Report Date: 17-Jun-10

Client Project: Agreement #10-5007
 Client Sample ID: S2
 Collection Date: 6/10/2010 10:49:00 AM
 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.100		2.07	mg/L	5	6/15/2010 10:34:35 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/15/2010 2:47:34 PM	JMW
Iron	NELAP	0.0200		250	mg/L	1	6/14/2010 10:13:25 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		184	mg/L	1	6/15/2010 1:06:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10060511
Lab ID: 10060511-006
Report Date: 17-Jun-10

Client Project: Agreement #10-5007
Client Sample ID: S3
Collection Date: 6/10/2010 11:07:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0363	mg/L	1	6/14/2010 10:20:26 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 10:20:26 PM	LAL
Iron	NELAP	0.0200		114	mg/L	1	6/14/2010 10:20:26 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	5		6	mg/L	1	6/16/2010 10:59:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10060511
Lab ID: 10060511-007
Report Date: 17-Jun-10

Client Project: Agreement #10-5007
Client Sample ID: S4
Collection Date: 6/10/2010 11:26:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	6/14/2010 10:27:04 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 10:27:04 PM	LAL
Iron	NELAP	0.0200		25.9	mg/L	1	6/14/2010 10:27:04 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		61	mg/L	1	6/15/2010 1:06:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
 FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
 WorkOrder: 10060511
 Lab ID: 10060511-008
 Report Date: 17-Jun-10

Client Project: Agreement #10-5007
 Client Sample ID: S5
 Collection Date: 6/10/2010 9:33:00 AM
 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	6/14/2010 10:33:42 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 10:33:42 PM	LAL
Iron	NELAP	0.0200		8.25	mg/L	1	6/14/2010 10:33:42 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		209	mg/L	1	6/15/2010 1:06:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10060511
Lab ID: 10060511-009
Report Date: 17-Jun-10

Client Project: Agreement #10-5007
Client Sample ID: S6
Collection Date: 6/10/2010 10:09:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	6/14/2010 10:40:21 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 10:40:21 PM	LAL
Iron	NELAP	0.0200		7.63	mg/L	1	6/14/2010 10:40:21 PM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		84	mg/L	1	6/15/2010 1:06:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: Southern Illinois Power Cooperation
Project: Agreement #10-5007
Lab Order: 10060511
Report Date: 17-Jun-10

RECEIVING CHECK LIST

Carrier: Jacob Grimes

Received By: MLD

Completed by: *Marvin L. Darling II*

Reviewed by: *Elizabeth A. Hurley*

On:
10-Jun-10
Marvin L. Darling

On:
10-Jun-10
Elizabeth A. Hurley

Pages to follow: Chain of custody Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 15.6
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
<i>When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.</i>				
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials	<input checked="" type="checkbox"/>
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers	<input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

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

Print Form

Teklab Chain of Custody

5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618)344-1004 ~ Fax: (618)344-1005

Pg. 1 of 2 Workorder: 10960511

Are the samples chilled? Yes No with: Ice Blue ice Lab Field
 Cooler Temp 15.6 Sampler Jacob Grimes
 PS 6/10/20

Southern Illinois Power Cooperation
 11543 Lake of Egypt Road
 Marion IL 62959
 Project: Agreement #10-5007

Contact Jason McLaurin eMail _____
 Phone (618) 964-1448 Requested Due Date _____ NTAT _____ Billing/PO _____
 Metals: B, Cd, and Fe

Lab Use	Sample ID	Sample Date/Time	Preservative Matrix	Sulfate	Metals						
115090601	C1	6/10/10 0900	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
100	C2	6/10/10 0917	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
200	C3	6/10/10 0952	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
300	S1	6/10/10 1032	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
400	S2	6/10/10 1049	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
500	S3	6/10/10 1107	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
600	S4	6/10/10 1126	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
700	S5	6/10/10 0933	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
800			Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Received By Marvin A. Darling Jr Date/Time 6/10/10 1415
 Date/Time 6/10/10 1415

*The individual signing this agreement on behalf of client acknowledges that they have read and understand the terms of this agreement and that they have the authority to sign on behalf of client.

Print Form

Teklab Chain of Custody

5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618)344-1004 ~ Fax: (618)344-1005

Pg. 2 of 2 Workorder 10000511

Are the samples chilled? Yes No with: Ice Blue ice Lab Field

Southern Illinois Power Cooperation
 11543 Lake of Egypt Road
 Marion IL 62959
 Project: Agreement #10-5007

Cooler Temp _____ Sampler Jacob Grimes

Comments

Metals: B, Cd, and Fe

Contact Jason McLaurin eMail _____ Phone (618) 964-1448 Requested Due Date _____ NTAT _____ Billing/PO _____

Lab Use	Sample ID	Sample Date/Time	Preservative Matrix	Sulfate	Metals								
10000511-004	36	6/10/10 1004	Other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
			Groundwater	<input type="checkbox"/>	<input type="checkbox"/>								
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>								
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>								
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>								
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>								
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>								
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>								
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>								
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>								

Relinquished By *[Signature]* Received By *Marvin A. Darling II* Date/Time *6/10/10 1415*

* The individual signing this agreement on behalf of client acknowledges that they have read and understand the terms of this agreement and that they have the authority to sign on behalf of client.

TEKLAB, INC.

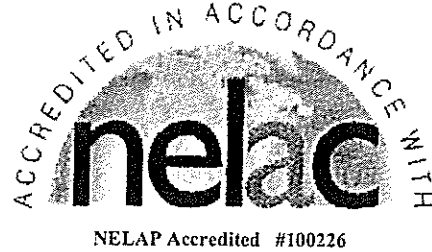
5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

September 17, 2010

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Agreement #10-5007

WorkOrder: 10090471

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 9/13/2010 1:40:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: Southern Illinois Power Cooperation
Project: Agreement #10-5007
LabOrder: 10090471
Report Date: 17-Sep-10

CASE NARRATIVE

Cooler Receipt Temp: 11.8 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

An employee of Teklab, Inc. collected the sample(s).

Qualifiers

DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below PQL
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	E - Value above quantitation range
Surr - Surrogate Standard added by lab	S - Spike Recovery outside accepted recovery limits	H - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	MI - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	DNI - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	IDPH - IL Dept. of Public Health	

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
 WorkOrder: 10090471
 Lab ID: 10090471-001
 Report Date: 17-Sep-10

Client Project: Agreement #10-5007
 Client Sample ID: C1
 Collection Date: 9/13/2010 8:32:00 AM
 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0496	mg/L	1	9/15/2010 5:36:32 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 5:36:32 AM	LAL
Iron	NELAP	0.0200	S	14.6	mg/L	1	9/15/2010 5:36:32 AM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	200		362	mg/L	4	9/16/2010 9:37:00 AM	DLW

Sample Narrative

SW-846 3005A, 6010B, Metals by ICP (Total)

Fe - Sample concentration was greater than 5 times the spike concentration.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10090471
Lab ID: 10090471-002
Report Date: 17-Sep-10

Client Project: Agreement #10-5007
Client Sample ID: C2
Collection Date: 9/13/2010 8:49:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0510	mg/L	1	9/15/2010 6:09:59 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 6:09:59 AM	LAL
Iron	NELAP	0.0200		6.67	mg/L	1	9/15/2010 6:09:59 AM	LAL
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		164	mg/L	1	9/16/2010 9:37:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10090471
Lab ID: 10090471-003
Report Date: 17-Sep-10

Client Project: Agreement #10-5007
Client Sample ID: C3
Collection Date: 9/13/2010 9:31:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0335	mg/L	1	9/15/2010 6:16:55 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 6:16:55 AM	LAL
Iron	NELAP	0.0200		0.539	mg/L	1	9/15/2010 6:16:55 AM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		84	mg/L	1	9/16/2010 9:37:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
 FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10090471
Lab ID: 10090471-004
Report Date: 17-Sep-10

Client Project: Agreement #10-5007
Client Sample ID: S1
Collection Date: 9/13/2010 10:16:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0243	mg/L	1	9/15/2010 6:24:00 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 6:24:00 AM	LAL
Iron	NELAP	0.0200		34.5	mg/L	1	9/15/2010 6:24:00 AM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	10		29	mg/L	2	9/16/2010 1:28:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10090471
Lab ID: 10090471-005
Report Date: 17-Sep-10

Client Project: Agreement #10-5007
Client Sample ID: S2
Collection Date: 9/13/2010 10:40:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		1.78	mg/L	1	9/15/2010 6:30:36 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 6:30:36 AM	LAL
Iron	NELAP	0.0200		105	mg/L	1	9/15/2010 6:30:36 AM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		184	mg/L	1	9/16/2010 9:37:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
 WorkOrder: 10090471
 Lab ID: 10090471-006
 Report Date: 17-Sep-10

Client Project: Agreement #10-5007
 Client Sample ID: S3
 Collection Date: 9/13/2010 10:59:00 AM
 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0288	mg/L	1	9/15/2010 6:37:45 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 6:37:45 AM	LAL
Iron	NELAP	0.0200		79.6	mg/L	1	9/15/2010 6:37:45 AM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	5		< 5	mg/L	1	9/16/2010 1:28:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
 WorkOrder: 10090471
 Lab ID: 10090471-007
 Report Date: 17-Sep-10

Client Project: Agreement #10-5007
 Client Sample ID: S4
 Collection Date: 9/13/2010 11:18:00 AM
 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	9/15/2010 6:44:22 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 6:44:22 AM	LAL
Iron	NELAP	0.0200		2.68	mg/L	1	9/15/2010 6:44:22 AM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	10		55	mg/L	2	9/16/2010 1:28:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10090471
Lab ID: 10090471-008
Report Date: 17-Sep-10

Client Project: Agreement #10-5007
Client Sample ID: S5
Collection Date: 9/13/2010 9:09:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	9/15/2010 6:51:00 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 6:51:00 AM	LAL
Iron	NELAP	0.0200		0.0528	mg/L	1	9/15/2010 6:51:00 AM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		176	mg/L	1	9/16/2010 9:37:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
 FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation	Client Project: Agreement #10-5007
WorkOrder: 10090471	Client Sample ID: S6
Lab ID: 10090471-009	Collection Date: 9/13/2010 9:51:00 AM
Report Date: 17-Sep-10	Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	9/15/2010 6:57:37 AM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 6:57:37 AM	LAL
Iron	NELAP	0.0200		3.08	mg/L	1	9/15/2010 6:57:37 AM	LAL
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		80	mg/L	1	9/16/2010 9:37:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: Southern Illinois Power Cooperation

RECEIVING CHECK LIST

Project: Agreement #10-5007

Lab Order: 10090471

Report Date: 17-Sep-10

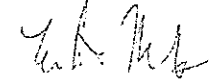
Carrier: Jacob Grimes

Received By: TWM

Completed by:

On:

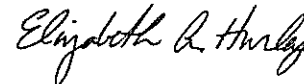
13-Sep-10


Timothy W. Mathis

Reviewed by:

On:

13-Sep-10


Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

- | | | | | |
|---|---|---|--|----------------------------------|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> | Temp °C 11.8 |
| Type of thermal preservation? | None <input type="checkbox"/> | Ice <input checked="" type="checkbox"/> | Blue Ice <input type="checkbox"/> | Dry Ice <input type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Reported field parameters measured: | Field <input type="checkbox"/> | Lab <input type="checkbox"/> | NA <input checked="" type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |

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

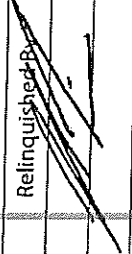

- | | | | |
|---|---|-----------------------------|---|
| Water - vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials <input checked="" type="checkbox"/> |
| Water - TOX containers have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No TOX containers <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |

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

Print Form
 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618)344-1004 ~ Fax: (618)344-1005
 Southern Illinois Power Cooperation
 11543 Lake of Egypt Road
 Marion IL 62959
 Project: Agreement #10-5007
 Contact Jason McLaurin eMail
 Phone (618) 964-1448 Requested Due Date NTAT Billing/PO

Teklab Chain of Custody
 Pg. 1 of 2 Workorder 10090471
 Are the samples chilled? Yes No with: Ice Blue ice Preserved in Lab Field
 Cooler Temp 11.5 Sampler Jacob Grimes
 Metals: B, Cd, and Fe
 MA 9.13.20

Lab Use	Sample ID	Sample Date/Time	Preservative Matrix	Sulfate	Metals						
10090471-001	C1	9/13/20 0832	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
002	C2	0849	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
003	C3	0931	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
004	S1	1016	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
005	S2	1040	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
006	S3	1059	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
007	S4	1114	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
008	S5	0909	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Relinquished By:  Date/Time: 9/13/20 1346
 Received By:  Date/Time: 9.13.20 1340

*The individual signing this agreement on behalf of client acknowledges that they have read and understand the terms of this agreement and that they have the authority to sign on behalf of client.

Teklab Chain of Custody

5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618)344-1004 ~ Fax: (618)344-1005

Workorder 10810471

Pg. 2 of 2

Are the samples chilled? Yes No with: Ice Blue ice Lab Field

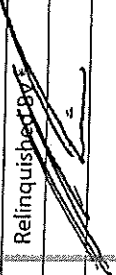

Southern Illinois Power Cooperation
 11543 Lake of Egypt Road
 Marion IL 62959
 Project: Agreement #10-5007

Cooler Temp _____
 Sampler Jacob Grimes

Comments
 Metals: B, Cd, and Fe

Contact Jason McLaurin eMail _____
 Phone (618) 964-1448 Requested Due Date _____ NTAT _____ Billing/PO _____

Lab Use	Sample ID	Sample Date/Time	Preservative Matrix	Sulfate	Metals							
10810471-104		9/13/10 0861	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>							
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>							
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>							
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>							
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>							
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>							
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>							
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>							

Relinquished By:  Date/Time: 9/10/10 1340
 Received By:  Date/Time: 9-3-10 1336

* The individual signing this agreement on behalf of client acknowledges that they have read and understand the terms of this agreement and that they have the authority to sign on behalf of client.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

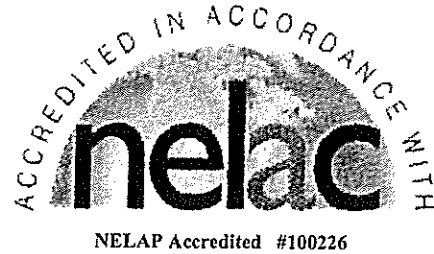
ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

December 20, 2010

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Agreement #10-5007

WorkOrder: 10120351

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 12/8/2010 3:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: Southern Illinois Power Cooperation
Project: Agreement #10-5007
LabOrder: 10120351
Report Date: 20-Dec-10

CASE NARRATIVE

Cooler Receipt Temp: 7.6 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0 | LA: NELAP #166493

An employee of Teklab, Inc. collected the sample(s).

Qualifiers

DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below PQL
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	E - Value above quantitation range
Surr - Surrogate Standard added by lab	S - Spike Recovery outside accepted recovery limits	H - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	MI - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	DNI - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	IDPH - IL Dept. of Public Health	

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10120351
Lab ID: 10120351-001
Report Date: 20-Dec-10

Client Project: Agreement #10-5007
Client Sample ID: C1
Collection Date: 12/8/2010 9:30:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.104	mg/L	1	12/17/2010 2:02:42 AM	JMW
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/17/2010 2:02:42 AM	JMW
Iron	NELAP	0.0200		25.1	mg/L	1	12/17/2010 2:02:42 AM	JMW
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	200		336	mg/L	4	12/10/2010 10:12:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10120351
Lab ID: 10120351-002
Report Date: 20-Dec-10

Client Project: Agreement #10-5007
Client Sample ID: C2
Collection Date: 12/8/2010 9:47:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0404	mg/L	1	12/17/2010 2:08:20 AM	JMW
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/17/2010 2:08:20 AM	JMW
Iron	NELAP	0.0200		14.0	mg/L	1	12/17/2010 2:08:20 AM	JMW
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		190	mg/L	1	12/10/2010 10:12:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
 FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10120351
Lab ID: 10120351-003
Report Date: 20-Dec-10

Client Project: Agreement #10-5007
Client Sample ID: C3
Collection Date: 12/8/2010 10:19:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0431	mg/L	1	12/17/2010 2:13:43 AM	JMW
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/17/2010 2:13:43 AM	JMW
Iron	NELAP	0.0200		1.79	mg/L	1	12/17/2010 2:13:43 AM	JMW
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		72	mg/L	1	12/10/2010 10:12:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10120351
Lab ID: 10120351-004
Report Date: 20-Dec-10

Client Project: Agreement #10-5007
Client Sample ID: S1
Collection Date: 12/8/2010 11:02:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0255	mg/L	1	12/17/2010 2:19:27 AM	JMW
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/17/2010 2:19:27 AM	JMW
Iron	NELAP	0.0200		22.2	mg/L	1	12/17/2010 2:19:27 AM	JMW
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	5	S	28	mg/L	1	12/10/2010 1:59:00 PM	DLW

Sample Narrative

SW-846 9036 (Total)

Matrix spike did not recover within control limits because of matrix interference.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
 FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation	Client Project: Agreement #10-5007
WorkOrder: 10120351	Client Sample ID: S2
Lab ID: 10120351-005	Collection Date: 12/8/2010 11:24:00 AM
Report Date: 20-Dec-10	Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.100		2.78	mg/L	5	12/18/2010 7:36:59 PM	JMW
Cadmium	NELAP	0.0100		0.0155	mg/L	5	12/18/2010 7:36:59 PM	JMW
Iron	NELAP	10.0		562	mg/L	500	12/20/2010 11:00:55 AM	JMW
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		191	mg/L	1	12/10/2010 10:12:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10120351
Lab ID: 10120351-006
Report Date: 20-Dec-10

Client Project: Agreement #10-5007
Client Sample ID: S3
Collection Date: 12/8/2010 11:52:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		0.0244	mg/L	1	12/17/2010 3:30:25 AM	JMW
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/17/2010 3:30:25 AM	JMW
Iron	NELAP	0.0200		48.3	mg/L	1	12/17/2010 3:30:25 AM	JMW
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	5		5	mg/L	1	12/10/2010 1:59:00 PM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
 COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
 FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation	Client Project: Agreement #10-5007
WorkOrder: 10120351	Client Sample ID: S4
Lab ID: 10120351-007	Collection Date: 12/8/2010 12:17:00 PM
Report Date: 20-Dec-10	Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	12/17/2010 3:35:53 AM	JMW
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/17/2010 3:35:53 AM	JMW
Iron	NELAP	0.0200		9.69	mg/L	1	12/17/2010 3:35:53 AM	JMW
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		65	mg/L	1	12/10/2010 10:12:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation Client Project: Agreement #10-5007
 WorkOrder: 10120351 Client Sample ID: S5
 Lab ID: 10120351-008 Collection Date: 12/8/2010 10:02:00 AM
 Report Date: 20-Dec-10 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	12/17/2010 3:51:53 AM	JMW
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/17/2010 3:51:53 AM	JMW
Iron	NELAP	0.0200		6.47	mg/L	1	12/17/2010 3:51:53 AM	JMW
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		178	mg/L	1	12/10/2010 10:12:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: Southern Illinois Power Cooperation
WorkOrder: 10120351
Lab ID: 10120351-009
Report Date: 20-Dec-10

Client Project: Agreement #10-5007
Client Sample ID: S6
Collection Date: 12/8/2010 10:40:00 AM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</u>								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	12/17/2010 3:57:20 AM	JMW
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/17/2010 3:57:20 AM	JMW
Iron	NELAP	0.0200		2.60	mg/L	1	12/17/2010 3:57:20 AM	JMW
<u>SW-846 9036 (TOTAL)</u>								
Sulfate	NELAP	50		83	mg/L	1	12/10/2010 10:12:00 AM	DLW

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: Southern Illinois Power Cooperation

RECEIVING CHECK LIST

Project: Agreement #10-5007

Lab Order: 10120351

Report Date: 20-Dec-10

Carrier: Jacob Grimes

Received By: TWM

Completed by:

On:

08-Dec-10

Dawn Brantley

Reviewed by:

On:

08-Dec-10

Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 7.6
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
<i>When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.</i>				
Water - vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials <input checked="" type="checkbox"/>	
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		

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

Additional nitric acid was needed in C1 upon arrival at the laboratory. TWM/EAH 12/8/10

Print Form

Teklab Chain of Custody

Workorder 10120351

Pg. ___ of ___

5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618)344-1004 ~ Fax: (618)344-1005

Are the samples chilled? Yes No with: Ice Blue ice Lab Field

Southern Illinois Power Cooperation
 11543 Lake of Egypt Road
 Marion IL 62959
 Project: Agreement #10-5007

Cooler Temp 7.6 Sampler Jacob Grimes

Comments

Metals: B, Cd, and Fe

ADDED METALS TO SAMPLE C1 - TMM/SAH 12/8/10

Contact Jason McLaurin eMail _____ Phone (618) 964-1448 Requested Due Date NTAT Billing/PO

Lab Use	Sample ID	Sample Date/Time	Preservative Matrix	Sulfate	Metals					
10120351	100	12/8/10 0930	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
002		0947	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
003		1019	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
004		1102	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
005		1124	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
006		1152	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
007		1217	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
008		1002	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					

Dispersed By * [Signature] Date/Time 12/8/10 1500

Received By [Signature] Date/Time 12-8-10 1500

*The individual signing this agreement on behalf of client acknowledges that they have read and understand the terms of this agreement and that they have the authority to sign on behalf of client.

Print Form

Teklab Chain of Custody

Workorder 10120331

Pg. ___ of ___

5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618)344-1004 ~ Fax: (618)344-1005

Are the samples chilled? Yes No with: Ice Blue ice Lab Field

Southern Illinois Power Cooperation
 11543 Lake of Egypt Road
 Marion IL 62959
 Project: Agreement #10-5007

Cooler Temp _____ Sampler Jacob Grimes

Comments

Metals: B, Cd, and Fe

Contact Jason McLaurin eMail _____ Phone (618) 964-1448 Requested Due Date _____ NTAT _____ Billing/PO _____

Lab Use	Sample ID	Sample Date/Time	Preservative Matrix	Sulfate	Metals						
10120331	56	12/8/10 1040	Groundwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
			Other	<input type="checkbox"/>	<input type="checkbox"/>						
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>						
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>						
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>						
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>						
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>						
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>						
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>						
			Aqueous	<input type="checkbox"/>	<input type="checkbox"/>						

Requisitioned By: _____ Date/Time: 12/8/10 1500
 Received By: *Timothy W. H. H. H.* Date/Time: 12.8.10 1500

* The individual signing this agreement on behalf of client acknowledges that they have read and understand the terms of this agreement and that they have the authority to sign on behalf of client.

Electronic Filing: Received, Clerk's Office 09/02/2021
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

1990555005
Southern Illinois Power
10825 Lake of Egypt Rd.
Marion, IL 62959

On-Site Permit Exempt "815" Facility 2012 Annual Report

35 Ill. Adm. Code 815 requires all **landfills** exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit **annual** reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due **February 15, 2013** and covers the period of January 1, 2012 thru December 31, 2012.

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's Waste Reduction and Compliance Section at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion Byproducts

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

930,160 (in place cubic yards)

IL 532 2428
LPC 536 Rev. Oct. 03

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

4302 N. Main St., Rockford, IL 61103 (815)987-7760
595 S. State, Elgin, IL 60123 (847)608-3131
2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120

9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 11-300, Chicago, IL 60601 (312)814-6026

C. PROPOSED ACTIVITIES

- 1. Expected amount of waste to be disposed on-site January 1, 2013 thru December 31, 2013:

0 (in place cubic yards)

D. OTHER INFORMATION TO BE SUBMITTED

Please attach the following required information. Please indicate attachment number or letter in the blank provided.

Attachments

- 1. _____ Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
- 2. X All raw monitoring data collected at the facility from the leachate collection system, groundwater monitoring network, and gas monitoring system.
- 3. _____ Graphical results of monitoring efforts.
- 4. _____ Statistical summaries and analysis of trends in the collected data.
- 5. _____ Changes to the monitoring program.
- 6. _____ Discussion of error analysis, detection limits, and observed trends.
- 7. _____ Description of structures to be built within the next year.
- 8. _____ Description of new monitoring stations to be installed within the next year.
- 9. _____ A summary of all modifications including significant modifications made to the operations during the course of the year.

E. SIGNATURE OF THE OPERATOR OR DULY AUTHORIZED AGENT

Jason McLaurin _____ Jason A. McLaurin _____
 Name (print/type) Signature

Phone: (618) 964-2446

Please mail this form and attachments to the following address:

Illinois Environmental Protection Agency
 Bureau of Land (#24)
 Attn: Annual Reports and Data Collection Unit
~~1021 North Grand Avenue East~~
 P.O. Box 19276
 Springfield, Illinois 62794-9276

LH
E: SM

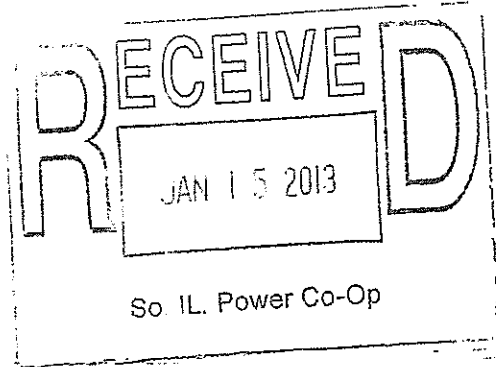
Electronic Filing: Received, Clerk's Office 09/02/2021
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY



1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217/524-3300

January 8, 2013



Dear Environmental Coordinator:

All landfills exempt from permits pursuant to Section 21 (d) of the Environmental Protection Act are required to file an **Annual Report for On-Site Facilities**. This annual report is due on **February 15, 2013** and covers the calendar year (January 1 thru December 31, 2012).

If you are located within a county (Christian, Cook-City of Chicago, Crawford, DuPage, Jackson, Kankakee, Lake, LaSalle, Lawrence, Macon, Madison, McHenry, Montgomery, Ogle, Perry, Richland, St Clair, Sangamon, Tazewell, Vermilion, Wayne, Will) which has been delegated by Illinois EPA to enforce solid waste regulations, please submit your completed report to Illinois EPA in **Duplicate**. If you are located in any other county, please submit your completed report to Illinois EPA.

If after reviewing the enclosed form you have any questions, please contact the Bureau of Land's Permit Section's, Solid Waste Unit at the above number.

Sincerely,

Hope Wright
Waste Reduction and Compliance Section
Annual Reports and Data Analysis Unit
Bureau of Land

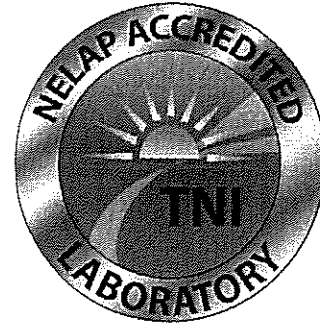
Enclosure

HW:jam Document



March 09, 2012

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Quarterly Groundwater Analysis

WorkOrder: 12030057

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 3/5/2012 4:41:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

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

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

Sincerely,

A handwritten signature in cursive script that reads "Elizabeth A. Hurley".

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

The job was not sent. Pass this report to the sender.

Job Date & Time 08/18/2021 10:45 AM



Definitions

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

Client: Southern Illinois Power Cooperation Work Order: 12030057
 Client Project: Quarterly Groundwater Analysis Report Date: 09-Mar-12

Abbr Definition

- CDV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCS-D Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample, used to determine recovery efficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TWTC Too numerous to count (> 200 CFU)

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- E - Value above quantitation range
- H - Holding times exceeded
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- ~~X - Value exceeds Maximum Contaminant Level~~

Date & Time Sent	Recipient Information	Result
08/18/2021 10:46 AM	/	Completed with an Error (026-721) : Media access failed (In Job)



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 12030057

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Mar-12

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|--|---|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| M - Manual Integration used to determine area response | ND - Not Detected at the Reporting Limit |
| R - RPD outside accepted recovery limits | S - Spike Recovery outside recovery limits |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

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

Client: Southern Illinois Power Cooperation
Client Project: Quarterly Groundwater Analysis

Work Order: 12030057
Report Date: 09-Mar-12

Cooler Receipt Temp: 8.6 °C

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations

Collinsville		Springfield		Kansas City	
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	Address	3920 Pintail Dr Springfield, IL 62711-9415	Address	8421 Nieman Road Lenexa, KS 66214
Phone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998
Fax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998
Email	jhriley@teklabinc.com	Email	kmcclain@teklabinc.com	Email	dthompson@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2013	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2013	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2012	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2012	Springfield
Arkansas	ADEQ	88-0966		3/14/2012	Collinsville
Illinois	IDPH	17584		4/30/2012	Collinsville
Kentucky	UST	0073		5/26/2012	Collinsville
Missouri	MDNR	00930		4/13/2013	Collinsville
Oklahoma	ODEQ	9978		8/31/2012	Collinsville



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12030057-001
 Matrix: GROUNDWATER

Work Order: 12030057
 Report Date: 09-Mar-12

Client Sample ID: C1
 Collection Date: 03/05/2012 12:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100	S	272	mg/L	10	03/07/2012 20:40	R160864
<i>Matrix spike did not recover within control limits because of sample composition.</i>								
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0720	mg/L	1	03/07/2012 13:29	75793
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 13:29	75793
Iron	NELAP	0.0200		0.292	mg/L	1	03/07/2012 13:29	75793



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12030057

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Mar-12

Lab ID: 12030057-002

Client Sample ID: C2

Matrix: GROUNDWATER

Collection Date: 03/05/2012 12:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		214	mg/L	5	03/07/2012 20:51	R160864
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0400		0.0798	mg/L	2	03/07/2012 14:26	75793
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 13:47	75793
Iron	NELAP	0.0400		108	mg/L	2	03/07/2012 14:26	75793



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12030057

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Mar-12

Lab ID: 12030057-003

Client Sample ID: C3

Matrix: GROUNDWATER

Collection Date: 03/05/2012 13:08

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		61	mg/L	2	03/07/2012 20:54	R160864
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0389	mg/L	1	03/07/2012 13:53	75793
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 13:53	75793
Iron	NELAP	0.0200		0.116	mg/L	1	03/07/2012 13:53	75793



Laboratory Results

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

Client: Southern Illinois Power Cooperation
Client Project: Quarterly Groundwater Analysis
Lab ID: 12030057-004
Matrix: GROUNDWATER

Work Order: 12030057
Report Date: 09-Mar-12

Client Sample ID: S1
Collection Date: 03/05/2012 13:36

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		23	mg/L	1	03/07/2012 20:59	R160864
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0222	mg/L	1	03/07/2012 13:59	75793
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 13:59	75793
Iron	NELAP	0.0200		2.49	mg/L	1	03/07/2012 13:59	75793



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12030057

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Mar-12

Lab ID: 12030057-005

Client Sample ID: S2

Matrix: GROUNDWATER

Collection Date: 03/05/2012 14:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		39	mg/L	1	03/07/2012 21:02	R160864
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.573	mg/L	1	03/07/2012 14:43	75793
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 14:43	75793
Iron	NELAP	0.0200		121	mg/L	1	03/07/2012 14:43	75793



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12030057

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Mar-12

Lab ID: 12030057-006

Client Sample ID: S3

Matrix: GROUNDWATER

Collection Date: 03/05/2012 13:56

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		< 10	mg/L	1	03/07/2012 21:07	R160864
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0307	mg/L	1	03/07/2012 14:48	75793
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 14:48	75793
Iron	NELAP	0.0200		59.5	mg/L	1	03/07/2012 14:48	75793



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12030057

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Mar-12

Lab ID: 12030057-007

Client Sample ID: S4

Matrix: GROUNDWATER

Collection Date: 03/05/2012 13:46

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		45	mg/L	2	03/07/2012 21:10	R160864
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	03/07/2012 14:54	75793
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 14:54	75793
Iron	NELAP	0.0200		97.7	mg/L	1	03/07/2012 14:54	75793



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12030057-008
 Matrix: GROUNDWATER

Work Order: 12030057
 Report Date: 09-Mar-12

Client Sample ID: S5
 Collection Date: 03/05/2012 12:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		222	mg/L	10	03/07/2012 21:13	R160864
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	03/07/2012 20:14	75793
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 20:14	75793
Iron	NELAP	0.0200		0.141	mg/L	1	03/07/2012 20:14	75793



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12030057-009
 Matrix: GROUNDWATER

Work Order: 12030057
 Report Date: 09-Mar-12

Client Sample ID: S6
 Collection Date: 03/05/2012 13:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		69	mg/L	2	03/07/2012 21:29	R160864
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	03/07/2012 20:19	75793
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 20:19	75793
Iron	NELAP	0.0200		0.104	mg/L	1	03/07/2012 20:19	75793



Receiving Check List

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

Client: Southern Illinois Power Cooperation

Work Order: 12030057

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Mar-12

Carrier: Josh Cerar

Received By: HLR

Completed by:

Reviewed by:

On:

On:

05-Mar-12

05-Mar-12

Timothy W. Mathis

Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

- | | | | | |
|---|---|---|--------------------------------------|----------------------------------|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> | Temp °C 8.6 |
| Type of thermal preservation? | None <input type="checkbox"/> | Ice <input checked="" type="checkbox"/> | Blue Ice <input type="checkbox"/> | Dry Ice <input type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Reported field parameters measured: | Field <input checked="" type="checkbox"/> | Lab <input type="checkbox"/> | NA <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |

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

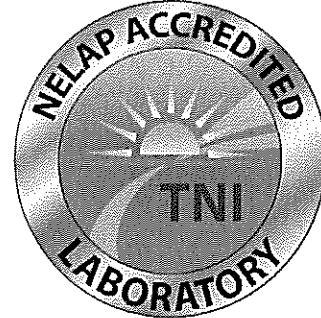
- | | | | |
|--|---|-----------------------------|---|
| Water – at least one vial per sample has zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials <input checked="" type="checkbox"/> |
| Water - TOX containers have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No TOX containers <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |

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



June 25, 2012

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Quarterly Groundwater Analysis

WorkOrder: 12060096

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 6/18/2012 8:45:00 AM for the analysis presented in the following report.

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

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 12060096

Client Project: Quarterly Groundwater Analysis

Report Date: 25-Jun-12

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|---|--|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| J - Analyte detected below quantitation limits | M - Manual Integration used to determine area response |
| ND - Not Detected at the Reporting Limit | R - RPD outside accepted recovery limits |
| S - Spike Recovery outside recovery limits | X - Value exceeds Maximum Contaminant Level |



Case Narrative

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

Client: Southern Illinois Power Cooperation

Work Order: 12060096

Client Project: Quarterly Groundwater Analysis

Report Date: 25-Jun-12

Cooler Receipt Temp: 1.4 °C

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations

Collinsville		Springfield		Kansas City	
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	Address	3920 Pintail Dr Springfield, IL 62711-9415	Address	8421 Nieman Road Lenexa, KS 66214
Phone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998
Fax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998
Email	jhriley@teklabinc.com	Email	kmcclain@teklabinc.com	Email	dthompson@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2013	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2013	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2013	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2012	Springfield
Arkansas	ADEQ	88-0966		3/14/2013	Collinsville
Illinois	IDPH	17584		4/30/2013	Collinsville
Kentucky	UST	0073		5/26/2013	Collinsville
Missouri	MDNR	00930		4/13/2013	Collinsville
Oklahoma	ODEQ	9978		8/31/2012	Collinsville



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12060096-001
 Matrix: GROUNDWATER

Work Order: 12060096
 Report Date: 25-Jun-12

Client Sample ID: C1
 Collection Date: 06/15/2012 9:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		260	mg/L	10	06/19/2012 15:50	R164941
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0499	mg/L	1	06/22/2012 16:39	79092
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/19/2012 22:43	79092
Iron	NELAP	0.0200		2.64	mg/L	1	06/22/2012 16:39	79092



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12060096-002
 Matrix: GROUNDWATER

Work Order: 12060096
 Report Date: 25-Jun-12

Client Sample ID: C2
 Collection Date: 06/15/2012 9:28

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		151	mg/L	10	06/19/2012 15:56	R164941
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0390	mg/L	1	06/22/2012 16:45	79092
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/19/2012 22:49	79092
Iron	NELAP	0.0200		15.3	mg/L	1	06/22/2012 16:45	79092



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12060096-003
 Matrix: GROUNDWATER

Work Order: 12060096
 Report Date: 25-Jun-12

Client Sample ID: C3
 Collection Date: 06/15/2012 10:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		72	mg/L	2	06/19/2012 15:58	R164941
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0334	mg/L	1	06/22/2012 16:51	79092
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/19/2012 22:55	79092
Iron	NELAP	0.0200		0.198	mg/L	1	06/22/2012 16:51	79092



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12060096-004
 Matrix: GROUNDWATER

Work Order: 12060096
 Report Date: 25-Jun-12

Client Sample ID: S1
 Collection Date: 06/15/2012 12:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		25	mg/L	1	06/19/2012 16:30	R164941
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0234	mg/L	1	06/22/2012 17:09	79092
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/19/2012 23:24	79092
Iron	NELAP	0.0200		22.2	mg/L	1	06/19/2012 23:24	79092



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12060096-005
 Matrix: GROUNDWATER

Work Order: 12060096
 Report Date: 25-Jun-12

Client Sample ID: S2
 Collection Date: 06/15/2012 11:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		25	mg/L	1	06/19/2012 16:41	R164941
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.485	mg/L	1	06/22/2012 17:15	79092
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/19/2012 23:30	79092
Iron	NELAP	0.0200		134	mg/L	1	06/19/2012 23:30	79092



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12060096-006
 Matrix: GROUNDWATER

Work Order: 12060096
 Report Date: 25-Jun-12

Client Sample ID: S3
 Collection Date: 06/15/2012 11:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		< 10	mg/L	1	06/19/2012 16:44	R164941
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0300		0.0348	mg/L	2	06/22/2012 17:20	79092
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/19/2012 23:35	79092
Iron	NELAP	0.0400		70.4	mg/L	2	06/22/2012 17:20	79092



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12060096

Client Project: Quarterly Groundwater Analysis

Report Date: 25-Jun-12

Lab ID: 12060096-007

Client Sample ID: S4

Matrix: GROUNDWATER

Collection Date: 06/15/2012 10:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		42	mg/L	2	06/19/2012 16:49	R164941
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	06/22/2012 17:44	79092
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/19/2012 23:41	79092
Iron	NELAP	0.0200		92.2	mg/L	1	06/19/2012 23:41	79092



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12060096

Client Project: Quarterly Groundwater Analysis

Report Date: 25-Jun-12

Lab ID: 12060096-008

Client Sample ID: S5

Matrix: GROUNDWATER

Collection Date: 06/15/2012 9:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		189	mg/L	10	06/19/2012 16:52	R164941
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	06/22/2012 17:50	79092
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/19/2012 23:47	79092
Iron	NELAP	0.0200		0.675	mg/L	1	06/19/2012 23:47	79092



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12060096

Client Project: Quarterly Groundwater Analysis

Report Date: 25-Jun-12

Lab ID: 12060096-009

Client Sample ID: S6

Matrix: GROUNDWATER

Collection Date: 06/15/2012 11:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		68	mg/L	2	06/19/2012 16:57	R164941
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	06/22/2012 17:55	79092
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/20/2012 0:05	79092
Iron	NELAP	0.0200		0.742	mg/L	1	06/20/2012 0:05	79092



Receiving Check List

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

Client: Southern Illinois Power Cooperation

Work Order: 12060096

Client Project: Quarterly Groundwater Analysis

Report Date: 25-Jun-12

Carrier: Rick Schmidt

Received By: JMH

Completed by:

Reviewed by:

On:

18-Jun-12

Heather L. Riley

On:

18-Jun-12

Shelly A. Hennessy

Pages to follow: Chain of custody

Extra pages included

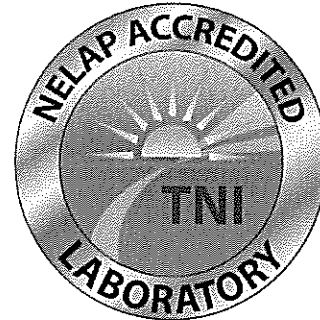
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 1.4
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water -- at least one vial per sample has zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials	<input checked="" type="checkbox"/>
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers	<input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
NPDES/CWA TCN interferences checked/treated in the field?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA	<input checked="" type="checkbox"/>

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



October 04, 2012

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Quarterly Groundwater Analysis

WorkOrder: 12090430

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 9/14/2012 4:30:00 PM for the analysis presented in the following report.

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

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|--|---|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| M - Manual Integration used to determine area response | ND - Not Detected at the Reporting Limit |
| R - RPD outside accepted recovery limits | S - Spike Recovery outside recovery limits |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Cooler Receipt Temp: 3.2 °C

An employee of Teklab, Inc. collected the sample(s).

Metals (ICP) analysis was performed by First Environmental Laboratories, Inc.

Locations and Accreditations

Collinsville		Springfield		Kansas City	
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	Address	3920 Pintail Dr Springfield, IL 62711-9415	Address	8421 Nieman Road Lenexa, KS 66214
Phone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998
Fax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998
Email	jhriley@teklabinc.com	Email	kmccain@teklabinc.com	Email	dthompson@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2013	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2013	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2013	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2013	Springfield
Texas	TCEQ	T104704515-12-1	NELAP	7/31/2013	Collinsville
Arkansas	ADEQ	88-0966		3/14/2013	Collinsville
Illinois	IDPH	17584		4/30/2013	Collinsville
Kentucky	UST	0073		5/26/2013	Collinsville
Missouri	MDNR	00930		4/13/2013	Collinsville
Oklahoma	ODEQ	9978		8/31/2013	Collinsville



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Lab ID: 12090430-001

Client Sample ID: C1

Matrix: GROUNDWATER

Collection Date: 09/14/2012 11:12

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		230	mg/L	10	09/17/2012 22:05	R168209
SW-846 3010A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.020		0.110	mg/L	1	10/03/2012 0:00	R168930
Cadmium	NELAP	0.002		< 0.002	mg/L	1	10/03/2012 0:00	R168930
Iron	NELAP	0.020		1.33	mg/L	1	10/03/2012 0:00	R168930



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Lab ID: 12090430-002

Client Sample ID: C2

Matrix: GROUNDWATER

Collection Date: 09/14/2012 11:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		214	mg/L	10	09/17/2012 22:11	R168209
SW-846 3010A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.020		0.100	mg/L	1	10/03/2012 0:00	R168930
Cadmium	NELAP	0.002		< 0.002	mg/L	1	10/03/2012 0:00	R168930
Iron	NELAP	0.020		5.98	mg/L	1	10/03/2012 0:00	R168930



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Lab ID: 12090430-003

Client Sample ID: C3

Matrix: GROUNDWATER

Collection Date: 09/14/2012 12:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		57	mg/L	2	09/17/2012 22:13	R168209
SW-846 3010A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.020		0.050	mg/L	1	10/03/2012 0:00	R168930
Cadmium	NELAP	0.002		< 0.002	mg/L	1	10/03/2012 0:00	R168930
Iron	NELAP	0.020		1.41	mg/L	1	10/03/2012 0:00	R168930



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Lab ID: 12090430-004

Client Sample ID: S1

Matrix: GROUNDWATER

Collection Date: 09/14/2012 12:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		25	mg/L	1	09/17/2012 22:19	R168209
SW-846 3010A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.020		< 0.020	mg/L	1	10/03/2012 0:00	R168930
Cadmium	NELAP	0.002		< 0.002	mg/L	1	10/03/2012 0:00	R168930
Iron	NELAP	0.020		13.3	mg/L	1	10/03/2012 0:00	R168930



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Lab ID: 12090430-005

Client Sample ID: S2

Matrix: GROUNDWATER

Collection Date: 09/14/2012 13:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		36	mg/L	1	09/17/2012 22:21	R168209
SW-846 3010A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.020		0.300	mg/L	1	10/03/2012 0:00	R168930
Cadmium	NELAP	0.002		0.009	mg/L	1	10/03/2012 0:00	R168930
Iron	NELAP	0.020		123	mg/L	1	10/03/2012 0:00	R168930



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Lab ID: 12090430-006

Client Sample ID: S3

Matrix: GROUNDWATER

Collection Date: 09/14/2012 13:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		< 10	mg/L	1	09/17/2012 22:37	R168209
SW-846 3010A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.020		< 0.020	mg/L	1	10/03/2012 0:00	R168930
Cadmium	NELAP	0.002		0.006	mg/L	1	10/03/2012 0:00	R168930
Iron	NELAP	0.020		75.1	mg/L	1	10/03/2012 0:00	R168930



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12090430-007
 Matrix: GROUNDWATER

Work Order: 12090430
 Report Date: 04-Oct-12

Client Sample ID: S4
 Collection Date: 09/14/2012 13:13

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		46	mg/L	2	09/17/2012 22:40	R168209
SW-846 3010A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.020		< 0.020	mg/L	1	10/03/2012 0:00	R168930
Cadmium	NELAP	0.002		< 0.002	mg/L	1	10/03/2012 0:00	R168930
Iron	NELAP	0.020		3.31	mg/L	1	10/03/2012 0:00	R168930



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Lab ID: 12090430-008

Client Sample ID: S5

Matrix: GROUNDWATER

Collection Date: 09/14/2012 11:53

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		166	mg/L	10	09/17/2012 22:45	R168209
SW-846 3010A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.020		< 0.020	mg/L	1	10/03/2012 0:00	R168930
Cadmium	NELAP	0.002		< 0.002	mg/L	1	10/03/2012 0:00	R168930
Iron	NELAP	0.020		0.660	mg/L	1	10/03/2012 0:00	R168930



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 12090430-009
 Matrix: GROUNDWATER

Work Order: 12090430
 Report Date: 04-Oct-12

Client Sample ID: S6
 Collection Date: 09/14/2012 12:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		70	mg/L	2	09/17/2012 22:48	R168209
SW-846 3010A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.020		< 0.020	mg/L	1	10/03/2012 0:00	R168930
Cadmium	NELAP	0.002		< 0.002	mg/L	1	10/03/2012 0:00	R168930
Iron	NELAP	0.020		3.71	mg/L	1	10/03/2012 0:00	R168930



Receiving Check List

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

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Client Project: Quarterly Groundwater Analysis

Report Date: 04-Oct-12

Carrier: Ricky Schmidt

Received By: TWM

Completed by:

On:

17-Sep-12

Timothy W. Mathis

Reviewed by:

On:

17-Sep-12

Shelly A. Hennessy

Shelly A. Hennessy

Pages to follow: Chain of custody

Extra pages included

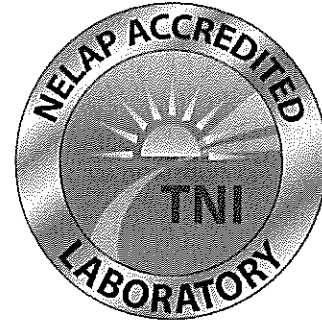
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 3.2
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water - at least one vial per sample has zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials <input checked="" type="checkbox"/>	
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
NPDES/CWA TCN interferences checked/treated in the field?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	

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



December 14, 2012

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Quarterly Groundwater Analysis

WorkOrder: 12120102

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 12/5/2012 3:21:00 PM for the analysis presented in the following report.

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

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not Ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCS D Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|--|---|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| M - Manual Integration used to determine area response | ND - Not Detected at the Reporting Limit |
| R - RPD outside accepted recovery limits | S - Spike Recovery outside recovery limits |
| X - Value exceeds Maximum Contaminant Level | |



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Lab ID: 12120102-001

Client Sample ID: C1

Matrix: GROUNDWATER

Collection Date: 12/05/2012 9:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		265	mg/L	10	12/07/2012 14:00	R171370
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0581	mg/L	1	12/07/2012 16:17	83958
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/07/2012 16:17	83958
Iron	NELAP	0.0200		2.45	mg/L	1	12/07/2012 16:17	83958



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Lab ID: 12120102-002

Client Sample ID: C2

Matrix: GROUNDWATER

Collection Date: 12/05/2012 9:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		282	mg/L	10	12/07/2012 14:05	R171370
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0516	mg/L	1	12/07/2012 16:21	83958
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/07/2012 16:21	83958
Iron	NELAP	0.0200		3.76	mg/L	1	12/07/2012 16:21	83958



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Lab ID: 12120102-003

Client Sample ID: C3

Matrix: GROUNDWATER

Collection Date: 12/05/2012 10:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		56	mg/L	2	12/12/2012 11:53	R171592
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0208	mg/L	1	12/07/2012 16:25	83958
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/07/2012 16:25	83958
Iron	NELAP	0.0200		8.56	mg/L	1	12/07/2012 16:25	83958



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Lab ID: 12120102-004

Client Sample ID: S1

Matrix: GROUNDWATER

Collection Date: 12/05/2012 10:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		30	mg/L	1	12/07/2012 14:13	R171370
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	12/07/2012 16:36	83958
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/07/2012 16:36	83958
Iron	NELAP	0.0200		58.9	mg/L	1	12/07/2012 16:36	83958



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Lab ID: 12120102-005

Client Sample ID: S2

Matrix: GROUNDWATER

Collection Date: 12/05/2012 11:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		47	mg/L	1	12/07/2012 14:16	R171370
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.692	mg/L	1	12/07/2012 16:39	83958
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/07/2012 16:39	83958
Iron	NELAP	0.0200		86.9	mg/L	1	12/07/2012 16:39	83958



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Lab ID: 12120102-006

Client Sample ID: S3

Matrix: GROUNDWATER

Collection Date: 12/05/2012 11:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		13	mg/L	1	12/07/2012 14:21	R171370
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	12/07/2012 16:43	83958
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/07/2012 16:43	83958
Iron	NELAP	0.0200		59.9	mg/L	1	12/07/2012 16:43	83958



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Lab ID: 12120102-007

Client Sample ID: S4

Matrix: GROUNDWATER

Collection Date: 12/05/2012 11:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		50	mg/L	2	12/07/2012 14:32	R171370
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	12/07/2012 16:47	83958
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/07/2012 16:47	83958
Iron	NELAP	0.0200		47.2	mg/L	1	12/07/2012 16:47	83958



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Lab ID: 12120102-008

Client Sample ID: S5

Matrix: GROUNDWATER

Collection Date: 12/05/2012 10:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		235	mg/L	5	12/07/2012 14:35	R171370
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		< 0.0200	mg/L	1	12/07/2012 16:50	83958
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/07/2012 16:50	83958
Iron	NELAP	0.0200		0.606	mg/L	1	12/07/2012 16:50	83958



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Lab ID: 12120102-009

Client Sample ID: S6

Matrix: GROUNDWATER

Collection Date: 12/05/2012 10:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		86	mg/L	2	12/07/2012 14:51	R171370
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0300		< 0.0300	mg/L	1	12/07/2012 16:54	83958
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	12/07/2012 16:54	83958
Iron	NELAP	0.0200		0.359	mg/L	1	12/07/2012 16:54	83958

B - Elevated reporting limit due to high levels of non-target analytes.



Receiving Check List

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

Client: Southern Illinois Power Cooperation

Work Order: 12120102

Client Project: Quarterly Groundwater Analysis

Report Date: 14-Dec-12

Carrier: Ricky Schmidt

Received By: SRH

Completed by:

On:

06-Dec-12

Timothy W. Mathis

Reviewed by:

On:

06-Dec-12

Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 7.6
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

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

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

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



Electronic Filing: Received, Clerk's Office 09/02/2021
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

PAT QUINN, GOVERNOR

JOHN J. KIM, INTERIM DIRECTOR

1990555005

Southern Illinois Power
10825 Lake of Egypt Rd.
Marion, IL 62959

**On-Site Permit Exempt "815" Facility
2013 Annual Report**

35 Ill. Adm. Code 815 requires all **landfills** exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit **annual** reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due **February 15, 2014** and covers the period of January 1, 2013 thru December 31, 2013

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's Waste Reduction and Compliance Section at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion Byproducts

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

938,160 (in place cubic yards)

IL 532 2428
LPC 536 Rev. Oct. 03

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

C. PROPOSED ACTIVITIES

1. Expected amount of waste to be disposed on-site **January 1, 2013** thru **December 31, 2013**

_____ 0 _____ (in place cubic yards)

D. OTHER INFORMATION TO BE SUBMITTED

Please attach the following required information. Please indicate attachment number or letter in the blank provided.

Attachments

1. _____ Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
2. X _____ All raw monitoring data collected at the facility from the leachate collection system, groundwater monitoring network, and gas monitoring system.
3. _____ Graphical results of monitoring efforts.
4. _____ Statistical summaries and analysis of trends in the collected data.
5. _____ Changes to the monitoring program.
6. _____ Discussion of error analysis, detection limits, and observed trends.
7. _____ Description of structures to be built within the next year.
8. _____ Description of new monitoring stations to be installed within the next year.
9. _____ A summary of all modifications including significant modifications made to the operations during the course of the year.

E. SIGNATURE OF THE OPERATOR OR DULY AUTHORIZED AGENT

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

JASON MCLAUREN
Name (print/type)


Signature

Phone: (618) 964-2446

Please mail this form and attachments to the following address:

Illinois Environmental Protection Agency
Bureau of Land (#24)
~~Attn: Annual Reports and Data Collection Unit~~
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276



December 09, 2013

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Quarterly Groundwater Analysis

WorkOrder: 13120003

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 12/4/2013 4:15:00 PM for the analysis presented in the following report.

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

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCS D Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|--|---|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| M - Manual Integration used to determine area response | ND - Not Detected at the Reporting Limit |
| R - RPD outside accepted recovery limits | S - Spike Recovery outside recovery limits |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Cooler Receipt Temp: 9.2 °C

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations

	Collinsville	Springfield	Kansas City	Collinsville Air
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	3920 Pintail Dr Springfield, IL 62711-9415	8421 Nieman Road Lenexa, KS 66214	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004	(217) 698-1004	(913) 541-1998	(618) 344-1004
Fax	(618) 344-1005	(217) 698-1005	(913) 541-1998	(618) 344-1005
Email	jhriley@teklabinc.com	KKlostermann@teklabinc.com	dthompson@teklabinc.com	EHurley@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2014	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2014	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2014	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2014	Springfield
Texas	TCEQ	T104704515-12-1	NELAP	7/31/2014	Collinsville
Arkansas	ADEQ	88-0966		3/14/2014	Collinsville
Illinois	IDPH	17584		5/31/2015	Collinsville
Kentucky	UST	0073		4/5/2014	Collinsville
Missouri	MDNR	00930		5/31/2015	Collinsville
Oklahoma	ODEQ	9978		8/31/2014	Collinsville



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Lab ID: 13120003-001

Client Sample ID: C1

Matrix: GROUNDWATER

Collection Date: 12/04/2013 11:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		268	mg/L	10	12/05/2013 17:15	R184829
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.0945	mg/L	1	12/05/2013 17:12	94323
Cadmium	NELAP	0.002		< 0.002	mg/L	1	12/05/2013 17:12	94323
Iron	NELAP	0.02		0.924	mg/L	1	12/05/2013 17:12	94323



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Lab ID: 13120003-002

Client Sample ID: C2

Matrix: GROUNDWATER

Collection Date: 12/04/2013 11:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		338	mg/L	10	12/05/2013 17:18	R184829
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.0684	mg/L	1	12/05/2013 17:18	94323
Cadmium	NELAP	0.002		< 0.002	mg/L	1	12/05/2013 17:18	94323
Iron	NELAP	0.02		104	mg/L	1	12/05/2013 17:18	94323



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Lab ID: 13120003-003

Client Sample ID: C3

Matrix: GROUNDWATER

Collection Date: 12/04/2013 10:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		116	mg/L	5	12/05/2013 17:23	R184829
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.0301	mg/L	1	12/05/2013 17:24	94323
Cadmium	NELAP	0.002		< 0.002	mg/L	1	12/05/2013 17:24	94323
Iron	NELAP	0.02		0.142	mg/L	1	12/05/2013 17:24	94323



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Lab ID: 13120003-004

Client Sample ID: S1

Matrix: GROUNDWATER

Collection Date: 12/04/2013 10:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		26	mg/L	1	12/05/2013 17:26	R184829
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.0304	mg/L	1	12/05/2013 17:54	94323
Cadmium	NELAP	0.002		< 0.002	mg/L	1	12/05/2013 17:54	94323
Iron	NELAP	0.02		11.9	mg/L	1	12/05/2013 17:54	94323



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Lab ID: 13120003-005

Client Sample ID: S2

Matrix: GROUNDWATER

Collection Date: 12/04/2013 13:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		77	mg/L	5	12/05/2013 17:31	R184829
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.995	mg/L	1	12/05/2013 18:00	94323
Cadmium	NELAP	0.002		< 0.002	mg/L	1	12/05/2013 18:00	94323
Iron	NELAP	0.02		102	mg/L	1	12/05/2013 18:00	94323



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Lab ID: 13120003-006

Client Sample ID: S3

Matrix: GROUNDWATER

Collection Date: 12/04/2013 12:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		23	mg/L	1	12/05/2013 17:34	R184829
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	12/05/2013 18:06	94323
Cadmium	NELAP	0.002		< 0.002	mg/L	1	12/05/2013 18:06	94323
Iron	NELAP	0.02		42	mg/L	1	12/05/2013 18:06	94323



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Lab ID: 13120003-007

Client Sample ID: S4

Matrix: GROUNDWATER

Collection Date: 12/04/2013 12:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		41	mg/L	2	12/05/2013 17:39	R184829
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	12/05/2013 18:13	94323
Cadmium	NELAP	0.002		< 0.002	mg/L	1	12/05/2013 18:13	94323
Iron	NELAP	0.02		2.54	mg/L	1	12/05/2013 18:13	94323



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Lab ID: 13120003-008

Client Sample ID: S5

Matrix: GROUNDWATER

Collection Date: 12/04/2013 12:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		212	mg/L	5	12/05/2013 17:42	R184829
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	12/05/2013 18:19	94323
Cadmium	NELAP	0.002		< 0.002	mg/L	1	12/05/2013 18:19	94323
Iron	NELAP	0.02		0.0589	mg/L	1	12/05/2013 18:19	94323



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Lab ID: 13120003-009

Client Sample ID: S6

Matrix: GROUNDWATER

Collection Date: 12/04/2013 10:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		71	mg/L	2	12/05/2013 17:45	R184829
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.025		< 0.025	mg/L	1	12/06/2013 9:54	94323
Cadmium	NELAP	0.002		< 0.002	mg/L	1	12/05/2013 18:25	94323
Iron	NELAP	0.02		0.167	mg/L	1	12/05/2013 18:25	94323

B - Elevated reporting limit due to high levels of non-target analytes.



Receiving Check List

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

Client: Southern Illinois Power Cooperation

Work Order: 13120003

Client Project: Quarterly Groundwater Analysis

Report Date: 09-Dec-13

Carrier: Rick Schmidt

Received By: SRH

Completed by: *Emily E. Pohlman*
 On: *Emily E. Pohlman*
 04-Dec-13
 Emily E. Pohlman

Reviewed by: *Shelly A. Hennessy*
 On: *Shelly A. Hennessy*
 04-Dec-13
 Shelly A. Hennessy

Pages to follow: Chain of custody Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 9.2
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water - at least one vial per sample has zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials <input checked="" type="checkbox"/>	
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	
NPDES/CWA TCN interferences checked/treated in the field?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	

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



September 19, 2013

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Quarterly Groundwater Analysis

WorkOrder: 13090409

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 9/13/2013 3:05:00 PM for the analysis presented in the following report.

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

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|--|---|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| M - Manual Integration used to determine area response | ND - Not Detected at the Reporting Limit |
| R - RPD outside accepted recovery limits | S - Spike Recovery outside recovery limits |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Cooler Receipt Temp: 14.4 °C

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations

	Collinsville	Springfield	Kansas City	Collinsville Air
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	3920 Pintail Dr Springfield, IL 62711-9415	8421 Nieman Road Lenexa, KS 66214	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004	(217) 698-1004	(913) 541-1998	(618) 344-1004
Fax	(618) 344-1005	(217) 698-1005	(913) 541-1998	(618) 344-1005
Email	jhriley@teklabinc.com	KKlostermann@teklabinc.com	dthompson@teklabinc.com	EHurley@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2014	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2014	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2014	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2014	Springfield
Texas	TCEQ	T104704515-12-1	NELAP	7/31/2014	Collinsville
Arkansas	ADEQ	88-0966		3/14/2014	Collinsville
Illinois	IDPH	17584		5/31/2015	Collinsville
Kentucky	UST	0073		4/5/2014	Collinsville
Missouri	MDNR	00930		5/31/2015	Collinsville
Oklahoma	ODEQ	9978		8/31/2014	Collinsville



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Lab ID: 13090409-001

Client Sample ID: C1

Matrix: GROUNDWATER

Collection Date: 09/13/2013 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		273	mg/L	10	09/16/2013 13:56	R181833
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.0871	mg/L	1	09/17/2013 20:23	91942
Cadmium	NELAP	0.002		< 0.002	mg/L	1	09/17/2013 20:23	91942
Iron	NELAP	0.02		1.05	mg/L	1	09/17/2013 20:23	91942



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 13090409-002
 Matrix: GROUNDWATER

Work Order: 13090409
 Report Date: 19-Sep-13

Client Sample ID: C2
 Collection Date: 09/13/2013 9:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		227	mg/L	10	09/16/2013 13:59	R181833
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.0508	mg/L	1	09/17/2013 20:41	91942
Cadmium	NELAP	0.002		< 0.002	mg/L	1	09/17/2013 20:41	91942
Iron	NELAP	0.02		30.4	mg/L	1	09/17/2013 20:41	91942



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Lab ID: 13090409-003

Client Sample ID: C3

Matrix: GROUNDWATER

Collection Date: 09/13/2013 10:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		155	mg/L	5	09/16/2013 14:04	R181833
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.0233	mg/L	1	09/17/2013 20:47	91942
Cadmium	NELAP	0.002		< 0.002	mg/L	1	09/17/2013 20:47	91942
Iron	NELAP	0.02		5.14	mg/L	1	09/17/2013 20:47	91942



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Quarterly Groundwater Analysis
 Lab ID: 13090409-004
 Matrix: GROUNDWATER

Work Order: 13090409
 Report Date: 19-Sep-13

Client Sample ID: S1
 Collection Date: 09/13/2013 10:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		28	mg/L	1	09/16/2013 14:07	R181833
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	09/17/2013 20:53	91942
Cadmium	NELAP	0.002		0.0025	mg/L	1	09/17/2013 20:53	91942
Iron	NELAP	0.02		96.7	mg/L	1	09/17/2013 20:53	91942



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Lab ID: 13090409-005

Client Sample ID: S2

Matrix: GROUNDWATER

Collection Date: 09/13/2013 11:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		100	mg/L	5	09/18/2013 13:58	R181951
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		1.08	mg/L	1	09/17/2013 20:59	91942
Cadmium	NELAP	0.002		< 0.002	mg/L	1	09/17/2013 20:59	91942
Iron	NELAP	0.02		144	mg/L	1	09/17/2013 20:59	91942



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Lab ID: 13090409-006

Client Sample ID: S3

Matrix: GROUNDWATER

Collection Date: 09/13/2013 11:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		18	mg/L	1	09/16/2013 15:41	R181833
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	09/17/2013 21:05	91942
Cadmium	NELAP	0.002		< 0.002	mg/L	1	09/17/2013 21:05	91942
Iron	NELAP	0.02		44.7	mg/L	1	09/17/2013 21:05	91942



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Lab ID: 13090409-007

Client Sample ID: S4

Matrix: GROUNDWATER

Collection Date: 09/13/2013 11:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		45	mg/L	1	09/16/2013 14:50	R181833
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	09/17/2013 21:11	91942
Cadmium	NELAP	0.002		< 0.002	mg/L	1	09/17/2013 21:11	91942
Iron	NELAP	0.02		27.8	mg/L	1	09/17/2013 21:11	91942



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Lab ID: 13090409-008

Client Sample ID: S5

Matrix: GROUNDWATER

Collection Date: 09/13/2013 9:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		178	mg/L	10	09/16/2013 14:56	R181833
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	09/17/2013 21:17	91942
Cadmium	NELAP	0.002		< 0.002	mg/L	1	09/17/2013 21:17	91942
Iron	NELAP	0.02		0.986	mg/L	1	09/17/2013 21:17	91942



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Lab ID: 13090409-009

Client Sample ID: S6

Matrix: GROUNDWATER

Collection Date: 09/13/2013 10:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		71	mg/L	2	09/16/2013 14:58	R181833
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	09/18/2013 13:34	91942
Cadmium	NELAP	0.002		< 0.002	mg/L	1	09/17/2013 21:23	91942
Iron	NELAP	0.02		4.37	mg/L	1	09/17/2013 21:23	91942



Receiving Check List

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

Client: Southern Illinois Power Cooperation

Work Order: 13090409

Client Project: Quarterly Groundwater Analysis

Report Date: 19-Sep-13

Carrier: Rick Schmidt

Received By: EEP

Completed by:

Emily Pohlman

Reviewed by:

Shelly A Hennessy

On:

13-Sep-13

Emily E. Pohlman

On:

13-Sep-13

Shelly A. Hennessy

Pages to follow: Chain of custody

Extra pages included

- | | | | | |
|---|---|---|---|----------------------------------|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> | Temp °C 14.4 |
| Type of thermal preservation? | None <input type="checkbox"/> | Ice <input checked="" type="checkbox"/> | Blue Ice <input type="checkbox"/> | Dry Ice <input type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Reported field parameters measured: | Field <input type="checkbox"/> | Lab <input type="checkbox"/> | NA <input checked="" type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected. | | | | |
| Water – at least one vial per sample has zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials <input checked="" type="checkbox"/> | |
| Water - TOX containers have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No TOX containers <input checked="" type="checkbox"/> | |
| Water - pH acceptable upon receipt? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> | |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> | |

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



June 24, 2013

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Quarterly Groundwater Analysis

WorkOrder: 13060701

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 6/18/2013 12:30:00 PM for the analysis presented in the following report.

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

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|--|---|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| M - Manual Integration used to determine area response | ND - Not Detected at the Reporting Limit |
| R - RPD outside accepted recovery limits | S - Spike Recovery outside recovery limits |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Cooler Receipt Temp: 1.8 °C

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations

	Collinsville	Springfield	Kansas City	Collinsville Air
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	3920 Pintail Dr Springfield, IL 62711-9415	8421 Nieman Road Lenexa, KS 66214	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004	(217) 698-1004	(913) 541-1998	(618) 344-1004
Fax	(618) 344-1005	(217) 698-1005	(913) 541-1998	(618) 344-1005
Email	jhriley@teklabinc.com	KKlostermann@teklabinc.com	dthompson@teklabinc.com	EHurley@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2014	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2014	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2013	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2013	Springfield
Texas	TCEQ	T104704515-12-1	NELAP	7/31/2013	Collinsville
Arkansas	ADEQ	88-0966		3/14/2014	Collinsville
Illinois	IDPH	17584		4/30/2013	Collinsville
Kentucky	UST	0073		4/5/2014	Collinsville
Missouri	MDNR	00930		4/13/2013	Collinsville
Oklahoma	ODEQ	9978		8/31/2013	Collinsville



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Lab ID: 13060701-001

Client Sample ID: C1

Matrix: GROUNDWATER

Collection Date: 06/17/2013 10:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		307	mg/L	10	06/19/2013 21:41	R178538
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.0636	mg/L	1	06/19/2013 14:32	89322
Cadmium	NELAP	0.002		< 0.002	mg/L	1	06/19/2013 14:32	89322
Iron	NELAP	0.02		0.677	mg/L	1	06/19/2013 14:32	89322



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Lab ID: 13060701-002

Client Sample ID: C2

Matrix: GROUNDWATER

Collection Date: 06/17/2013 11:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		216	mg/L	10	06/19/2013 21:46	R178538
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.0652	mg/L	1	06/19/2013 14:35	89322
Cadmium	NELAP	0.002		< 0.002	mg/L	1	06/19/2013 14:35	89322
Iron	NELAP	0.02		34.6	mg/L	1	06/19/2013 14:35	89322



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Lab ID: 13060701-003

Client Sample ID: C3

Matrix: GROUNDWATER

Collection Date: 06/17/2013 11:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		194	mg/L	5	06/20/2013 15:03	R178621
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	06/19/2013 14:39	89322
Cadmium	NELAP	0.002		< 0.002	mg/L	1	06/19/2013 14:39	89322
Iron	NELAP	0.04		0.88	mg/L	2	06/19/2013 16:23	89322



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Lab ID: 13060701-004

Client Sample ID: S1

Matrix: GROUNDWATER

Collection Date: 06/17/2013 12:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		26	mg/L	1	06/19/2013 21:52	R178538
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	06/19/2013 14:43	89322
Cadmium	NELAP	0.002		< 0.002	mg/L	1	06/19/2013 14:43	89322
Iron	NELAP	0.02		100	mg/L	1	06/19/2013 14:43	89322



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Lab ID: 13060701-005

Client Sample ID: S2

Matrix: GROUNDWATER

Collection Date: 06/17/2013 13:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		41	mg/L	2	06/19/2013 21:57	R178538
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		0.649	mg/L	1	06/19/2013 14:46	89322
Cadmium	NELAP	0.002		< 0.002	mg/L	1	06/19/2013 14:46	89322
Iron	NELAP	0.02		107	mg/L	1	06/19/2013 14:46	89322



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Lab ID: 13060701-006

Client Sample ID: S3

Matrix: GROUNDWATER

Collection Date: 06/17/2013 13:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		< 10	mg/L	1	06/19/2013 22:02	R178538
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	06/19/2013 14:50	89322
Cadmium	NELAP	0.002		< 0.002	mg/L	1	06/19/2013 14:50	89322
Iron	NELAP	0.02		47.5	mg/L	1	06/19/2013 14:50	89322



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Lab ID: 13060701-007

Client Sample ID: S4

Matrix: GROUNDWATER

Collection Date: 06/17/2013 12:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		39	mg/L	2	06/19/2013 22:08	R178538
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	06/19/2013 14:54	89322
Cadmium	NELAP	0.002		< 0.002	mg/L	1	06/19/2013 14:54	89322
Iron	NELAP	0.02		25.4	mg/L	1	06/19/2013 14:54	89322



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Lab ID: 13060701-008

Client Sample ID: S5

Matrix: GROUNDWATER

Collection Date: 06/17/2013 11:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100		226	mg/L	10	06/19/2013 22:14	R178538
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.02		< 0.02	mg/L	1	06/19/2013 14:57	89322
Cadmium	NELAP	0.002		< 0.002	mg/L	1	06/19/2013 14:57	89322
Iron	NELAP	0.02		0.193	mg/L	1	06/19/2013 14:57	89322



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Lab ID: 13060701-009

Client Sample ID: S6

Matrix: GROUNDWATER

Collection Date: 06/17/2013 12:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		65	mg/L	5	06/19/2013 22:38	R178538
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.025		< 0.025	mg/L	1	06/20/2013 13:59	89322
Cadmium	NELAP	0.002		< 0.002	mg/L	1	06/19/2013 15:24	89322
Iron	NELAP	0.02		0.212	mg/L	1	06/19/2013 15:24	89322
<i>Elevated reporting limit for B due to high levels of non-target analytes.</i>								



Receiving Check List

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

Client: Southern Illinois Power Cooperation

Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

Carrier: Ricky Schmidt

Received By: SRH

Completed by:

Reviewed by:

On:

18-Jun-13

Timothy W. Mathis

On:

18-Jun-13

Shelly A. Hennessy

Pages to follow: Chain of custody

Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 1.8
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water - at least one vial per sample has zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials <input checked="" type="checkbox"/>	
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
NPDES/CWA TCN interferences checked/treated in the field?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	

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



February 24, 2014

Jason McLaurin
Southern Illinois Power Cooperation
11543 Lake of Egypt Road
Marion, IL 62959
TEL: (618) 964-1448
FAX:



RE: Special GW Monitoring

WorkOrder: 13030341

Dear Jason McLaurin:

TEKLAB, INC received 9 samples on 3/11/2013 5:20:00 PM for the analysis presented in the following report.

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

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

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

Sincerely,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36
SHennessy@teklabinc.com



Definitions

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

Client: Southern Illinois Power Cooperation

Work Order: 13030341

Client Project: Special GW Monitoring

Report Date: 24-Feb-14

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCS D Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|--|---|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| M - Manual Integration used to determine area response | ND - Not Detected at the Reporting Limit |
| R - RPD outside accepted recovery limits | S - Spike Recovery outside recovery limits |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

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

Client: Southern Illinois Power Cooperation
 Client Project: Special GW Monitoring

Work Order: 13030341
 Report Date: 24-Feb-14

Cooler Receipt Temp: 5.8 °C

This report was revised on February 24, 2014 per Jason McLaurin's request. The reason for the revision is to report only sulfate, boron, cadmium and iron. Please replace report dated April 1, 2013 with this report. SAH 2/24/14

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations

	Collinsville	Springfield	Kansas City	Collinsville Air
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	3920 Pintail Dr Springfield, IL 62711-9415	8421 Nieman Road Lenexa, KS 66214	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004	(217) 698-1004	(913) 541-1998	(618) 344-1004
Fax	(618) 344-1005	(217) 698-1005	(913) 541-1998	(618) 344-1005
Email	jhriley@teklabinc.com	KKlostermann@teklabinc.com	dthompson@teklabinc.com	EHurley@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2015	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2014	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2014	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2014	Springfield
Texas	TCEQ	T104704515-12-1	NELAP	7/31/2014	Collinsville
Arkansas	ADEQ	88-0966		3/14/2014	Collinsville
Illinois	IDPH	17584		5/31/2015	Collinsville
Kentucky	UST	0073		1/31/2015	Collinsville
Missouri	MDNR	00930		5/31/2015	Collinsville
Oklahoma	ODEQ	9978		8/31/2014	Collinsville



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Special GW Monitoring
 Lab ID: 13030341-001
 Matrix: GROUNDWATER

Work Order: 13030341
 Report Date: 24-Feb-14

Client Sample ID: C1
 Collection Date: 03/11/2013 11:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	200		395	mg/L	20	03/16/2013 12:39	R174870
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	20		79.3	µg/L	1	03/12/2013 16:46	86383
Cadmium	NELAP	2		< 2	µg/L	1	03/12/2013 16:46	86383
Iron	NELAP	20		1720	µg/L	1	03/12/2013 16:46	86383



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Special GW Monitoring
 Lab ID: 13030341-002
 Matrix: GROUNDWATER

Work Order: 13030341
 Report Date: 24-Feb-14

Client Sample ID: C2
 Collection Date: 03/11/2013 11:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	200		232	mg/L	20	03/16/2013 12:48	R174870
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	20		52.4	µg/L	1	03/14/2013 10:20	86383
Cadmium	NELAP	2		< 2	µg/L	1	03/14/2013 10:20	86383
Iron	NELAP	20		13300	µg/L	1	03/14/2013 10:20	86383



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Special GW Monitoring
 Lab ID: 13030341-003
 Matrix: GROUNDWATER

Work Order: 13030341
 Report Date: 24-Feb-14

Client Sample ID: C3
 Collection Date: 03/11/2013 12:33

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		44	mg/L	1	03/16/2013 12:50	R174870
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	20		21.9	µg/L	1	03/12/2013 17:01	86383
Cadmium	NELAP	2		< 2	µg/L	1	03/12/2013 17:01	86383
Iron	NELAP	20		3500	µg/L	1	03/12/2013 17:01	86383



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Special GW Monitoring
 Lab ID: 13030341-004
 Matrix: GROUNDWATER

Work Order: 13030341
 Report Date: 24-Feb-14

Client Sample ID: S1
 Collection Date: 03/11/2013 14:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		25	mg/L	1	03/16/2013 12:58	R174870
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	20		< 20	µg/L	1	03/12/2013 17:05	86383
Cadmium	NELAP	2		< 2	µg/L	1	03/12/2013 17:05	86383
Iron	NELAP	20		2020	µg/L	1	03/12/2013 17:05	86383



Laboratory Results

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

Client: Southern Illinois Power Cooperation
 Client Project: Special GW Monitoring
 Lab ID: 13030341-005
 Matrix: GROUNDWATER

Work Order: 13030341
 Report Date: 24-Feb-14

Client Sample ID: S2
 Collection Date: 03/11/2013 13:42

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		23	mg/L	1	03/16/2013 13:04	R174870
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	40		184	µg/L	2	03/14/2013 10:52	86383
Cadmium	NELAP	2		< 2	µg/L	1	03/14/2013 10:33	86383
Iron	NELAP	40		124000	µg/L	2	03/14/2013 10:52	86383



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13030341

Client Project: Special GW Monitoring

Report Date: 24-Feb-14

Lab ID: 13030341-006

Client Sample ID: S3

Matrix: GROUNDWATER

Collection Date: 03/11/2013 13:26

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	10		22	mg/L	1	03/16/2013 13:12	R174870
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	20		< 20	µg/L	1	03/14/2013 10:36	86383
Cadmium	NELAP	2		< 2	µg/L	1	03/14/2013 10:36	86383
Iron	NELAP	40		76200	µg/L	2	03/14/2013 11:00	86383



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13030341

Client Project: Special GW Monitoring

Report Date: 24-Feb-14

Lab ID: 13030341-007

Client Sample ID: S4

Matrix: GROUNDWATER

Collection Date: 03/11/2013 13:06

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		49	mg/L	2	03/16/2013 13:36	R174870
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	20		< 20	µg/L	1	03/12/2013 17:16	86383
Cadmium	NELAP	2		< 2	µg/L	1	03/12/2013 17:16	86383
Iron	NELAP	20		28000	µg/L	1	03/12/2013 17:16	86383



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13030341

Client Project: Special GW Monitoring

Report Date: 24-Feb-14

Lab ID: 13030341-008

Client Sample ID: S5

Matrix: GROUNDWATER

Collection Date: 03/11/2013 12:02

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	200		289	mg/L	20	03/16/2013 13:44	R174870
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	20		< 20	µg/L	1	03/12/2013 17:19	86383
Cadmium	NELAP	2		< 2	µg/L	1	03/12/2013 17:19	86383
Iron	NELAP	20		407	µg/L	1	03/12/2013 17:19	86383



Laboratory Results

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

Client: Southern Illinois Power Cooperation

Work Order: 13030341

Client Project: Special GW Monitoring

Report Date: 24-Feb-14

Lab ID: 13030341-009

Client Sample ID: S6

Matrix: GROUNDWATER

Collection Date: 03/11/2013 14:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	40		67	mg/L	4	03/16/2013 13:52	R174870
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	25		< 25	µg/L	1	03/14/2013 8:59	86383
Cadmium	NELAP	2		< 2	µg/L	1	03/12/2013 17:23	86383
Iron	NELAP	20		2000	µg/L	1	03/12/2013 17:23	86383

B - Elevated reporting limit due to high levels of non-target analytes.



Receiving Check List

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

Client: Southern Illinois Power Cooperation

Work Order: 13030341

Client Project: Special GW Monitoring

Report Date: 24-Feb-14

Carrier: Ricky Schmidt

Received By: TWM

Completed by:

Reviewed by:

On:

11-Mar-13

Timothy W. Mathis

On:

12-Mar-13

Shelly A. Hennessy

Pages to follow: Chain of custody

Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 5.8
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water - at least one vial per sample has zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials <input type="checkbox"/>	
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	
NPDES/CWA TCN interferences checked/treated in the field?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	

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



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217)782-2829
PAT QUINN, GOVERNOR LISA BONNETT, DIRECTOR

1990555005
SOUTHERN ILLINOIS POWER
10825 LAKE OF EGYPT RD.
MARION, IL 62959

On-Site Permit Exempt "815" Facility
2014 Annual Report

35 Ill. Adm. Code 815 requires all landfills exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit annual reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due February 15, 2015 and covers the period of January 1, 2014 thru December 31, 2014.

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's Waste Reduction and Compliance Section at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion By products

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

930,160 (in place cubic yards)

IL 532 2428
LPC 536 Rev. Oct. 03

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

C. PROPOSED ACTIVITIES

1. Expected amount of waste to be disposed on-site **January 1, 2015** thru **December 31, 2015**

0 (in place cubic yards)

D. OTHER INFORMATION TO BE SUBMITTED

Please attach the following required information. Please indicate attachment number or letter in the blank provided.

Attachments

- 1. _____ Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
- 2. X All raw monitoring data collected at the facility from the leachate collection system, groundwater monitoring network, and gas monitoring system.
- 3. _____ Graphical results of monitoring efforts.
- 4. _____ Statistical summaries and analysis of trends in the collected data.
- 5. _____ Changes to the monitoring program.
- 6. _____ Discussion of error analysis, detection limits, and observed trends.
- 7. _____ Description of structures to be built within the next year.
- 8. _____ Description of new monitoring stations to be installed within the next year.
- 9. _____ A summary of all modifications including significant modifications made to the operations during the course of the year.

E. SIGNATURE OF THE OPERATOR OR DULY AUTHORIZED AGENT

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

JASON A. MCLAUREN
Name (print/type)


Signature

Phone: (618) 964-2446

Please mail this form and attachments to the following address:

Illinois Environmental Protection Agency
Bureau of Land (#24)
Attn: Annual Reports and Data Collection Unit
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276



Microbac Laboratories, Inc.

KENTUCKY TESTING LABORATORY DIVISION
 3323 Gilmore Industrial Blvd. Louisville, KY 40213 502.962.6400 Fax: 502.962.6411
 Evansville 812.464.9000 | Lexington 859.276.3506 | Paducah 270.898.3637 | Hazard 606.487.0511

Member



Chemical, Biological, Physical, Molecular, and Toxicological Services

CERTIFICATE OF ANALYSIS

4031442

Southern Illinois Power Coop.
 Leonard Hopkins
 11543 Lake of Egypt Road
 Marion, IL 62959

Date Reported 04/18/2014
 Date Due 04/03/2014
 Date Received 03/25/2014
 Customer # E5660
 Customer P.O. N/A

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 01 Well C-1											Sampled	03/24/2014 @ 11:45
Sampled By David Richardson												
Sulfate			320	mg/L	12.5			SM 4500 SO4 E	120	04/14/2014	15:55	DDL
Boron			<0.50	mg/L	1			EPA 200.7	0.50	03/26/2014	19:09	EML
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	03/26/2014	13:56	EML
Iron			8.7	mg/L	1			EPA 200.7	0.010	03/26/2014	13:56	EML
Sample: 02 Well C-2											Sampled	03/24/2014 @ 12:01
Sampled By David Richardson												
Sulfate			380	mg/L	8.33			SM 4500 SO4 E	83	04/14/2014	15:55	DDL
Boron			<0.50	mg/L	1			EPA 200.7	0.50	03/26/2014	19:14	EML
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	03/26/2014	14:00	EML
Iron			8.1	mg/L	1			EPA 200.7	0.010	03/26/2014	14:00	EML
Sample: 03 Well C-3											Sampled	03/24/2014 @ 12:33
Sampled By David Richardson												
Sulfate			140	mg/L	6.25			SM 4500 SO4 E	62	04/14/2014	15:55	DDL
Boron			<0.50	mg/L	1			EPA 200.7	0.50	03/26/2014	19:19	EML
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	03/26/2014	14:05	EML
Iron			3.1	mg/L	1			EPA 200.7	0.010	03/26/2014	14:05	EML
Sample: 04 Well S-2											Sampled	03/24/2014 @ 13:33
Sampled By David Richardson												
Sulfate			160	mg/L	12.5			SM 4500 SO4 E	120	04/14/2014	15:55	DDL
Boron			2.7	mg/L	1			EPA 200.7	0.50	03/26/2014	19:24	EML
Cadmium			0.012	mg/L	1			EPA 200.7	0.0050	03/26/2014	14:10	EML
Iron			140	mg/L	10			EPA 200.7	0.10	03/26/2014	14:48	EML
Sample: 05 Well S-3											Sampled	03/24/2014 @ 13:09
Sampled By David Richardson												
Sulfate			<12	mg/L	1.25			SM 4500 SO4 E	12	04/14/2014	15:55	DDL
Boron			<0.50	mg/L	1			EPA 200.7	0.50	03/26/2014	19:29	EML
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	03/26/2014	14:15	EML
Iron			51	mg/L	10			EPA 200.7	0.10	03/26/2014	14:53	EML



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CERTIFICATE OF ANALYSIS

4031442

Southern Illinois Power: Coop.
 Leonard Hopkins

Date Reported 04/18/2014
 Date Received 03/25/2014
 Date Sampled 03/24/2014

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 06		Well S-4								Sampled	03/24/2014 @ 12:54	
Sampled By		David Richardson										
Sulfate			49	mg/L	1			SM 4500 SO4 E	10	04/14/2014	15:55	DDL
Boron			<0.50	mg/L	1			EPA 200.7	0.50	03/26/2014	19:35	EML
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	03/26/2014	14:19	EML
Iron			39	mg/L	1			EPA 200.7	0.010	03/26/2014	14:19	EML
Sample: 07		Well S-5								Sampled	03/24/2014 @ 12:18	
Sampled By		David Richardson										
Sulfate			210	mg/L	8.33			SM 4500 SO4 E	83	04/14/2014	15:55	DDL
Boron			<0.50	mg/L	1			EPA 200.7	0.50	03/26/2014	19:40	EML
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	03/26/2014	14:24	EML
Iron			6.4	mg/L	1			EPA 200.7	0.010	03/26/2014	14:24	EML
Sample: 08		Well S-6								Sampled	03/24/2014 @ 14:15	
Sampled By		David Richardson										
Sulfate			64	mg/L	5			SM 4500 SO4 E	50	04/14/2014	15:55	DDL
Boron			<0.50	mg/L	1			EPA 200.7	0.50	03/26/2014	19:45	EML
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	03/26/2014	14:37	EML
Iron			9.0	mg/L	1			EPA 200.7	0.010	03/26/2014	14:37	EML
Sample: 09		Well Swamp								Sampled	03/24/2014 @ 13:56	
Sampled By		David Richardson										
Sulfate			28	mg/L	1			SM 4500 SO4 E	10	04/14/2014	15:55	DDL
Boron			<0.50	mg/L	1			EPA 200.7	0.50	03/26/2014	20:01	EML
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	03/26/2014	14:43	EML
Iron			11	mg/L	1			EPA 200.7	0.010	03/26/2014	14:43	EML

Qualifier Definitions



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Evansville 812.464.9000 | Lexington 859.276.3506 | Paducah 270.898.3637 | Hazard 606.487.0511

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4031442

Southern Illinois Power Coop.
Leonard Hopkins

Date Reported 04/18/2014
Date Received 03/25/2014
Date Sampled 03/24/2014

Quarterly Well Sampling 2014 Thru 2016

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

Michael Flournoy For AL MOORE, A.M.

DIVISION MANAGER, KENTUCKY DIVISION

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Michael Flournoy, the Division Manager at 502.962.6400. You may also contact J. Trevor Boyce, President at trevor.boyce@microbac.com



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Member



Chemical, Biological, Physical, Molecular, and Toxicological Services

CERTIFICATE OF ANALYSIS

4040761

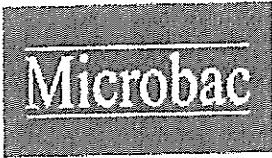
Southern Illinois Power Coop.
 Leonard Hopkins
 11543 Lake of Egypt Road
 Marion, IL 62959

Date Reported 04/24/2014
 Date Due 04/22/2014
 Date Received 04/10/2014
 Customer # E5660
 Customer P.O. N/A

Quarterly Well Sampling 2014 Thru 2016

Analysis	OC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 01 Well C-1										Sampled	04/10/2014 @ 11:46
Sampled By David Richardson											
Sulfate		B1	320 mg/L	10			EPA 300.0	5.0	04/23/2014 11:46		ATM
Boron			<0.50 mg/L	1			EPA 200.7	0.50	04/14/2014 13:26		EML
Cadmium			<0.0050 mg/L	1			EPA 200.7	0.0050	04/14/2014 16:41		EML
Iron			13 mg/L	1			EPA 200.7	0.010	04/14/2014 16:41		EML
Sample: 02 Well C-2										Sampled	04/10/2014 @ 11:54
Sampled By David Richardson											
Sulfate		B1	370 mg/L	10			EPA 300.0	5.0	04/23/2014 12:29		ATM
Boron			<0.50 mg/L	1			EPA 200.7	0.50	04/14/2014 13:33		EML
Cadmium			<0.0050 mg/L	1			EPA 200.7	0.0050	04/14/2014 16:47		EML
Iron			9.3 mg/L	1			EPA 200.7	0.010	04/14/2014 16:47		EML
Sample: 03 Well C-3										Sampled	04/10/2014 @ 12:05
Sampled By David Richardson											
Sulfate		B1	120 mg/L	10			EPA 300.0	5.0	04/23/2014 12:43		ATM
Boron			<0.50 mg/L	1			EPA 200.7	0.50	04/14/2014 13:38		EML
Cadmium			<0.0050 mg/L	1			EPA 200.7	0.0050	04/14/2014 16:52		EML
Iron			2.3 mg/L	1			EPA 200.7	0.010	04/14/2014 16:52		EML
Sample: 04 Well S-2										Sampled	04/10/2014 @ 12:58
Sampled By David Richardson											
Sulfate		B1	71 mg/L	10			EPA 300.0	5.0	04/23/2014 12:57		ATM
Boron			1.4 mg/L	1			EPA 200.7	0.50	04/14/2014 13:44		EML
Cadmium			0.014 mg/L	1			EPA 200.7	0.0050	04/14/2014 17:05		EML
Iron			140 mg/L	50			EPA 200.7	0.50	04/14/2014 19:10		EML
Sample: 05 Well S-3										Sampled	04/10/2014 @ 13:12
Sampled By David Richardson											
Sulfate		B1	23 mg/L	1			EPA 300.0	0.50	04/23/2014 20:04		ATM
Boron			<0.50 mg/L	1			EPA 200.7	0.50	04/14/2014 13:40		EML
Cadmium			0.0060 mg/L	1			EPA 200.7	0.0050	04/14/2014 17:10		EML
Iron			49 mg/L	25			EPA 200.7	0.25	04/14/2014 19:15		EML

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Southern Illinois Power Coop.
 Leonard Hopkins

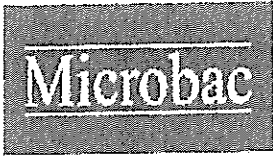
Date Reported 04/24/2014
 Date Received 04/10/2014
 Date Sampled 04/10/2014

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Date	Time	Tech	
Sample: 06 Well S-4											Sampled	04/10/2014 @ 12:19	
Sampled By David Richardson													
Sulfate		B1	34	mg/L	10			EPA 300.0	5.0	04/23/2014	13:25	ATM	
Boron			<0.50	mg/L	1			EPA 200.7	0.50	04/14/2014	13:54	EML	
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	04/14/2014	17:15	EML	
Iron			3.9	mg/L	1			EPA 200.7	0.010	04/14/2014	17:15	EML	
Sample: 07 Well S-5											Sampled	04/10/2014 @ 11:36	
Sampled By David Richardson													
Sulfate		B1	210	mg/L	10			EPA 300.0	5.0	04/23/2014	13:40	ATM	
Boron			<0.50	mg/L	1			EPA 200.7	0.50	04/14/2014	13:59	EML	
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	04/14/2014	17:19	EML	
Iron			0.84	mg/L	1			EPA 200.7	0.010	04/14/2014	17:19	EML	
Sample: 08 Well S-6											Sampled	04/10/2014 @ 12:28	
Sampled By David Richardson													
Sulfate		B1	60	mg/L	10			EPA 300.0	5.0	04/23/2014	13:54	ATM	
Boron			<0.50	mg/L	1			EPA 200.7	0.50	04/14/2014	14:04	EML	
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	04/14/2014	17:24	EML	
Iron			20	mg/L	1			EPA 200.7	0.010	04/14/2014	17:24	EML	
Sample: 09 Well S1 - Swamp											Sampled	04/10/2014 @ 12:39	
Sampled By David Richardson													
Sulfate		B1	18	mg/L	10			EPA 300.0	5.0	04/23/2014	14:08	ATM	
Boron			<0.50	mg/L	1			EPA 200.7	0.50	04/14/2014	14:20	EML	
Cadmium			<0.0050	mg/L	1			EPA 200.7	0.0050	04/14/2014	17:43	EML	
Iron			11	mg/L	1			EPA 200.7	0.010	04/14/2014	17:43	EML	

Qualifier Definitions

B1 The analyte value in the Method Blank is above the Control Limit.



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Southern Illinois Power Coop.
Leonard Hopkins

Date Reported 04/24/2014
Date Received 04/10/2014
Date Sampled 04/10/2014

Quarterly Well Sampling 2014 Thru 2016

The following analyses were subcontracted to a qualified laboratory:

Laboratory
Kentucky Testing Lab

Analysis
Sulfate
Iron
Cadmium
Boron
Sampling Labor - Hourly

Method
EPA 300.0
EPA 200.7
EPA 200.7
EPA 200.7

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

AL MOORE, A.M.

DIVISION MANAGER, KENTUCKY DIVISION

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Michael Floumoy, the Division Manager at 502.962.6400. You may also contact J. Trevor Boyce, President at trevor.boyce@microbac.com



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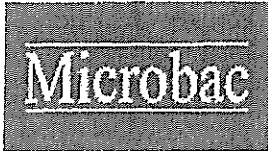
Southern Illinois Power Coop.
 Jason McLaurin
 11543 Lake of Egypt Road
 Marion, IL 62959

Date Reported 09/30/2014
 Date Due 10/01/2014
 Date Received 09/22/2014
 Customer # E5660
 Customer P.O. N/A

3rd Quarter Wells 2014

Analysis	OOB	Qualifier	Result	Units	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 01 Well C1											
Sampled By David Richardson											
Chloride			170	mg/L			EPA 300.0	2.5	09/24/2014	5:25	JGF
Nitrogen, Nitrate			<0.11	mg/L			EPA 300.0	0.11	09/23/2014	13:18	JGF
Solids, Dissolved			1100	mg/L			SM 2540C	50	09/26/2014	8:33	ATM
Fluoride			<0.50	mg/L			EPA 300.0	0.50	09/23/2014	13:18	JGF
Sulfate			180	mg/L			EPA 300.0	2.5	09/24/2014	5:25	JGF
Arsenic			<0.050	mg/L			EPA 200.7	0.050	09/24/2014	19:17	EML
Barium			0.027	mg/L			EPA 200.7	0.0050	09/24/2014	19:17	EML
Beryllium			<0.0050	mg/L			EPA 200.7	0.0050	09/24/2014	19:17	EML
Boron			<0.25	mg/L			EPA 200.7	0.25	09/25/2014	10:45	EML
Chromium			<0.0050	mg/L			EPA 200.7	0.0050	09/24/2014	19:17	EML
Cobalt			0.018	mg/L			EPA 200.7	0.010	09/24/2014	19:17	EML
Copper			<0.010	mg/L			EPA 200.7	0.010	09/24/2014	19:17	EML
Iron			1.4	mg/L			EPA 200.7	0.0050	09/24/2014	19:17	EML
Lead			<0.0050	mg/L			EPA 200.7	0.0050	09/24/2014	19:17	EML
Manganese			0.41	mg/L			EPA 200.7	0.0050	09/24/2014	19:17	EML
Mercury			<0.00020	mg/L			EPA 245.7	0.00020	09/23/2014	16:03	MSR
Nickel			0.020	mg/L			EPA 200.7	0.0050	09/24/2014	19:17	EML
Vanadium			<0.0050	mg/L			EPA 200.7	0.0050	09/24/2014	19:17	EML
Zinc			0.019	mg/L			EPA 200.7	0.0050	09/24/2014	19:17	EML
Sample: 02 Well C2											
Sampled By David Richardson											
Chloride			18	mg/L			EPA 300.0	0.50	09/23/2014	14:29	JGF
Nitrogen, Nitrate			<0.11	mg/L			EPA 300.0	0.11	09/23/2014	14:29	JGF
Solids, Dissolved			540	mg/L			SM 2540C	50	09/26/2014	8:33	ATM
Fluoride			<0.50	mg/L			EPA 300.0	0.50	09/23/2014	14:29	JGF
Sulfate			130	mg/L			EPA 300.0	1.5	09/24/2014	5:39	JGF
Arsenic			<0.050	mg/L			EPA 200.7	0.050	09/24/2014	19:21	EML
Barium			0.050	mg/L			EPA 200.7	0.0050	09/24/2014	19:21	EML
Beryllium			<0.0050	mg/L			EPA 200.7	0.0050	09/24/2014	19:21	EML

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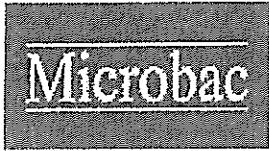
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Southern Illinois Power Coop.
 Jason McLaurin

Date Reported 09/30/2014
 Date Received 09/22/2014
 Date Sampled 09/22/2014

3rd Quarter Wells 2014

Analysis	DOC	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 02		Well C2								
Sampled By		David Richardson								
								Sampled	09/22/2014 @ 11:27	
Boron			<0.25 mg/L			EPA 200.7	0.25	09/25/2014	10:50	EML
Chromium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:21	EML
Cobalt			0.049 mg/L			EPA 200.7	0.010	09/24/2014	19:21	EML
Copper			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	19:21	EML
Iron			8.9 mg/L			EPA 200.7	0.0050	09/24/2014	19:21	EML
Lead			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:21	EML
Manganese			28 mg/L			EPA 200.7	0.050	09/25/2014	13:54	EML
Mercury			<0.00020 mg/L			EPA 245.7	0.00020	09/23/2014	16:06	MSR
Nickel			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:21	EML
Vanadium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:21	EML
Zinc			0.0065 mg/L			EPA 200.7	0.0050	09/24/2014	19:21	EML
Sample: 03		Well C3								
Sampled By		David Richardson								
								Sampled	09/22/2014 @ 11:41	
Chloride			490 mg/L			EPA 300.0	1.5	09/24/2014	5:54	JGF
Nitrogen, Nitrate			<0.11 mg/L			EPA 300.0	0.11	09/23/2014	14:43	JGF
Solids, Dissolved			1900 mg/L			SM 2540C	50	09/26/2014	8:33	ATM
Fluoride			<0.50 mg/L			EPA 300.0	0.50	09/23/2014	14:43	JGF
Sulfate			110 mg/L			EPA 300.0	1.5	09/24/2014	5:54	JGF
Arsenic			<0.050 mg/L			EPA 200.7	0.050	09/24/2014	19:26	EML
Barium			0.23 mg/L			EPA 200.7	0.0050	09/24/2014	19:26	EML
Beryllium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:26	EML
Boron			<0.25 mg/L			EPA 200.7	0.25	09/25/2014	10:55	EML
Chromium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:26	EML
Cobalt			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	19:26	EML
Copper			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	19:26	EML
Iron			2.5 mg/L			EPA 200.7	0.0050	09/24/2014	19:26	EML
Lead			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:26	EML
Manganese			0.79 mg/L			EPA 200.7	0.0050	09/24/2014	19:26	EML
Mercury			<0.00020 mg/L			EPA 245.7	0.00020	09/23/2014	16:09	MSR



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Southern Illinois Power Coop.
 Jason McLaurin

Date Reported 09/30/2014
 Date Received 09/22/2014
 Date Sampled 09/22/2014

3rd Quarter Wells 2014

Analysis	DOC	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Date	Time	Tech	
Sample: 03 Well C3								Sampled	09/22/2014 @ 11:41		
Sampled By David Richardson											
Nickel			0.0065 mg/L			EPA 200.7	0.0050	09/24/2014	19:26	EML	
Vanadium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:26	EML	
Zinc			0.023 mg/L			EPA 200.7	0.0050	09/24/2014	19:26	EML	
Sample: 04 Well Swamp <i>S1</i>								Sampled	09/22/2014 @ 12:12		
Sampled By David Richardson											
Chloride			7.3 mg/L			EPA 300.0	0.50	09/23/2014	14:57	JGF	
Nitrogen, Nitrate			0.16 mg/L			EPA 300.0	0.11	09/23/2014	14:57	JGF	
Solids, Dissolved			310 mg/L			SM 2540C	50	09/26/2014	8:33	ATM	
Fluoride			<0.50 mg/L			EPA 300.0	0.50	09/23/2014	14:57	JGF	
Sulfate			23 mg/L			EPA 300.0	0.50	09/23/2014	14:57	JGF	
Arsenic			<0.050 mg/L			EPA 200.7	0.050	09/24/2014	19:31	EML	
Barium			0.29 mg/L			EPA 200.7	0.0050	09/24/2014	19:31	EML	
Beryllium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:31	EML	
Boron			<0.25 mg/L			EPA 200.7	0.25	09/25/2014	11:00	EML	
Chromium			0.0063 mg/L			EPA 200.7	0.0050	09/24/2014	19:31	EML	
Cobalt			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	19:31	EML	
Copper			0.013 mg/L			EPA 200.7	0.010	09/24/2014	19:31	EML	
Iron			17 mg/L			EPA 200.7	0.0050	09/24/2014	19:31	EML	
Lead			0.020 mg/L			EPA 200.7	0.0050	09/24/2014	19:31	EML	
Manganese			0.59 mg/L			EPA 200.7	0.0050	09/24/2014	19:31	EML	
Mercury			<0.00020 mg/L			EPA 245.7	0.00020	09/23/2014	16:12	MSR	
Nickel			0.0071 mg/L			EPA 200.7	0.0050	09/24/2014	19:31	EML	
Vanadium			0.026 mg/L			EPA 200.7	0.0050	09/24/2014	19:31	EML	
Zinc			0.047 mg/L			EPA 200.7	0.0050	09/24/2014	19:31	EML	
Sample: 05 Well S2								Sampled	09/22/2014 @ 12:27		
Sampled By David Richardson											
Chloride			200 mg/L			EPA 300.0	2.5	09/24/2014	6:08	JGF	
Nitrogen, Nitrate			<0.11 mg/L			EPA 300.0	0.11	09/23/2014	15:25	JGF	
Solids, Dissolved			650 mg/L			SM 2540C	50	09/26/2014	8:33	ATM	

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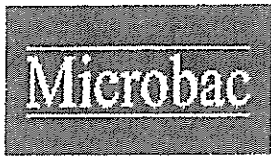
Southern Illinois Power Coop.
 Jason McLaurin

Date Reported: 09/30/2014
 Date Received: 09/22/2014
 Date Sampled: 09/22/2014

3rd Quarter Wells 2014

Analysis	OC	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 05 Well S2										
Sampled By David Richardson								Sampled	09/22/2014 @ 12:27	
Fluoride			<0.50 mg/L			EPA 300.0	0.50	09/23/2014	13:25	JGF
Sulfate			88 mg/L			EPA 300.0	0.50	09/23/2014	15:25	JGF
Arsenic			<0.050 mg/L			EPA 200.7	0.050	09/24/2014	19:44	EML
Barium			0.59 mg/L			EPA 200.7	0.0050	09/24/2014	19:44	EML
Beryllium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:44	EML
Boron			2.1 mg/L			EPA 200.7	0.25	09/25/2014	12:25	EML
Chromium			0.0075 mg/L			EPA 200.7	0.0050	09/24/2014	19:44	EML
Cobalt			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	19:44	EML
Copper			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	19:44	EML
Iron			140 mg/L			EPA 200.7	0.12	09/25/2014	13:59	EML
Lead			0.0075 mg/L			EPA 200.7	0.0050	09/24/2014	19:44	EML
Manganese			14 mg/L			EPA 200.7	0.12	09/25/2014	13:59	EML
Mercury			<0.00020 mg/L			EPA 245.7	0.00020	09/23/2014	16:15	MSR
Nickel			0.0051 mg/L			EPA 200.7	0.0050	09/24/2014	19:44	EML
Vanadium			0.022 mg/L			EPA 200.7	0.0050	09/24/2014	19:44	EML
Zinc			0.035 mg/L			EPA 200.7	0.0050	09/24/2014	19:44	EML
Sample: 06 Well S3										
Sampled By David Richardson								Sampled	09/22/2014 @ 12:35	
Chloride			60 mg/L			EPA 300.0	0.50	09/23/2014	15:40	JGF
Nitrogen, Nitrite			<0.11 mg/L			EPA 300.0	0.11	09/23/2014	15:40	JGF
Solids, Dissolved			310 mg/L			SM 2540C	50	09/26/2014	8:33	ATM
Fluoride			<0.50 mg/L			EPA 300.0	0.50	09/23/2014	15:40	JGF
Sulfate			7.2 mg/L			EPA 300.0	0.50	09/23/2014	15:40	JGF
Arsenic			<0.050 mg/L			EPA 200.7	0.050	09/24/2014	19:49	EML
Barium			0.35 mg/L			EPA 200.7	0.0050	09/24/2014	19:49	EML
Beryllium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:49	EML
Boron			<0.25 mg/L			EPA 200.7	0.25	09/25/2014	11:10	EML
Chromium			0.0055 mg/L			EPA 200.7	0.0050	09/24/2014	19:49	EML
Cobalt			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	19:49	EML

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 Jason McLaurin

Date Reported 09/30/2014
 Date Received 09/22/2014
 Date Sampled 09/22/2014

3rd Quarter Wells 2014

Analysis	OOC	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 06 Well S3								Sampled	09/22/2014 @ 12:35	
Sampled By David Richardson										
Copper			<0.010 mg/L			EPA 200.7	0.010	09/24/2014 19:49		EML
Iron			40 mg/L			EPA 200.7	0.050	09/25/2014 14:03		EML
Lead			0.0064 mg/L			EPA 200.7	0.0050	09/24/2014 19:49		EML
Manganese			2.3 mg/L			EPA 200.7	0.0050	09/24/2014 19:49		EML
Mercury			<0.00020 mg/L			EPA 245.7	0.00020	09/23/2014 16:18		MSR
Nickel			0.0080 mg/L			EPA 200.7	0.0050	09/24/2014 19:49		EML
Vanadium			0.016 mg/L			EPA 200.7	0.0050	09/24/2014 19:49		EML
Zinc			0.042 mg/L			EPA 200.7	0.0050	09/24/2014 19:49		EML
Sample: 07 Well S4								Sampled	09/22/2014 @ 12:42	
Sampled By David Richardson										
Chloride			26 mg/L			EPA 300.0	0.50	09/23/2014 16:08		JGF
Nitrogen, Nitrate			<0.11 mg/L			EPA 300.0	0.11	09/23/2014 16:08		JGF
Solids, Dissolved			350 mg/L			SM 2540C	50	09/26/2014 8:33		ATM
Fluoride			<0.50 mg/L			EPA 300.0	0.50	09/23/2014 16:08		JGF
Sulfate			42 mg/L			EPA 300.0	0.50	09/23/2014 16:08		JGF
Arsenic			<0.050 mg/L			EPA 200.7	0.050	09/24/2014 19:53		EML
Barium			0.087 mg/L			EPA 200.7	0.0050	09/24/2014 19:53		EML
Beryllium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014 19:53		EML
Boron			<0.25 mg/L			EPA 200.7	0.25	09/25/2014 11:15		EML
Chromium			0.0057 mg/L			EPA 200.7	0.0050	09/24/2014 19:53		EML
Cobalt			<0.010 mg/L			EPA 200.7	0.010	09/24/2014 19:53		EML
Copper			<0.010 mg/L			EPA 200.7	0.010	09/24/2014 19:53		EML
Iron			100 mg/L			EPA 200.7	0.050	09/25/2014 14:08		EML
Lead			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014 19:53		EML
Manganese			0.072 mg/L			EPA 200.7	0.0050	09/24/2014 19:53		EML
Mercury			<0.00020 mg/L			EPA 245.7	0.00020	09/23/2014 16:27		MSR
Nickel			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014 19:53		EML
Vanadium			0.016 mg/L			EPA 200.7	0.0050	09/24/2014 19:53		EML
Zinc			0.018 mg/L			EPA 200.7	0.0050	09/24/2014 19:53		EML

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ACIL

Chemical, Biological, Physical, Molecular, and Toxicological Services

CERTIFICATE OF ANALYSIS

4091181

Southern Illinois Power Coop.
 Jason McLaurin

Date Reported 09/30/2014
 Date Received 09/22/2014
 Date Sampled 09/22/2014

3rd Quarter Wells 2014

Analysis	OOC	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 08 Well S5								Sampled	09/22/2014 @ 11:09	
Sampled By David Richardson										
Chloride			20 mg/L			EPA 300.0	0.50	09/23/2014	16:22	JGF
Nitrogen, Nitrate			0.54 mg/l.			EPA 300.0	0.11	09/23/2014	16:22	JGF
Solids, Dissolved			470 mg/L			SM 2540C	50	09/26/2014	8:33	ATM
Fluoride			<0.50 mg/l.			EPA 300.0	0.50	09/23/2014	16:22	JGF
Sulfate			190 mg/L			EPA 300.0	2.0	09/24/2014	6:22	JGF
Arsenic			<0.050 mg/L			EPA 200.7	0.050	09/24/2014	19:58	EML
Barium			0.072 mg/L			EPA 200.7	0.0050	09/24/2014	19:58	EML
Beryllium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:58	EML
Boron			<0.25 mg/L			EPA 200.7	0.25	09/25/2014	11:20	EML
Chromium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:58	EML
Cobalt			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	19:58	EML
Copper			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	19:58	EML
Iron			1.5 mg/L			EPA 200.7	0.0050	09/24/2014	19:58	EML
Lead			<0.0050 mg/l.			EPA 200.7	0.0050	09/24/2014	19:58	EML
Manganese			0.45 mg/L			EPA 200.7	0.0050	09/24/2014	19:58	EML
Mercury			<0.00020 mg/l.			EPA 245.7	0.00020	09/23/2014	16:30	MSR
Nickel			0.010 mg/L			EPA 200.7	0.0050	09/24/2014	19:58	EML
Vanadium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	19:58	EML
Zinc			0.010 mg/L			EPA 200.7	0.0050	09/24/2014	19:58	EML
Sample: 09 Well S6								Sampled	09/22/2014 @ 11:54	
Sampled By David Richardson										
Chloride			25 mg/L			EPA 300.0	0.50	09/23/2014	16:36	JGF
Nitrogen, Nitrate			3.7 mg/l.			EPA 300.0	0.11	09/23/2014	16:36	JGF
Solids, Dissolved			390 mg/L			SM 2540C	50	09/26/2014	8:33	ATM
Fluoride			<0.50 mg/L			EPA 300.0	0.50	09/23/2014	16:36	JGF
Sulfate			70 mg/L			EPA 300.0	0.50	09/23/2014	16:36	JGF
Arsenic			<0.050 mg/l.			EPA 200.7	0.050	09/24/2014	20:03	EML
Barium			0.16 mg/L			EPA 200.7	0.0050	09/24/2014	20:03	EML
Beryllium			<0.0050 mg/l.			EPA 200.7	0.0050	09/24/2014	20:03	EML

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4091181

Southern Illinois Power Coop.
 Jason McLaurin

Date Reported 09/30/2014
 Date Received 09/22/2014
 Date Sampled 09/22/2014

3rd Quarter Wells 2014

Analysis	OC	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Date	Time	Tech
								Sampled	09/22/2014 @ 11:54	
Sample: 09			Well S6							
Sampled By	David Richardson									
Boron			<0.25 mg/L			EPA 200.7	0.25	09/25/2014	11:36	EML
Chromium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	20:03	EML
Cobalt			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	20:03	EML
Copper			<0.010 mg/L			EPA 200.7	0.010	09/24/2014	20:03	EML
Iron			3.5 mg/L			EPA 200.7	0.0050	09/24/2014	20:03	EML
Lead			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2014	20:03	EML
Manganese			0.17 mg/L			EPA 200.7	0.0050	09/24/2014	20:03	EML
Mercury			<0.00020 mg/L			EPA 245.7	0.00020	09/23/2014	16:36	MSR
Nickel			0.0077 mg/L			EPA 200.7	0.0050	09/24/2014	20:03	EML
Vanadium			0.0080 mg/L			EPA 200.7	0.0050	09/24/2014	20:03	EML
Zinc			0.015 mg/L			EPA 200.7	0.0050	09/24/2014	20:03	EML

Qualifier Definitions

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

AL MOORE, A.M.

SENIOR VICE PRESIDENT

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Sean Hyde, Senior Vice President at 502.962.6400. You may also contact J. Trevor Boyce, President at trevor.boyce@microbac.com



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Chemical, Biological, Physical, Molecular, and Toxicological Services

CERTIFICATE OF ANALYSIS

4120939

Southern Illinois Power Coop.
 Leonard Hopkins
 11543 Lake of Egypt Road
 Marion, IL 62959

Date Reported 12/23/2014
 Date Due 12/23/2014
 Date Received 12/12/2014
 Customer # E5660
 Customer P.O. N/A

Quarterly Well Sampling 2014 Thru 2016

Analysis	OC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Date	Time	Tech
Sample: 01 Well C-1											Sampled	12/12/2014 @ 11:39	
Sampled By David Richardson													
Sulfate			250 mg/L	10			EPA 300.0	5.0			12/20/2014 6:11		JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/16/2014 18:55		EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	12/16/2014 23:54		MSR
Iron			6.4 mg/L	1			EPA 200.7	0.010			12/16/2014 23:54		MSR
Sample: 02 Well C-2											Sampled	12/12/2014 @ 11:49	
Sampled By David Richardson													
Sulfate			260 mg/L	10			EPA 300.0	5.0			12/20/2014 6:25		JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/16/2014 19:06		EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	12/16/2014 23:58		MSR
Iron			17 mg/L	1			EPA 200.7	0.010			12/16/2014 23:58		MSR
Sample: 03 Well C-3											Sampled	12/12/2014 @ 12:04	
Sampled By David Richardson													
Sulfate			84 mg/L	10			EPA 300.0	5.0			12/20/2014 6:39		JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/16/2014 19:12		EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	12/17/2014 0:03		MSR
Iron			3.5 mg/L	1			EPA 200.7	0.010			12/17/2014 0:03		MSR
Sample: 04 Well S1 - Swamp											Sampled	12/12/2014 @ 13:11	
Sampled By David Richardson													
Sulfate			25 mg/L	1			EPA 300.0	0.50			12/20/2014 6:53		JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/16/2014 19:17		EML
Cadmium			0.0052 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	12/17/2014 0:08		MSR
Iron			18 mg/L	1			EPA 200.7	0.010			12/17/2014 0:08		MSR
Sample: 05 Well S-2											Sampled	12/12/2014 @ 12:52	
Sampled By David Richardson													
Sulfate			110 mg/L	2			EPA 300.0	1.0			12/20/2014 19:54		JGF
Boron			2.0 mg/L	1			EPA 200.7	0.50			12/16/2014 19:22		EML
Cadmium			0.012 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	12/17/2014 0:21		MSR
Iron			150 mg/L	10			EPA 200.7	0.10			12/19/2014 9:26		MSR

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4120939

Southern Illinois Power Coop.
 Leonard Hopkins

Date Reported 12/23/2014
 Date Received 12/12/2014
 Date Sampled 12/12/2014

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Date	Time	Tech
Sample: 06 Well S-3											Sampled	12/12/2014 @ 12:35	
Sampled By David Richardson													
Sulfate			4.1 mg/L	1			EPA 300.0	0.50			12/20/2014 7:22		JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/16/2014 19:27		EML
Cadmium		J1	0.0044 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	12/17/2014 0:26		MSR
Iron			61 mg/L	10			EPA 200.7	0.10			12/19/2014 9:35		MSR
Sample: 07 Well S-4											Sampled	12/12/2014 @ 12:21	
Sampled By David Richardson													
Sulfate			45 mg/L	1			EPA 300.0	0.50			12/20/2014 7:50		JGF
Boron			1.7 mg/L	1			EPA 200.7	0.50			12/16/2014 19:32		EML
Cadmium			0.14 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	12/17/2014 0:30		MSR
Iron			1600 mg/L	100			EPA 200.7	1.0			12/19/2014 9:40		MSR
Sample: 08 Well S-5											Sampled	12/12/2014 @ 11:25	
Sampled By David Richardson													
Sulfate			180 mg/L	10			EPA 300.0	5.0			12/20/2014 8:04		JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/16/2014 19:37		EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	12/17/2014 0:35		MSR
Iron			3.7 mg/L	1			EPA 200.7	0.010			12/17/2014 0:35		MSR
Sample: 09 Well S-6											Sampled	12/12/2014 @ 13:30	
Sampled By David Richardson													
Sulfate			75 mg/L	1			EPA 300.0	0.50			12/20/2014 8:47		JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/16/2014 19:53		EML
Cadmium		J1	0.0034 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	12/17/2014 0:39		MSR
Iron			42 mg/L	1			EPA 200.7	0.010			12/17/2014 0:39		MSR

Qualifier Definitions

- J1 The analyte was positively identified; analyte was detected between the Reporting Limit and Method Detection Limit and the result is an estimated value.
- UJ Analyte was not detected above the Reporting Limit, however, the Reporting Limit is approximate & may or may not represent the actual Limit of Quantitation necessary to accurately & precisely measure the analyte in the sample.



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4120939

Southern Illinois Power Coop.
Leonard Hopkins

Date Reported	12/23/2014
Date Received	12/12/2014
Date Sampled	12/12/2014

Quarterly Well Sampling 2014 Thru 2016

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

MISCHELLE GEARHEART For AL MOORE, A.M.

SENIOR VICE PRESIDENT

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Sean Hyde, Senior Vice President at 502.962.6400. You may also contact J. Trevor Boyce, President at trevor.boyce@microbac.com



1990555005
Southern Illinois Power
10825 Lake of Egypt Rd.
Marion, IL 62959

On-Site Permit Exempt "815" Facility 2015 Annual Report

35 Ill. Adm. Code 815 requires all **landfills** exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit **annual** reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due **February 15, 2016** and covers the period of January 1, 2015 thru December 31, 2015.

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion Byproducts

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

930,160 (in place cubic yards)

IL 532 2428
LPC 536 Rev. Oct. 03

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

C. PROPOSED ACTIVITIES

- 1. Expected amount of waste to be disposed on-site **January 1, 2015** thru **December 31, 2015**:

0 (in place cubic yards)

D. OTHER INFORMATION TO BE SUBMITTED

Please attach the following required information. Please indicate attachment number or letter in the blank provided.

Attachments

- 1. _____ Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
- 2. X All raw monitoring data collected at the facility from the leachate collection system, groundwater monitoring network, and gas monitoring system.
- 3. _____ Graphical results of monitoring efforts.
- 4. _____ Statistical summaries and analysis of trends in the collected data.
- 5. _____ Changes to the monitoring program.
- 6. _____ Discussion of error analysis, detection limits, and observed trends.
- 7. _____ Description of structures to be built within the next year.
- 8. _____ Description of new monitoring stations to be installed within the next year.
- 9. _____ A summary of all modifications including significant modifications made to the operations during the course of the year.

E. SIGNATURE OF THE OPERATOR OR DULY AUTHORIZED AGENT

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

JASON A. McLAURIN
Name (print/type)

[Signature]
Signature

Phone: (618) 964 2446

Email: Jmclaurin@Sipower.org

Please mail this form and attachments to the following address:

Illinois Environmental Protection Agency
 Bureau of Land (#24)
~~Attn: Annual Reports and Data Collection Unit~~
 1021 North Grand Avenue East
 P.O. Box 19276
 Springfield, Illinois 62794-9276



CERTIFICATE OF ANALYSIS

5121355

Southern Illinois Power Coop.
Leonard Hopkins
11543 Lake of Egypt Road
Marion, IL 62959

Date Reported 12/30/2015
Date Due 12/29/2015
Date Received 12/17/2015
Customer # E5660

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1													
Sampled By David Richardson												Sampled 12/17/2015 @ 10:26	
Sulfate			230	mg/L	10			EPA 300.0	5.0			12/30/2015 4:36	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/23/2015 11:11	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/2015 20:07	EML
Iron			17	mg/L	1			EPA 200.7	0.010			12/22/2015 20:07	EML
Sample: 02 Well C-2													
Sampled By David Richardson												Sampled 12/17/2015 @ 10:38	
Sulfate			290	mg/L	10			EPA 300.0	5.0			12/30/2015 4:50	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/23/2015 11:16	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/2015 20:12	EML
Iron			9.9	mg/L	1			EPA 200.7	0.010			12/22/2015 20:12	EML
Sample: 03 Well C-3													
Sampled By David Richardson												Sampled 12/17/2015 @ 11:00	
Sulfate			63	mg/L	10			EPA 300.0	5.0			12/30/2015 5:47	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/23/2015 11:21	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/2015 20:25	EML
Iron			1.0	mg/L	1			EPA 200.7	0.010			12/22/2015 20:25	EML
Sample: 04 Well S-1													
Sampled By David Richardson												Sampled 12/17/2015 @ 11:47	
Sulfate			27	mg/L	1			EPA 300.0	0.50			12/30/2015 3:40	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/23/2015 11:26	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/2015 20:30	EML
Iron			25	mg/L	1			EPA 200.7	0.010			12/22/2015 20:30	EML
Sample: 05 Well S-2													
Sampled By David Richardson												Sampled 12/17/2015 @ 12:08	
Sulfate			110	mg/L	10			EPA 300.0	5.0			12/30/2015 6:04	LJC
Boron			1.8	mg/L	1			EPA 200.7	0.50			12/23/2015 11:31	EML
Cadmium			0.010	mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/2015 20:35	EML

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CERTIFICATE OF ANALYSIS

5121355

**Southern Illinois Power Coop.
Leonard Hopkins**

Date Due 12/29/2015
Date Received 12/17/2015

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-2													
Sampled By David Richardson													
Iron			180	mg/L	10			EPA 200.7	0.10			12/22/2015 20:35	EML
Sample: 06 Well S-3													
Sampled By David Richardson													
Sulfate			13	mg/L	1			EPA 300.0	0.50			12/30/2015 2:57	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/23/2015 11:37	EML
Cadmium		J1	0.0034	mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/2015 20:39	EML
Iron			59	mg/L	10			EPA 200.7	0.10			12/22/2015 20:39	EML
Sample: 07 Well S-4													
Sampled By David Richardson													
Sulfate			44	mg/L	1			EPA 300.0	0.50			12/30/2015 4:08	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/23/2015 11:42	EML
Cadmium			0.0083	mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/2015 20:44	EML
Iron			120	mg/L	10			EPA 200.7	0.10			12/22/2015 20:44	EML
Sample: 08 Well S-5													
Sampled By David Richardson													
Sulfate			180	mg/L	10			EPA 300.0	5.0			12/30/2015 6:16	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/23/2015 11:58	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/2015 21:07	EML
Iron			0.73	mg/L	1			EPA 200.7	0.010			12/22/2015 21:07	EML
Sample: 09 Well S-6													
Sampled By David Richardson													
Sulfate			62	mg/L	1			EPA 300.0	0.50			12/30/2015 4:22	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/23/2015 12:03	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/2015 21:19	EML
Iron			0.54	mg/L	1			EPA 200.7	0.010			12/22/2015 21:19	EML

Qualifier Definitions

J1 The analyte was positively identified; analyte was detected between the Reporting Limit and Method Detection Limit and the result is an estimated value.

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CERTIFICATE OF ANALYSIS

5121355

**Southern Illinois Power Coop.
Leonard Hopkins**

Date Due 12/29/2015
Date Received 12/17/2015

Quarterly Well Sampling 2014 Thru 2016

UJ Analyte was not detected above the Reporting Limit, however, the Reporting Limit is approximate & may or may not represent the actual Limit of Quantitation necessary to accurately & precisely measure the analyte in the sample.

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

Al Moore A.M.

David Lester, Managing Director

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact David Lester, Managing Director or Sean Hyde, Senior Vice President at 502.962.6400. You may also contact J Trevor Boyce, President at president@microbac.com.

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CERTIFICATE OF ANALYSIS

5081881

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 09/09/2015
Date Due 09/10/2015
Date Received 08/31/2015
Customer # E5660**

3rd Quarter Wells 2015

Analysis	OOB	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 01 Well C1									
								Sampled	08/31/2015 @ 13:59
Sampled By David Richardson									
Sulfate			230 mg/L			EPA 300.0	5.0	09/08/2015 15:31	JGF
Boron			<0.50 mg/L			EPA 200.7	0.50	09/02/2015 20:16	EML
Chromium			0.015 mg/L			EPA 200.7	0.010	09/02/2015 15:48	EML
Iron			11 mg/L			EPA 200.7	0.010	09/02/2015 15:48	EML
Sample: 02 Well C2									
								Comp Start	08/28/2015 @ 13:48
								Comp End	08/31/2015 @ 13:48
Sampled By David Richardson									
Sulfate			140 mg/L			EPA 300.0	5.0	09/08/2015 15:45	JGF
Boron			<0.50 mg/L			EPA 200.7	0.50	09/02/2015 20:21	EML
Chromium			<0.010 mg/L			EPA 200.7	0.010	09/02/2015 15:53	EML
Iron			11 mg/L			EPA 200.7	0.010	09/02/2015 15:53	EML
Sample: 03 Well C3									
								Comp Start	08/28/2015 @ 13:35
								Comp End	08/31/2015 @ 13:35
Sampled By David Richardson									
Sulfate			83 mg/L			EPA 300.0	5.0	09/08/2015 16:00	JGF
Boron			<0.50 mg/L			EPA 200.7	0.50	09/02/2015 20:26	EML
Chromium			<0.010 mg/L			EPA 200.7	0.010	09/02/2015 15:57	EML
Iron			1.9 mg/L			EPA 200.7	0.010	09/02/2015 15:57	EML
Sample: 04 Well Swamp									
								Comp Start	08/28/2015 @ 12:10
								Comp End	08/31/2015 @ 12:10
Sampled By David Richardson									
Sulfate			29 mg/L			EPA 300.0	0.50	09/08/2015 16:15	JGF
Boron			<0.50 mg/L			EPA 200.7	0.50	09/02/2015 20:31	EML
Chromium			0.074 mg/L			EPA 200.7	0.010	09/02/2015 16:02	EML
Iron			94 mg/L			EPA 200.7	0.10	09/02/2015 16:12	EML
Sample: 05 Well S2									
								Comp Start	08/28/2015 @ 12:50
								Comp End	08/31/2015 @ 12:50
Sampled By David Richardson									
Sulfate			66 mg/L			EPA 300.0	2.5	09/08/2015 16:59	JGF
Boron			1.5 mg/L			EPA 200.7	0.50	09/02/2015 21:02	EML
Chromium			<0.010 mg/L			EPA 200.7	0.010	09/02/2015 16:55	EML

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CERTIFICATE OF ANALYSIS

5081881

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 09/10/2015
Date Received 08/31/2015

3rd Quarter Wells 2015

Analysis	OOC	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 05 Well S2								Comp Start 08/28/2015 @ 12:50	Comp End 08/31/2015 @ 12:50
Sampled By									
David Richardson									
Iron			140 mg/L			EPA 200.7	0.10	09/02/2015 19:02	EML
Sample: 06 Well S3								Comp Start 08/28/2015 @ 13:05	Comp End 08/31/2015 @ 13:05
Sampled By									
David Richardson									
Sulfate			14 mg/L			EPA 300.0	0.50	09/08/2015 17:12	JGF
Boron			<0.50 mg/L			EPA 200.7	0.50	09/02/2015 21:07	EML
Chromium			0.029 mg/L			EPA 200.7	0.010	09/02/2015 17:00	EML
Iron			73 mg/L			EPA 200.7	0.10	09/02/2015 19:06	EML
Sample: 07 Well S4								Comp Start 08/28/2015 @ 13:17	Comp End 08/31/2015 @ 13:17
Sampled By									
David Richardson									
Sulfate			44 mg/L			EPA 300.0	0.50	09/08/2015 17:40	JGF
Boron			<0.50 mg/L			EPA 200.7	0.50	09/02/2015 21:12	EML
Chromium			<0.010 mg/L			EPA 200.7	0.010	09/02/2015 17:04	EML
Iron			12 mg/L			EPA 200.7	0.010	09/02/2015 17:04	EML
Sample: 08 Well S5								Comp Start 08/28/2015 @ 14:12	Comp End 08/31/2015 @ 14:12
Sampled By									
David Richardson									
Sulfate			180 mg/L			EPA 300.0	5.0	09/08/2015 17:26	JGF
Boron			<0.50 mg/L			EPA 200.7	0.50	09/02/2015 21:17	EML
Chromium			0.016 mg/L			EPA 200.7	0.010	09/02/2015 17:09	EML
Iron			13 mg/L			EPA 200.7	0.010	09/02/2015 17:09	EML
Sample: 09 Well S6								Comp Start 08/28/2015 @ 12:31	Comp End 08/31/2015 @ 12:31
Sampled By									
David Richardson									
Sulfate			58 mg/L			EPA 300.0	2.5	09/08/2015 17:54	JGF
Boron			<0.50 mg/L			EPA 200.7	0.50	09/02/2015 21:22	EML
Chromium			0.057 mg/L			EPA 200.7	0.010	09/02/2015 17:23	EML
Iron			45 mg/L			EPA 200.7	0.10	09/02/2015 19:11	EML

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

5081881

**Southern Illinois Power Coop.
Jason McLaurin**

**Date Due 09/10/2015
Date Received 08/31/2015**

3rd Quarter Wells 2015

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

A handwritten signature in black ink, appearing to read "Joan Heinsohn".

Joan Heinsohn For Al Moore A.M.

A handwritten signature in black ink, appearing to read "David Lester".

David Lester, Managing Director

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact David Lester, Managing Director or Sean Hyde, Senior Vice President at 502.962.6400. You may also contact J Trevor Boyce, President at president@microbac.com.

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CERTIFICATE OF ANALYSIS

5061475

**Southern Illinois Power Coop.
Leonard Hopkins
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 06/29/2015
Date Due 06/30/2015
Date Received 06/19/2015
Customer # E5660**

2nd Quarter 2015 Wells

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Date	Time	Tech
Sample: 01 Well C-1											Sampled	06/19/2015 @ 11:32	
Sampled By David Richardson													
Sulfate			220 mg/L	10			EPA 300.0	5.0			06/26/2015	23:30	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/24/2015	11:29	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	06/23/2015	15:21	EML
Iron			0.15 mg/L	1			EPA 200.7	0.010			06/23/2015	15:21	EML
Sample: 02 Well C-2											Sampled	06/19/2015 @ 11:37	
Sampled By David Richardson													
Sulfate			190 mg/L	10			EPA 300.0	5.0			06/26/2015	23:44	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/24/2015	11:35	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	06/23/2015	15:26	EML
Iron			15 mg/L	1			EPA 200.7	0.010			06/23/2015	15:26	EML
Sample: 03 Well C-3											Sampled	06/19/2015 @ 11:04	
Sampled By David Richardson													
Sulfate			84 mg/L	10			EPA 300.0	5.0			06/26/2015	23:59	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/24/2015	12:01	EML
Cadmium		J1	0.0026 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	06/23/2015	17:48	EML
Iron			0.63 mg/L	1			EPA 200.7	0.010			06/23/2015	17:48	EML
Sample: 04 Well S1 - Swamp											Sampled	06/19/2015 @ 10:43	
Sampled By David Richardson													
Sulfate			23 mg/L	1			EPA 300.0	0.50			06/27/2015	2:10	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/24/2015	12:06	EML
Cadmium		J1	0.0048 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	06/23/2015	17:53	EML
Iron			25 mg/L	1			EPA 200.7	0.010			06/23/2015	17:53	EML
Sample: 05 Well S-2											Sampled	06/19/2015 @ 10:27	
Sampled By David Richardson													
Sulfate			27 mg/L	10			EPA 300.0	5.0			06/27/2015	0:15	JGF
Boron			0.91 mg/L	1			EPA 200.7	0.50			06/24/2015	12:22	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	06/23/2015	18:50	EML

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**Southern Illinois Power Coop.
Leonard Hopkins**

Date Due 06/30/2015
Date Received 06/19/2015

2nd Quarter 2015 Wells

Analysis	OC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Date	Time	Tech
Sample: 05 Well S-2													
Sampled By David Richardson													
Iron			130 mg/L	50			EPA 200.7	0.50			06/23/2015	18:50	EML
Sample: 06 Well S-3													
Sampled By David Richardson													
Sulfate			3.0 mg/L	1			EPA 300.0	0.50			06/27/2015	2:53	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/24/2015	12:27	EML
Cadmium			0.0054 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	06/23/2015	18:11	EML
Iron			51 mg/L	10			EPA 200.7	0.10			06/23/2015	19:51	EML
Sample: 07 Well S-4													
Sampled By David Richardson													
Sulfate			45 mg/L	1			EPA 300.0	0.50			06/27/2015	3:07	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/24/2015	12:32	EML
Cadmium		J1	0.0021 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	06/23/2015	18:22	EML
Iron			22 mg/L	1			EPA 200.7	0.010			06/23/2015	18:22	EML
Sample: 08 Well S-5													
Sampled By David Richardson													
Sulfate			180 mg/L	10			EPA 300.0	5.0			06/27/2015	3:21	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/24/2015	12:37	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	06/23/2015	18:27	EML
Iron			0.43 mg/L	1			EPA 200.7	0.010			06/23/2015	18:27	EML
Sample: 09 Well S-6													
Sampled By David Richardson													
Sulfate			71 mg/L	1			EPA 300.0	0.50			06/27/2015	4:18	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/24/2015	12:43	EML
Cadmium			0.0078 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	06/23/2015	18:32	EML
Iron			67 mg/L	10			EPA 200.7	0.10			06/23/2015	19:56	EML

Qualifier Definitions

J1 The analyte was positively identified; analyte was detected between the Reporting Limit and Method Detection Limit and the result is an estimated value.

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CERTIFICATE OF ANALYSIS

5061475

**Southern Illinois Power Coop.
Leonard Hopkins**

Date Due 06/30/2015
Date Received 06/19/2015

2nd Quarter 2015 Wells

UJ Analyte was not detected above the Reporting Limit, however, the Reporting Limit is approximate & may or may not represent the actual Limit of Quantitation necessary to accurately & precisely measure the analyte in the sample.

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

Al Moore A.M.

David Lester, Laboratory Director

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CERTIFICATE OF ANALYSIS

5031384

Southern Illinois Power Coop.
Leonard Hopkins
11543 Lake of Egypt Road
Marion, IL 62959

Date Reported 03/30/2015
Date Due 03/30/2015
Date Received 03/19/2015
Customer # E5660
Customer P.O. N/A

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Date	Time	Tech
Sample: 01 Well C-1											Sampled	03/18/2015 @ 9:44	
Sampled By David Richardson													
Sulfate			300 mg/L	10			EPA 300.0	5.0			03/27/2015	19:35	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/23/2015	11:43	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/2015	18:17	EML
Iron			1.3 mg/L	1			EPA 200.7	0.010			03/23/2015	18:17	EML
Sample: 02 Well C-2											Sampled	03/18/2015 @ 9:51	
Sampled By David Richardson													
Sulfate			280 mg/L	10			EPA 300.0	5.0			03/27/2015	19:50	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/23/2015	11:49	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/2015	18:22	EML
Iron			12 mg/L	1			EPA 200.7	0.010			03/23/2015	18:22	EML
Sample: 03 Well C-3											Sampled	03/18/2015 @ 10:04	
Sampled By David Richardson													
Sulfate			68 mg/L	10			EPA 300.0	5.0			03/27/2015	20:04	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/23/2015	12:09	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/2015	19:29	EML
Iron			2.1 mg/L	1			EPA 200.7	0.010			03/23/2015	19:29	EML
Sample: 04 Well S1 - Swamp											Sampled	03/18/2015 @ 11:08	
Sampled By David Richardson													
Sulfate			25 mg/L	1			EPA 300.0	0.50			03/27/2015	22:02	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/23/2015	12:35	EML
Cadmium		J1	0.0034 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/2015	18:51	EML
Iron			36 mg/L	1			EPA 200.7	0.010			03/23/2015	19:51	EML
Sample: 05 Well S-2											Sampled	03/18/2015 @ 10:52	
Sampled By David Richardson													
Sulfate			110 mg/L	10			EPA 300.0	5.0			03/27/2015	22:46	JGF
Boron			2.8 mg/L	1			EPA 200.7	0.50			03/23/2015	12:40	EML
Cadmium			0.010 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/2015	19:56	EML

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CERTIFICATE OF ANALYSIS

5031384

Southern Illinois Power Coop.
Leonard Hopkins

Date Reported 03/30/2015
Date Received 03/19/2015
Date Sampled 03/18/2015

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Date	Time	Tech
Sample: 05 Well S-2												Sampled	03/18/2015 @ 10:52	
Sampled By David Richardson														
Iron			160	mg/L	10			EPA 200.7	0.10			03/24/2015	11:28	EML
Sample: 06 Well S-3												Sampled	03/18/2015 @ 10:38	
Sampled By David Richardson														
Sulfate		M2	0.96	mg/L	1			EPA 300.0	0.50			03/27/2015	23:01	JGF
Boron			<0.50	mg/L	1			EPA 200.7	0.50			03/23/2015	12:46	EML
Cadmium			0.0064	mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/2015	20:01	EML
Iron			79	mg/L	10			EPA 200.7	0.10			03/24/2015	11:33	EML
Sample: 07 Well S-4												Sampled	03/18/2015 @ 10:19	
Sampled By David Richardson														
Sulfate			44	mg/L	1			EPA 300.0	0.50			03/27/2015	23:59	JGF
Boron			<0.50	mg/L	1			EPA 200.7	0.50			03/23/2015	12:51	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/2015	20:05	EML
Iron			32	mg/L	1			EPA 200.7	0.010			03/23/2015	20:05	EML
Sample: 08 Well S-5												Sampled	03/18/2015 @ 9:34	
Sampled By David Richardson														
Sulfate			190	mg/L	10			EPA 300.0	5.0			03/28/2015	0:13	JGF
Boron			<0.50	mg/L	1			EPA 200.7	0.50			03/23/2015	13:03	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/2015	20:10	EML
Iron			7.6	mg/L	1			EPA 200.7	0.010			03/23/2015	20:10	EML
Sample: 09 Well S-6												Sampled	03/18/2015 @ 11:23	
Sampled By David Richardson														
Sulfate			52	mg/L	10			EPA 300.0	5.0			03/28/2015	0:28	JGF
Boron			<0.50	mg/L	1			EPA 200.7	0.50			03/23/2015	13:08	EML
Cadmium		J1	0.0021	mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/2015	20:14	EML
Iron			28	mg/L	1			EPA 200.7	0.010			03/23/2015	20:14	EML

Qualifier Definitions

J1 The analyte was positively identified; analyte was detected between the Reporting Limit and Method Detection Limit and the result is an estimated value.

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CERTIFICATE OF ANALYSIS

5031384

**Southern Illinois Power Coop.
Leonard Hopkins**

Date Reported 03/30/2015
Date Received 03/19/2015
Date Sampled 03/18/2015

Quarterly Well Sampling 2014 Thru 2016

- UJ Analyte was not detected above the Reporting Limit, however, the Reporting Limit is approximate & may or may not represent the actual Limit of Quantitation necessary to accurately & precisely measure the analyte in the sample.
- M2 Matrix spike recovery outside Control Limits due to sample matrix interference; biased low.

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

Al Moore A.M.

David Lester, Laboratory Director

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact David Lester, Laboratory Director or Sean Hyde, Senior Vice President at 502.962.6400. You may also contact J Trevor Boyce, President at president@microbac.com.

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

ALEC MESSINA, DIRECTOR

1990555005
Southern Illinois Power
10825 Lake of Egypt Rd.
Marion, IL 62959

On-Site Permit Exempt "815" Facility 2016 Annual Report

35 Ill. Adm. Code 815 requires all **landfills** exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit **annual** reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due **February 15, 2017** and covers the period of January 1, 2016 thru December 31, 2016.

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion BYPRODUCTS

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

930,160 (in place cubic yards)

IL 532 2428
LPC 536 Rev. Oct. 03

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

C. PROPOSED ACTIVITIES

1. Expected amount of waste to be disposed on-site **January 1, 2016** thru **December 31, 2016**:

_____ (in place cubic yards)

D. OTHER INFORMATION TO BE SUBMITTED

Please attach the following required information. Please indicate attachment number or letter in the blank provided.

Attachments

1. _____ Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
2. X _____ All raw monitoring data collected at the facility from the leachate collection system, groundwater monitoring network, and gas monitoring system.
3. _____ Graphical results of monitoring efforts.
4. _____ Statistical summaries and analysis of trends in the collected data.
5. _____ Changes to the monitoring program.
6. _____ Discussion of error analysis, detection limits, and observed trends.
7. _____ Description of structures to be built within the next year.
8. _____ Description of new monitoring stations to be installed within the next year.
9. _____ A summary of all modifications including significant modifications made to the operations during the course of the year.

E. SIGNATURE OF THE OPERATOR OR DULY AUTHORIZED AGENT

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

JASON A. MCLAURIN
Name (print/type)

Jason A. McLaurin
Signature

Phone: (618) 964 2446

Email: Jmclaurin@Sipower.org

Please mail this form and attachments to the following address:

Illinois Environmental Protection Agency
Bureau of Land (#24)
Attn: Annual Reports and Data Collection Unit
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276



CERTIFICATE OF ANALYSIS

6121231

**Southern Illinois Power Coop.
Leonard Hopkins
11543 Lake of Egypt Road
Marion, IL 62959**

Date Reported 12/27/2016
Date Due 12/28/2016
Date Received 12/16/2016
Customer # E5660

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1											Sampled	12/16/2016 @ 14:00
Sampled By David Richardson												
Sulfate			240 mg/L	10			EPA 300.0	5.0			12/22/2016 15:05	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/2016 18:45	JGF
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 18:45	JGF
Iron			11 mg/L	1			EPA 200.7	0.010			12/21/2016 18:45	JGF
Sample: 02 Well C-2											Sampled	12/16/2016 @ 13:47
Sampled By David Richardson												
Sulfate			150 mg/L	10			EPA 300.0	5.0			12/22/2016 15:48	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/2016 19:00	JGF
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 19:00	JGF
Iron			14 mg/L	1			EPA 200.7	0.010			12/21/2016 19:00	JGF
Sample: 03 Well C-3											Sampled	12/16/2016 @ 13:01
Sampled By David Richardson												
Sulfate			74 mg/L	5			EPA 300.0	2.5			12/22/2016 16:02	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/2016 19:05	JGF
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 19:05	JGF
Iron			3.5 mg/L	1			EPA 200.7	0.010			12/21/2016 19:05	JGF
Sample: 04 Well S-2											Sampled	12/16/2016 @ 11:52
Sampled By David Richardson												
Sulfate			130 mg/L	5			EPA 300.0	2.5			12/22/2016 16:36	LJC
Boron			2.3 mg/L	1			EPA 200.7	0.50			12/21/2016 19:10	JGF
Cadmium		J1	0.0023 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 19:10	JGF
Iron			160 mg/L	10			EPA 200.7	0.10			12/22/2016 15:01	JGF
Sample: 05 Well S-3											Sampled	12/16/2016 @ 11:38
Sampled By David Richardson												
Sulfate			7.3 mg/L	5			EPA 300.0	2.5			12/22/2016 16:50	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/2016 19:16	JGF

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CERTIFICATE OF ANALYSIS

6121231

**Southern Illinois Power Coop.
Leonard Hopkins**

Date Due 12/28/2016
Date Received 12/16/2016

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	12/16/2016 @ 11:38
Sampled By David Richardson												
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 19:16	JGF
Iron			52 mg/L	5			EPA 200.7	0.050			12/22/2016 15:06	JGF
Sample: 06 Well S-4											Sampled	12/16/2016 @ 11:19
Sampled By David Richardson												
Sulfate			28 mg/L	50			EPA 300.0	25			12/22/2016 17:04	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/2016 19:21	JGF
Cadmium		J1	0.0021 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 19:21	JGF
Iron			120 mg/L	10			EPA 200.7	0.10			12/22/2016 15:21	JGF
Sample: 07 Well S-5											Sampled	12/16/2016 @ 13:34
Sampled By David Richardson												
Sulfate			170 mg/L	50			EPA 300.0	25			12/22/2016 17:18	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/2016 19:41	JGF
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 19:41	JGF
Iron			6.6 mg/L	1			EPA 200.7	0.010			12/21/2016 19:41	JGF
Sample: 08 Well S-6											Sampled	12/16/2016 @ 12:39
Sampled By David Richardson												
Sulfate			44 mg/L	20			EPA 300.0	10			12/22/2016 17:32	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/2016 19:46	JGF
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 19:46	JGF
Iron			34 mg/L	1			EPA 200.7	0.010			12/21/2016 19:46	JGF
Sample: 09 Well S-1 Swamp											Sampled	12/16/2016 @ 12:19
Sampled By David Richardson												
Sulfate			21 mg/L	5			EPA 300.0	2.5			12/22/2016 17:46	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/2016 20:01	JGF
Cadmium		J1	0.0028 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/2016 20:01	JGF
Iron			50 mg/L	5			EPA 200.7	0.050			12/22/2016 15:26	JGF

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

6121231

**Southern Illinois Power Coop.
Leonard Hopkins**

Date Due 12/28/2016
Date Received 12/16/2016

Quarterly Well Sampling 2014 Thru 2016

- J1 The analyte was positively identified; analyte was detected between the Reporting Limit and Method Detection Limit and the result is an estimated value.
- UJ Analyte was not detected above the Reporting Limit, however, the Reporting Limit is approximate & may or may not represent the actual Limit of Quantitation necessary to accurately & precisely measure the analyte in the sample.

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

Mischelle Gearheart For Al Moore A.M.

David Lester, Managing Director

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact David Lester, Managing Director at 502.962.6400 or Rob Crookston, President at president@microbac.com.

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CERTIFICATE OF ANALYSIS

6091197

Southern Illinois Power Coop.
Leonard Hopkins
11543 Lake of Egypt Road
Marion, IL 62959

Date Reported 09/28/2016
Date Due 10/04/2016
Date Received 09/23/2016
Customer # E5860

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1												
Sampled By David Richardson											Sampled	09/20/2016 @ 11:58
Sulfate			240 mg/L	5			EPA 300.0	2.5			09/28/2016 20:35	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 10:59	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 13:05	EML
Iron			0.83 mg/L	1			EPA 200.7	0.010			09/27/2016 13:05	EML
Sample: 02 Well C-2												
Sampled By David Richardson											Sampled	09/20/2016 @ 11:44
Sulfate			130 mg/L	5			EPA 300.0	2.5			09/28/2016 20:49	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 11:14	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 13:24	EML
Iron			25 mg/L	1			EPA 200.7	0.010			09/27/2016 13:24	EML
Sample: 03 Well C-3												
Sampled By David Richardson											Sampled	09/20/2016 @ 11:30
Sulfate			83 mg/L	5			EPA 300.0	2.5			09/28/2016 21:03	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 11:19	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 13:29	EML
Iron			0.15 mg/L	1			EPA 200.7	0.010			09/27/2016 13:29	EML
Sample: 04 Well S-1												
Sampled By David Richardson											Sampled	09/20/2016 @ 10:53
Sulfate			19 mg/L	5			EPA 300.0	2.5			09/28/2016 21:17	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 11:24	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 13:34	EML
Iron			6.9 mg/L	1			EPA 200.7	0.010			09/27/2016 13:34	EML
Sample: 05 Well S-2												
Sampled By David Richardson											Sampled	09/20/2016 @ 10:26
Sulfate			82 mg/L	5			EPA 300.0	2.5			09/28/2016 21:32	LJC
Boron			1.6 mg/L	1			EPA 200.7	0.50			09/27/2016 11:32	EML

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CERTIFICATE OF ANALYSIS

6091197

**Southern Illinois Power Coop.
Leonard Hopkins**

**Date Due 10/04/2016
Date Received 09/23/2016**

Quarterly Well Sampling 2014 Thru 2016

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-2												
Sampled By David Richardson											Sampled	09/20/2016 @ 10:28
Cadmium		J1	0.0073 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 15:29	EML
Iron			160 mg/L	50			EPA 200.7	0.50			09/27/2016 17:06	EML
Sample: 06 Well S-3												
Sampled By David Richardson											Sampled	09/20/2016 @ 10:15
Sulfate			<2.5 mg/L	5			EPA 300.0	2.5			09/27/2016 17:23	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 11:37	EML
Cadmium		J1	0.0025 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 15:30	EML
Iron			63 mg/L	50			EPA 200.7	0.50			09/27/2016 17:11	EML
Sample: 07 Well S-4												
Sampled By David Richardson											Sampled	09/20/2016 @ 9:54
Sulfate			30 mg/L	20			EPA 300.0	10			09/26/2016 22:14	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 11:52	EML
Cadmium		J1	0.0034 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 15:35	EML
Iron			82 mg/L	10			EPA 200.7	0.10			09/27/2016 17:24	EML
Sample: 08 Well S-5												
Sampled By David Richardson											Sampled	09/20/2016 @ 12:13
Sulfate			190 mg/L	5			EPA 300.0	2.5			09/26/2016 22:28	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 11:57	EML
Cadmium		J1	0.0026 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 15:41	EML
Iron			14 mg/L	1			EPA 200.7	0.010			09/27/2016 15:41	EML
Sample: 09 Well S-6												
Sampled By David Richardson											Sampled	09/20/2016 @ 11:15
Sulfate			47 mg/L	10			EPA 300.0	5.0			09/26/2016 22:43	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 12:03	EML
Cadmium		J1	0.0039 mg/L	1			EPA 200.7	0.010	0.002	0.00020	09/27/2016 15:45	EML
Iron			86 mg/L	10			EPA 200.7	0.10			09/27/2016 17:28	EML

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

6091197

**Southern Illinois Power Coop.
Leonard Hopkins**

Date Due 10/04/2016
Date Received 09/23/2016

Quarterly Well Sampling 2014 Thru 2016

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- UJ Analyte was not detected above the Reporting Limit, however, the Reporting Limit is approximate & may or may not represent the actual Limit of Quantitation necessary to accurately & precisely measure the analyte in the sample.

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

Al Moore A.M.

David Lester, Managing Director

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Evansville 812.464.9000 | Lexington 859.276.3506 | Paducah 270.898.3637 | Hazard 608.487.0511



CERTIFICATE OF ANALYSIS

6060805

**Southern Illinois Power Coop.
Leonard Hopkins
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 06/27/2016
Date Due 06/21/2016
Date Received 06/10/2016
Customer # E5660**

Quarterly Well Sampling 2014 Thru 2016

Analysis	OC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1												
Sampled By David Richardson											Sampled	06/10/2016 @ 13:03
Sulfate			300 mg/L	50			EPA 300.0	25			06/24/2016 18:33	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/18/2016 3:25	EML
Cadmium		J1	0.0027 mg/L	1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 0:33	EML
Iron			9.2 mg/L	1			EPA 200.7	0.010			06/16/2016 0:33	EML
Sample: 02 Well C-2												
Sampled By David Richardson											Sampled	06/10/2016 @ 12:53
Sulfate			230 mg/L	10			EPA 300.0	5.0			06/22/2016 10:37	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/18/2016 3:30	EML
Cadmium		J1	0.0029 mg/L	1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 0:38	EML
Iron			19 mg/L	1			EPA 200.7	0.010			06/16/2016 0:38	EML
Sample: 03 Well C-3												
Sampled By David Richardson											Sampled	06/10/2016 @ 12:39
Sulfate			<0.50 mg/L	1			EPA 300.0	0.50			06/22/2016 10:52	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/18/2016 3:35	EML
Cadmium		J1	0.0030 mg/L	1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 0:43	EML
Iron			0.60 mg/L	1			EPA 200.7	0.010			06/16/2016 0:43	EML
Sample: 04 Well Swamp												
Sampled By David Richardson											Sampled	06/10/2016 @ 12:01
Sulfate			62 mg/L	10			EPA 300.0	5.0			06/22/2016 11:06	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/18/2016 3:40	EML
Cadmium		J1	0.0038 mg/L	1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 0:47	EML
Iron			17 mg/L	1			EPA 200.7	0.010			06/16/2016 0:47	EML
Sample: 05 Well S-2												
Sampled By David Richardson											Sampled	06/10/2016 @ 11:36
Sulfate			<0.50 mg/L	1			EPA 300.0	0.50			06/22/2016 11:22	JGF
Boron			1.5 mg/L	1			EPA 200.7	0.50			06/18/2016 3:46	EML

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CERTIFICATE OF ANALYSIS

6060805

**Southern Illinois Power Coop.
Leonard Hopkins**

Date Due 06/21/2016
Date Received 06/10/2016

Quarterly Well Sampling 2014 Thru 2016

Analysis	OC	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-2													
Sampled By	David Richardson												
			Sampled 06/10/2016 @ 11:36										
Cadmium			0.0098	mg/L	1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 1:14	EML
Iron			150	mg/L	50			EPA 200.7	0.50			06/16/2016 1:14	EML
Sample: 06 Well S-3													
Sampled By	David Richardson												
			Sampled 06/10/2016 @ 11:19										
Sulfate			<0.50	mg/L	1			EPA 300.0	0.50			06/22/2016 11:36	JGF
Boron			<0.50	mg/L	1			EPA 200.7	0.50			06/18/2016 3:51	EML
Cadmium			0.0053	mg/L	1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 1:19	EML
Iron			58	mg/L	50			EPA 200.7	0.50			06/16/2016 1:19	EML
Sample: 07 Well S-4													
Sampled By	David Richardson												
			Sampled 06/10/2016 @ 11:00										
Sulfate			2300	mg/L	50			EPA 300.0	25			06/24/2016 19:01	JGF
Boron			<0.50	mg/L	1			EPA 200.7	0.50			06/18/2016 3:56	EML
Cadmium			0.0078	mg/L	1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 1:23	EML
Iron			100	mg/L	50			EPA 200.7	0.50			06/16/2016 1:23	EML
Sample: 08 Well S-5													
Sampled By	David Richardson												
			Sampled 06/10/2016 @ 13:19										
Sulfate			66	mg/L	5			EPA 300.0	2.5			06/24/2016 18:28	JGF
Boron			<0.50	mg/L	1			EPA 200.7	0.50			06/18/2016 4:11	EML
Cadmium		J1	0.0025	mg/L	1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 1:28	EML
Iron			2.6	mg/L	1			EPA 200.7	0.010			06/16/2016 1:28	EML
Sample: 09 Well S-6													
Sampled By	David Richardson												
			Sampled 06/10/2016 @ 12:22										
Sulfate			570	mg/L	10			EPA 300.0	5.0			06/22/2016 12:18	JGF
Boron			<0.50	mg/L	1			EPA 200.7	0.50			06/18/2016 4:16	EML
Cadmium		J1	0.0026	mg/L	1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 1:32	EML
Iron			19	mg/L	1			EPA 200.7	0.010			06/16/2016 1:32	EML

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

6060805

**Southern Illinois Power Coop.
Leonard Hopkins**

Date Due 06/21/2016
Date Received 06/10/2016

Quarterly Well Sampling 2014 Thru 2016

J1 The analyte was positively identified; analyte was detected between the Reporting Limit and Method Detection Limit and the result is an estimated value.

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

A handwritten signature in black ink, appearing to read "Al Moore".

Al Moore A.M.

A handwritten signature in black ink, appearing to read "David Lester".

David Lester, Managing Director

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact David Lester, Managing Director at 502.962.6400 or Rob Crookston, President at president@microbac.com.

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CERTIFICATE OF ANALYSIS

6031928

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 04/05/2016
Date Due 04/08/2016
Date Received 03/30/2016
Customer # E5660**

1st Quarter Wells 2016

Analysis	OOC	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C1											
Sampled By David Richardson										Sampled 03/30/2016 @ 12:07	
Sulfate			250 mg/L			EPA 300.0	5.0			04/05/2016 3:43	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/2016 11:44	EML
Cadmium		UJ	<0.002 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/2016 13:41	EML
Iron			0.66 mg/L			EPA 200.7	0.010			04/01/2016 13:41	EML
Sample: 02 Well C2											
Sampled By David Richardson										Sampled 03/30/2016 @ 11:57	
Sulfate			250 mg/L			EPA 300.0	5.0			04/05/2016 3:57	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/2016 11:49	EML
Cadmium		UJ	<0.002 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/2016 13:46	EML
Iron			7.9 mg/L			EPA 200.7	0.010			04/01/2016 13:46	EML
Sample: 03 Well C3											
Sampled By David Richardson										Sampled 03/30/2016 @ 11:43	
Sulfate			80 mg/L			EPA 300.0	5.0			04/05/2016 4:11	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/2016 11:54	EML
Cadmium		UJ	<0.002 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/2016 13:59	EML
Iron			1.8 mg/L			EPA 200.7	0.010			04/01/2016 13:59	EML
Sample: 04 Well Swamp											
Sampled By David Richardson										Sampled 03/30/2016 @ 10:52	
Sulfate			26 mg/L			EPA 300.0	0.50			04/05/2016 4:25	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/2016 12:00	EML
Cadmium		J1	0.0023 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/2016 14:04	EML
Iron			25 mg/L			EPA 200.7	0.010			04/01/2016 14:04	EML
Sample: 05 Well S2											
Sampled By David Richardson										Sampled 03/30/2016 @ 10:25	
Sulfate			100 mg/L			EPA 300.0	5.0			04/05/2016 4:40	LJC
Boron			2.0 mg/L			EPA 200.7	0.50			04/01/2016 12:05	EML
Cadmium			0.013 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/2016 14:08	EML

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CERTIFICATE OF ANALYSIS

6031928

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 04/08/2016
Date Received 03/30/2016

1st Quarter Wells 2016

Analysis	OOC	Qualifier	Result	Units	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S2												
Sampled By David Richardson												
Iron			170	mg/L			EPA 200.7	0.50			04/01/2016 14:08	EML
Sample: 06 Well S3												
Sampled By David Richardson												
Sulfate			0.92	mg/L			EPA 300.0	0.50			04/05/2016 0:53	LJC
Boron			<0.50	mg/L			EPA 200.7	0.50			04/01/2016 12:10	EML
Cadmium		J1	0.0034	mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/2016 14:13	EML
Iron			51	mg/L			EPA 200.7	0.10			04/01/2016 14:13	EML
Sample: 07 Well S4												
Sampled By David Richardson												
Sulfate			45	mg/L			EPA 300.0	0.50			04/05/2016 1:36	LJC
Boron			<0.50	mg/L			EPA 200.7	0.50			04/01/2016 12:15	EML
Cadmium		UJ	<0.002	mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/2016 14:18	EML
Iron			13	mg/L			EPA 200.7	0.010			04/01/2016 14:18	EML
Sample: 08 Well S5												
Sampled By David Richardson												
Sulfate			180	mg/L			EPA 300.0	5.0			04/05/2016 4:54	LJC
Boron			<0.50	mg/L			EPA 200.7	0.50			04/01/2016 12:20	EML
Cadmium		UJ	<0.002	mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/2016 14:24	EML
Iron			2.1	mg/L			EPA 200.7	0.010			04/01/2016 14:24	EML
Sample: 09 Well S6												
Sampled By David Richardson												
Sulfate			68	mg/L			EPA 300.0	0.50			04/05/2016 5:50	LJC
Boron			<0.50	mg/L			EPA 200.7	0.50			04/01/2016 12:25	EML
Cadmium		J1	0.0039	mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/2016 14:31	EML
Iron			54	mg/L			EPA 200.7	0.10			04/01/2016 14:31	EML

Qualifier Definitions

J1 The analyte was positively identified; analyte was detected between the Reporting Limit and Method Detection Limit and the result is an estimated value.

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CERTIFICATE OF ANALYSIS

6031928

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 04/08/2016
Date Received 03/30/2016

1st Quarter Wells 2016

UJ Analyte was not detected above the Reporting Limit, however, the Reporting Limit is approximate & may or may not represent the actual Limit of Quantitation necessary to accurately & precisely measure the analyte in the sample.

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

Al Moore A.M.

David Lester, Managing Director

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact David Lester, Managing Director at 502.962.6400 or Rob Crookston, President at president@microbac.com.

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LH

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BRUCE RAUNER, GOVERNOR ALEC MESSINA, DIRECTOR

RECEIVED JAN 18 2018

1990555005
Southern Illinois Power
10825 Lake of Egypt Rd.
Marion, IL 62959

On-Site Permit Exempt "815" Facility 2017 Annual Report

35 Ill. Adm. Code 815 requires all **landfills** exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit **annual** reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due **February 15, 2018** and covers the period of January 1, 2017 thru December 31, 2017.

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion BYPRODUCTS

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

930,160 (in place cubic yards)

IL 532 2428
LPC 536 Rev. Oct. 03

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

* THIS LANDFILL HASN'T RECEIVED MATERIAL FOR A NUMBER OF YEARS.



CERTIFICATE OF ANALYSIS

7031434

Southern Illinois Power Coop.
Leonard Hopkins
11543 Lake of Egypt Road
Marion, IL 62959

Date Reported 03/30/2017
Date Due 04/04/2017
Date Received 03/24/2017
Customer # E5660

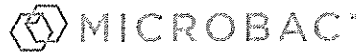
Quarterly Well Sampling 2014 Thru 2016

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1												Sampled	03/23/2017 @ 12:20
Sampled By David Richardson													
Sulfate			230	mg/L	10			EPA 300.0	5.0			03/29/2017 15:06	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			03/28/2017 14:49	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 14:49	EML
Iron			15	mg/L	1			EPA 200.7	0.010			03/28/2017 14:49	EML
Sample: 02 Well C-2												Sampled	03/23/2017 @ 12:09
Sampled By David Richardson													
Sulfate			300	mg/L	5			EPA 300.0	2.5			03/29/2017 15:20	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			03/28/2017 14:53	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 14:53	EML
Iron			16	mg/L	1			EPA 200.7	0.010			03/28/2017 14:53	EML
Sample: 03 Well C-3												Sampled	03/23/2017 @ 15:14
Sampled By David Richardson													
Sulfate			170	mg/L	5			EPA 300.0	2.5			03/29/2017 15:35	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			03/28/2017 14:58	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 14:58	EML
Iron			0.74	mg/L	1			EPA 200.7	0.010			03/28/2017 14:58	EML
Sample: 04 Well S-2												Sampled	03/23/2017 @ 11:07
Sampled By David Richardson													
Sulfate			140	mg/L	5			EPA 300.0	2.5			03/29/2017 16:31	LJC
Boron			2.4	mg/L	1			EPA 200.7	0.50			03/28/2017 15:03	EML
Cadmium		J1	0.0094	mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 15:03	EML
Iron			170	mg/L	50			EPA 200.7	0.50			03/28/2017 16:51	EML
Sample: 05 Well S-3												Sampled	03/23/2017 @ 10:52
Sampled By David Richardson													
Sulfate			<2.5	mg/L	5			EPA 300.0	2.5			03/29/2017 17:20	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			03/28/2017 15:08	EML

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CERTIFICATE OF ANALYSIS

7031434

**Southern Illinois Power Coop.
Leonard Hopkins**

**Date Due
Date Received**

**04/04/2017
03/24/2017**

Quarterly Well Sampling 2014 Thru 2016

Analysis	OC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	03/23/2017 @ 10:52
Sampled By David Richardson												
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 15:08	EML
Iron			64 mg/L	10			EPA 200.7	0.10			03/28/2017 16:56	EML
Sample: 06 Well S-4											Sampled	03/23/2017 @ 10:34
Sampled By David Richardson												
Sulfate			40 mg/L	5			EPA 300.0	2.5			03/29/2017 17:42	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/2017 15:22	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 15:22	EML
Iron			6.6 mg/L	1			EPA 200.7	0.010			03/28/2017 15:22	EML
Sample: 07 Well S-5											Sampled	03/23/2017 @ 12:39
Sampled By David Richardson												
Sulfate			220 mg/L	5			EPA 300.0	2.5			03/29/2017 17:56	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/2017 15:26	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 15:26	EML
Iron			0.43 mg/L	1			EPA 200.7	0.010			03/28/2017 15:26	EML
Sample: 08 Well S-6											Sampled	03/23/2017 @ 11:51
Sampled By David Richardson												
Sulfate			54 mg/L	5			EPA 300.0	2.5			03/29/2017 18:11	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/2017 15:31	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 15:31	EML
Iron			2.7 mg/L	1			EPA 200.7	0.010			03/28/2017 15:31	EML
Sample: 09 Well S-1 Swamp											Sampled	03/23/2017 @ 11:31
Sampled By David Richardson												
Sulfate			19 mg/L	5			EPA 300.0	2.5			03/29/2017 18:25	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/2017 15:36	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2017 15:36	EML
Iron			19 mg/L	1			EPA 200.7	0.010			03/28/2017 15:36	EML

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

7031434

Southern Illinois Power Coop.
Leonard Hopkins

Date Due 04/04/2017
Date Received 03/24/2017

Quarterly Well Sampling 2014 Thru 2016

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Al Moore A.M.

David Lester, Managing Director

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CERTIFICATE OF ANALYSIS

7060959

Southern Illinois Power Coop.
 Jason McLaurin
 11543 Lake of Egypt Road
 Marion, IL 62959

Date Reported 06/30/2017
 Date Due 07/03/2017
 Date Received 06/22/2017
 Customer # E5660

Quarterly Well Sampling

Analysis	OOO	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1												Sampled	06/22/2017 @ 12:37
Sampled By David Richardson													
Sulfate			220	mg/L	10			EPA 300.0	5.0			06/29/2017 18:20	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			06/26/2017 21:22	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 21:22	EML
Iron			0.44	mg/L	1			EPA 200.7	0.010			06/26/2017 21:22	EML
Sample: 02 Well C-2												Sampled	06/22/2017 @ 12:28
Sampled By David Richardson													
Sulfate			180	mg/L	5			EPA 300.0	2.5			06/29/2017 19:17	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			06/26/2017 21:37	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 21:37	EML
Iron			12	mg/L	1			EPA 200.7	0.010			06/26/2017 21:37	EML
Sample: 03 Well C-3												Sampled	06/22/2017 @ 12:18
Sampled By David Richardson													
Sulfate			160	mg/L	5			EPA 300.0	2.5			06/29/2017 19:31	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			06/26/2017 21:42	EML
Cadmium		J1	0.0021	mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 21:42	EML
Iron			1.0	mg/L	1			EPA 200.7	0.010			06/26/2017 21:42	EML
Sample: 04 Well S-2												Sampled	06/22/2017 @ 11:29
Sampled By David Richardson													
Sulfate			63	mg/L	5			EPA 300.0	2.5			06/29/2017 19:45	LJC
Boron			1.4	mg/L	1			EPA 200.7	0.50			06/26/2017 21:47	EML
Cadmium		J1	0.0041	mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 21:47	EML
Iron			160	mg/L	10			EPA 200.7	0.10			06/27/2017 13:00	EML
Sample: 05 Well S-3												Sampled	06/22/2017 @ 11:16
Sampled By David Richardson													
Sulfate			<2.5	mg/L	5			EPA 300.0	2.5			06/29/2017 19:50	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			06/26/2017 21:58	EML

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Microbac Laboratories, Inc.

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 Evansville 812.464.9000 | Lexington 859.276.3506 | Paducah 270.898.3637 | Hazard 606.487.0511



CERTIFICATE OF ANALYSIS

7060959

**Southern Illinois Power Coop.
Jason McLaurin**

**Date Due 07/03/2017
Date Received 06/22/2017**

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	06/22/2017 @ 11:16
Sampled By David Richardson												
Cadmium		J1	0.0029 mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 21:58	EML
Iron			82 mg/L	10			EPA 200.7	0.10			06/27/2017 13:06	EML
Sample: 06 Well S-4											Sampled	06/22/2017 @ 10:58
Sampled By David Richardson												
Sulfate			36 mg/L	5			EPA 300.0	2.5			06/29/2017 20:13	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/26/2017 22:08	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 22:08	EML
Iron			28 mg/L	1			EPA 200.7	0.010			06/26/2017 22:08	EML
Sample: 07 Well S-5											Sampled	06/22/2017 @ 14:01
Sampled By David Richardson												
Sulfate			200 mg/L	5			EPA 300.0	2.5			06/29/2017 20:28	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/26/2017 22:13	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 22:13	EML
Iron			3.5 mg/L	1			EPA 200.7	0.010			06/26/2017 22:13	EML
Sample: 08 Well S-6											Sampled	06/22/2017 @ 12:04
Sampled By David Richardson												
Sulfate			51 mg/L	5			EPA 300.0	2.5			06/29/2017 20:42	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/26/2017 22:18	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 22:18	EML
Iron			10 mg/L	1			EPA 200.7	0.010			06/26/2017 22:18	EML
Sample: 09 Well S-1 Swamp											Sampled	06/22/2017 @ 11:57
Sampled By David Richardson												
Sulfate			18 mg/L	5			EPA 300.0	2.5			06/29/2017 20:56	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/26/2017 22:23	EML
Cadmium		J1	0.0055 mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2017 22:23	EML
Iron			41 mg/L	10			EPA 200.7	0.10			06/27/2017 13:11	EML

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

7060959

Southern Illinois Power Coop.
Jason McLaurin

Date Due 07/03/2017
Date Received 06/22/2017

Quarterly Well Sampling

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THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

Ralph Rabish For Al Moore A.M.

David Lester, Managing Director

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CERTIFICATE OF ANALYSIS

7091880

Southern Illinois Power Coop.
 Jason McLaurin
 11543 Lake of Egypt Road
 Marion, IL 62959

Date Reported 10/10/2017
 Date Due 10/09/2017
 Date Received 09/28/2017
 Customer # E5660

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech	
Sample: 01 Well C-1													Sampled	09/28/2017 @ 9:44
Sampled By David Richardson														
Sulfate			210	mg/L	5			EPA 300.0	2.5			10/09/2017 12:21	LJC	
Boron			<0.50	mg/L	1			EPA 200.7	0.50			10/02/2017 19:28	EML	
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/2017 19:28	EML	
Iron			3.6	mg/L	1			EPA 200.7	0.010			10/02/2017 19:28	EML	
Sample: 02 Well C-2													Sampled	09/28/2017 @ 9:34
Sampled By David Richardson														
Sulfate			89	mg/L	5			EPA 300.0	2.5			10/07/2017 1:38	LJC	
Boron			<0.50	mg/L	1			EPA 200.7	0.50			10/02/2017 19:33	EML	
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/2017 19:33	EML	
Iron			12	mg/L	1			EPA 200.7	0.010			10/02/2017 19:33	EML	
Sample: 03 Well C-3													Sampled	09/28/2017 @ 10:02
Sampled By David Richardson														
Sulfate			120	mg/L	5			EPA 300.0	2.5			10/07/2017 1:52	LJC	
Boron			<0.50	mg/L	1			EPA 200.7	0.50			10/02/2017 19:38	EML	
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/2017 19:38	EML	
Iron			0.76	mg/L	1			EPA 200.7	0.010			10/02/2017 19:38	EML	
Sample: 04 Well S-2													Sampled	09/28/2017 @ 11:18
Sampled By David Richardson														
Sulfate			100	mg/L	5			EPA 300.0	2.5			10/07/2017 2:35	LJC	
Boron			2.0	mg/L	1			EPA 200.7	0.50			10/02/2017 19:43	EML	
Cadmium		J1	0.0050	mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/2017 19:43	EML	
Iron			180	mg/L	100			EPA 200.7	1.0			10/03/2017 15:20	EML	
Sample: 05 Well S-3													Sampled	09/28/2017 @ 11:30
Sampled By David Richardson														
Sulfate			<2.5	mg/L	5			EPA 300.0	2.5			10/07/2017 2:49	LJC	
Boron			<0.50	mg/L	1			EPA 200.7	0.50			10/02/2017 19:49	EML	

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CERTIFICATE OF ANALYSIS

7091880

Southern Illinois Power Coop.
Jason McLaurin

Date Due 10/09/2017
Date Received 09/28/2017

Quarterly Well Sampling

Analysis	OC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	09/28/2017 @ 11:30
Sampled By David Richardson												
Cadmium		J1	0.0028 mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/2017 19:49	EML
Iron			71 mg/L	50			EPA 200.7	0.50			10/03/2017 15:25	EML
Sample: 06 Well S-4											Sampled	09/29/2017 @ 11:44
Sampled By David Richardson												
Sulfate			40 mg/L	5			EPA 300.0	2.5			10/07/2017 3:03	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			10/02/2017 19:54	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/2017 19:54	EML
Iron			38 mg/L	1			EPA 200.7	0.010			10/02/2017 19:54	EML
Sample: 07 Well S-5											Sampled	09/28/2017 @ 9:21
Sampled By David Richardson												
Sulfate			160 mg/L	5			EPA 300.0	2.5			10/07/2017 3:17	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			10/02/2017 20:55	EML
Cadmium		J1	0.0059 mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/2017 20:55	EML
Iron			9.2 mg/L	1			EPA 200.7	0.010			10/02/2017 20:55	EML
Sample: 08 Well S-6											Sampled	09/28/2017 @ 10:45
Sampled By David Richardson												
Sulfate			54 mg/L	5			EPA 300.0	2.5			10/07/2017 3:31	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			10/02/2017 21:00	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/2017 21:00	EML
Iron			10 mg/L	1			EPA 200.7	0.010			10/02/2017 21:00	EML
Sample: 09 Well S-1 Swamp											Sampled	09/29/2017 @ 10:28
Sampled By David Richardson												
Sulfate			19 mg/L	5			EPA 300.0	2.5			10/07/2017 3:46	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			10/02/2017 21:05	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/2017 21:05	EML
Iron			22 mg/L	1			EPA 200.7	0.010			10/02/2017 21:05	EML

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

7091880

**Southern Illinois Power Coop.
Jason McLaurin**

**Date Due 10/09/2017
Date Received 09/28/2017**

Quarterly Well Sampling

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THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

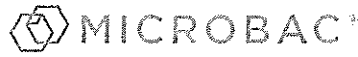
Al Moore A.M.

David Lester, Managing Director

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CERTIFICATE OF ANALYSIS

7111717

Southern Illinois Power Coop.
 Jason McLaurin
 11543 Lake of Egypt Road
 Marion, IL 62959

Date Reported 01/30/2018
 Date Due 01/01/2018
 Date Received 12/11/2017
 Customer # E5660

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech	
Sample: 01 Well C-1													Sampled	12/11/2017 @ 12:53
Sampled By Ted Meriwether														
Sulfate			170	mg/L	10			EPA 300.0	5.0			12/22/2017 0:16	LJC	
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/13/2017 17:18	EML	
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2017 17:18	EML	
Iron			0.56	mg/L	1			EPA 200.7	0.010			12/13/2017 17:18	EML	
Sample: 02 Well C-2													Sampled	12/11/2017 @ 13:11
Sampled By Ted Meriwether														
Sulfate			130	mg/L	5			EPA 300.0	2.5			12/22/2017 0:30	LJC	
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/13/2017 17:23	EML	
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2017 17:23	EML	
Iron			14	mg/L	1			EPA 200.7	0.010			12/13/2017 17:23	EML	
Sample: 03 Well C-3													Sampled	12/11/2017 @ 12:10
Sampled By Ted Meriwether														
Sulfate			76	mg/L	5			EPA 300.0	2.5			12/22/2017 0:45	LJC	
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/13/2017 17:29	EML	
Cadmium		UJ	<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2017 17:29	EML	
Iron			2.0	mg/L	1			EPA 200.7	0.010			12/13/2017 17:29	EML	
Sample: 04 Well S-2													Sampled	12/11/2017 @ 11:00
Sampled By Ted Meriwether														
Sulfate			140	mg/L	5			EPA 300.0	2.5			12/22/2017 0:59	LJC	
Boron			2.9	mg/L	1			EPA 200.7	0.50			12/13/2017 17:34	EML	
Cadmium		J1	0.0044	mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2017 17:34	EML	
Iron			200	mg/L	50			EPA 200.7	0.50			12/13/2017 19:25	EML	
Sample: 05 Well S-3													Sampled	12/11/2017 @ 10:40
Sampled By Ted Meriwether														
Sulfate			11	mg/L	5			EPA 300.0	2.5			12/22/2017 1:53	LJC	
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/13/2017 17:39	EML	

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CERTIFICATE OF ANALYSIS

7111717

Southern Illinois Power Coop.
Jason McLaurin

Date Due 01/01/2018
Date Received 12/11/2017

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	12/11/2017 @ 10:40
Sampled By Ted Meriwether												
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2017 17:39	EML
Iron			56 mg/L	10			EPA 200.7	0.10			12/13/2017 19:30	EML
Sample: 06 Well S-4											Sampled	12/11/2017 @ 10:20
Sampled By Ted Meriwether												
Sulfate			38 mg/L	5			EPA 300.0	2.5			12/22/2017 2:10	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/13/2017 17:44	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2017 17:44	EML
Iron			1.8 mg/L	1			EPA 200.7	0.010			12/13/2017 17:44	EML
Sample: 07 Well S-5											Sampled	12/11/2017 @ 12:36
Sampled By Ted Meriwether												
Sulfate			160 mg/L	5			EPA 300.0	2.5			12/22/2017 2:24	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/13/2017 17:59	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2017 17:59	EML
Iron			0.17 mg/L	1			EPA 200.7	0.010			12/13/2017 17:59	EML
Sample: 08 Well S-6											Sampled	12/11/2017 @ 11:45
Sampled By Ted Meriwether												
Sulfate			48 mg/L	5			EPA 300.0	2.5			12/22/2017 2:38	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/13/2017 18:04	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2017 18:04	EML
Iron			28 mg/L	1			EPA 200.7	0.010			12/13/2017 18:04	EML
Sample: 09 Well S-1 Swamp											Sampled	12/11/2017 @ 11:25
Sampled By Ted Meriwether												
Sulfate			21 mg/L	5			EPA 300.0	2.5			12/22/2017 2:52	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/13/2017 18:09	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2017 18:09	EML
Iron			21 mg/L	1			EPA 200.7	0.010			12/13/2017 18:09	EML

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7111717

**Southern Illinois Power Coop.
Jason McLaurin**

**Date Due 01/01/2018
Date Received 12/11/2017**

Quarterly Well Sampling

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Al Moore A.M.

David Lester, Managing Director

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

ALEC MESSINA, DIRECTOR

1990555005
Southern Illinois Power
10825 Lake of Egypt Rd.
Marion, IL 62959

On-Site Permit Exempt "815" Facility 2018 Annual Report

35 Ill. Adm. Code 815 requires all **landfills** exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit **annual** reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due **February 15, 2019** and covers the period of January 1, 2018 thru December 31, 2018.

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion By Products

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

930,160 (in place cubic yards)

IL 532 2428
LPC 536 Rev. Oct. 03

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

C. PROPOSED ACTIVITIES

- 1. Expected amount of waste to be disposed on-site **January 1, 2019** thru **December 31, 2019**:

_____ (in place cubic yards)

D. OTHER INFORMATION TO BE SUBMITTED

Please attach the following required information. Please indicate attachment number or letter in the blank provided.

Attachments

- 1. _____ Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
- 2. X _____ All raw monitoring data collected at the facility from the leachate collection system, groundwater monitoring network, and gas monitoring system.
- 3. _____ Graphical results of monitoring efforts.
- 4. _____ Statistical summaries and analysis of trends in the collected data.
- 5. _____ Changes to the monitoring program.
- 6. _____ Discussion of error analysis, detection limits, and observed trends.
- 7. _____ Description of structures to be built within the next year.
- 8. _____ Description of new monitoring stations to be installed within the next year.
- 9. _____ A summary of all modifications including significant modifications made to the operations during the course of the year.

E. SIGNATURE OF THE OPERATOR OR DULY AUTHORIZED AGENT

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

JASON A. MCLAURIN
Name (print/type)

Jason A. Mc
Signature

Phone: (618) 964-2446

Email: Jmclaurin@SIpower.org

Please mail this form and attachments to the following address:

Illinois Environmental Protection Agency
Bureau of Land (#24)
Attn: Annual Reports and Data Collection Unit
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276



CERTIFICATE OF ANALYSIS

L8K1281

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 01/07/2019
Date Due 12/19/2018
Date Received 11/29/2018
Customer # E5660**

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1													
Sampled By David Richardson													
Sulfate			270	mg/L	5			EPA 300.0	2.5			12/06/2018 9:37	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/06/2018 5:09	JGF
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/06/2018 5:09	JGF
Iron			2.3	mg/L	1			EPA 200.7	0.020			12/06/2018 5:09	JGF
Sample: 02 Well C-2													
Sampled By David Richardson													
Sulfate			240	mg/L	5			EPA 300.0	2.5			12/06/2018 10:08	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/06/2018 5:15	JGF
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/06/2018 5:15	JGF
Iron			12	mg/L	1			EPA 200.7	0.020			12/06/2018 5:15	JGF
Sample: 03 Well C-3													
Sampled By David Richardson													
Sulfate			49	mg/L	5			EPA 300.0	2.5			12/06/2018 10:23	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/06/2018 5:20	JGF
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/06/2018 5:20	JGF
Iron			0.45	mg/L	1			EPA 200.7	0.020			12/06/2018 5:20	JGF
Sample: 04 Well S-2													
Sampled By David Richardson													
Sulfate			130	mg/L	5			EPA 300.0	2.5			12/06/2018 10:38	LJC
Boron			2.8	mg/L	1			EPA 200.7	0.50			12/06/2018 5:25	JGF
Cadmium			0.0034	mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/06/2018 5:25	JGF
Iron			200	mg/L	10			EPA 200.7	0.20			12/06/2018 23:03	JSW
Sample: 05 Well S-3													
Sampled By David Richardson													
Sulfate			8.7	mg/L	5			EPA 300.0	2.5			12/06/2018 16:54	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			12/06/2018 5:31	JGF

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CERTIFICATE OF ANALYSIS

L8K1281

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 12/19/2018
Date Received 11/29/2018

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech	
Sample: 05 Well S-3												Sampled	11/29/2018 @ 10:15
Sampled By David Richardson													
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/06/2018 5:31	JGF	
Iron			65 mg/L	1			EPA 200.7	0.020			12/06/2018 5:31	JGF	
Sample: 06 Well S-4												Sampled	11/29/2018 @ 10:00
Sampled By David Richardson													
Sulfate			40 mg/L	5			EPA 300.0	2.5			12/06/2018 11:56	LJC	
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/06/2018 5:47	JGF	
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/06/2018 5:47	JGF	
Iron			1.5 mg/L	1			EPA 200.7	0.020			12/06/2018 5:47	JGF	
Sample: 07 Well S-5												Sampled	11/29/2018 @ 12:20
Sampled By David Richardson													
Sulfate			200 mg/L	5			EPA 300.0	2.5			12/06/2018 20:48	LJC	
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/06/2018 5:52	JGF	
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/06/2018 5:52	JGF	
Iron			1.8 mg/L	1			EPA 200.7	0.020			12/06/2018 5:52	JGF	
Sample: 08 Well S-6												Sampled	11/29/2018 @ 11:45
Sampled By David Richardson													
Sulfate			56 mg/L	5			EPA 300.0	2.5			12/06/2018 21:19	LJC	
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/07/2018 3:53	JSW	
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/07/2018 3:53	JSW	
Iron			0.35 mg/L	1			EPA 200.7	0.020			12/07/2018 3:53	JSW	
Sample: 09 Well S-1 Swamp												Sampled	11/29/2018 @ 11:15
Sampled By David Richardson													
Sulfate			20 mg/L	5			EPA 300.0	2.5			12/06/2018 21:35	LJC	
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/07/2018 3:58	JSW	
Cadmium			0.055 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/07/2018 3:58	JSW	
Iron			12 mg/L	1			EPA 200.7	0.020			12/07/2018 3:58	JSW	

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

L8K1281

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 12/19/2018
Date Received 11/29/2018

Quarterly Well Sampling

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

A handwritten signature in black ink, appearing to read "Al Moore", written over a horizontal line.

Al Moore A.M.

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

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CERTIFICATE OF ANALYSIS

L8H1537

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 09/07/2018
Date Due 09/18/2018
Date Received 08/27/2018
Customer # E5660**

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech	
Sample: 01 Well C-1												Sampled	08/27/2018 @ 13:26
Sampled By David Richardson													
Sulfate			260 mg/L	5			EPA 300.0	2.5			09/06/2018 17:07	LJC	
Boron			<0.50 mg/L	1			EPA 200.7	0.50			08/30/2018 18:05	JSW	
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	08/30/2018 18:05	JSW	
Iron			5.7 mg/L	1			EPA 200.7	0.010			08/30/2018 18:05	JSW	
Sample: 02 Well C-2												Sampled	08/27/2018 @ 13:16
Sampled By David Richardson													
Sulfate			160 mg/L	5			EPA 300.0	2.5			09/06/2018 17:21	LJC	
Boron			<0.50 mg/L	1			EPA 200.7	0.50			08/30/2018 18:11	JSW	
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	08/30/2018 18:11	JSW	
Iron			21 mg/L	1			EPA 200.7	0.010			08/30/2018 18:11	JSW	
Sample: 03 Well C-3												Sampled	08/27/2018 @ 15:27
Sampled By David Richardson													
Sulfate			50 mg/L	5			EPA 300.0	2.5			09/06/2018 17:35	LJC	
Boron			<0.50 mg/L	1			EPA 200.7	0.50			08/30/2018 18:16	JSW	
Cadmium			0.013 mg/L	1			EPA 200.7	0.010	0.002	0.0015	08/30/2018 18:16	JSW	
Iron			0.75 mg/L	1			EPA 200.7	0.010			08/30/2018 18:16	JSW	
Sample: 04 Well S-2												Sampled	08/27/2018 @ 12:01
Sampled By David Richardson													
Sulfate			56 mg/L	5			EPA 300.0	2.5			09/06/2018 18:18	LJC	
Boron			0.75 mg/L	1			EPA 200.7	0.50			08/30/2018 18:21	JSW	
Cadmium			0.0068 mg/L	1			EPA 200.7	0.010	0.002	0.0015	08/30/2018 18:21	JSW	
Iron			180 mg/L	10			EPA 200.7	0.10			08/31/2018 17:26	JSW	
Sample: 05 Well S-3												Sampled	08/27/2018 @ 11:37
Sampled By David Richardson													
Sulfate		M1	23 mg/L	5			EPA 300.0	2.5			09/06/2018 18:32	LJC	
Boron			<0.50 mg/L	1			EPA 200.7	0.50			08/30/2018 18:27	JSW	

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CERTIFICATE OF ANALYSIS

L8H1537

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 09/18/2018
Date Received 08/27/2018

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	08/27/2018 @ 11:37
Sampled By David Richardson												
Cadmium			0.0026 mg/L	1			EPA 200.7	0.010	0.002	0.0015	08/30/2018 18:27	JSW
Iron			59 mg/L	10			EPA 200.7	0.10			08/31/2018 17:31	JSW
Sample: 06 Well S-4											Sampled	08/27/2018 @ 11:17
Sampled By David Richardson												
Sulfate			37 mg/L	5			EPA 300.0	2.5			09/06/2018 18:46	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			08/30/2018 18:42	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	08/30/2018 18:42	JSW
Iron			18 mg/L	1			EPA 200.7	0.010			08/30/2018 18:42	JSW
Sample: 07 Well S-5											Sampled	08/27/2018 @ 15:05
Sampled By David Richardson												
Sulfate			200 mg/L	5			EPA 300.0	2.5			09/06/2018 19:00	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			08/30/2018 19:03	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	08/30/2018 19:03	JSW
Iron			2.6 mg/L	1			EPA 200.7	0.010			08/30/2018 19:03	JSW
Sample: 08 Well S-6											Sampled	08/27/2018 @ 12:56
Sampled By David Richardson												
Sulfate			55 mg/L	5			EPA 300.0	2.5			09/06/2018 19:15	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			08/30/2018 19:08	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	08/30/2018 19:08	JSW
Iron			12 mg/L	1			EPA 200.7	0.010			08/30/2018 19:08	JSW
Sample: 09 Well S-1 Swamp											Sampled	08/27/2018 @ 12:34
Sampled By David Richardson												
Sulfate			24 mg/L	5			EPA 300.0	2.5			09/06/2018 19:29	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			08/30/2018 19:13	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	08/30/2018 19:13	JSW
Iron			33 mg/L	1			EPA 200.7	0.010			08/30/2018 19:13	JSW

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

L8H1537

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 09/18/2018
Date Received 08/27/2018

Quarterly Well Sampling

M1 Matrix Spike recovery outside Control Limits due to sample matrix interference; biased high.

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

A handwritten signature in black ink, appearing to read "Al Moore", written over a horizontal line.

Al Moore A.M.

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

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CERTIFICATE OF ANALYSIS

L8F1823

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 07/06/2018
Date Due 07/19/2018
Date Received 06/28/2018
Customer # E5660**

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1											Sampled	06/28/2018 @ 10:24
Sampled By David Richardson												
Sulfate			240 mg/L	5			EPA 300.0	2.5			06/29/2018 17:54	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			07/02/2018 18:26	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	07/02/2018 18:26	JSW
Iron			4.2 mg/L	1			EPA 200.7	0.010			07/02/2018 18:26	JSW
Sample: 02 Well C-2											Sampled	06/28/2018 @ 10:10
Sampled By David Richardson												
Sulfate			170 mg/L	5			EPA 300.0	2.5			06/29/2018 18:08	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			07/02/2018 18:31	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	07/02/2018 18:31	JSW
Iron			15 mg/L	1			EPA 200.7	0.010			07/02/2018 18:31	JSW
Sample: 03 Well C-3											Sampled	06/28/2018 @ 9:57
Sampled By David Richardson												
Sulfate			60 mg/L	5			EPA 300.0	2.5			06/29/2018 18:22	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			07/02/2018 18:47	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	07/02/2018 18:47	JSW
Iron			2.8 mg/L	1			EPA 200.7	0.010			07/02/2018 18:47	JSW
Sample: 04 Well S-2											Sampled	06/28/2018 @ 8:51
Sampled By David Richardson												
Sulfate			54 mg/L	5			EPA 300.0	2.5			06/29/2018 18:36	LJC
Boron			1.3 mg/L	1			EPA 200.7	0.50			07/02/2018 18:52	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	07/02/2018 18:52	JSW
Iron			180 mg/L	10			EPA 200.7	0.10			07/03/2018 17:48	JSW
Sample: 05 Well S-3											Sampled	06/28/2018 @ 8:33
Sampled By David Richardson												
Sulfate			6.7 mg/L	5			EPA 300.0	2.5			06/29/2018 18:50	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			07/02/2018 18:58	JSW

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CERTIFICATE OF ANALYSIS

L8F1823

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/19/2018
Date Received 06/28/2018

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	06/28/2018 @ 8:33
Sampled By David Richardson												
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	07/02/2018 18:58	JSW
Iron			67 mg/L	10			EPA 200.7	0.10			07/03/2018 17:53	JSW
Sample: 06 Well S-4											Sampled	06/28/2018 @ 8:12
Sampled By David Richardson												
Sulfate			35 mg/L	5			EPA 300.0	2.5			06/29/2018 19:05	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			07/02/2018 19:03	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	07/02/2018 19:03	JSW
Iron			230 mg/L	10			EPA 200.7	0.10			07/03/2018 17:58	JSW
Sample: 07 Well S-5											Sampled	06/28/2018 @ 10:44
Sampled By David Richardson												
Sulfate			200 mg/L	5			EPA 300.0	2.5			06/29/2018 20:01	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			07/02/2018 19:13	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	07/02/2018 19:13	JSW
Iron			3.8 mg/L	1			EPA 200.7	0.010			07/02/2018 19:13	JSW
Sample: 08 Well S-6											Sampled	06/28/2018 @ 9:38
Sampled By David Richardson												
Sulfate			55 mg/L	5			EPA 300.0	2.5			06/29/2018 20:16	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			07/02/2018 19:19	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	07/02/2018 19:19	JSW
Iron			6.1 mg/L	1			EPA 200.7	0.010			07/02/2018 19:19	JSW
Sample: 09 Well S-1 Swamp											Sampled	06/28/2018 @ 9:15
Sampled By David Richardson												
Sulfate			18 mg/L	5			EPA 300.0	2.5			06/29/2018 20:30	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			07/02/2018 19:24	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	07/02/2018 19:24	JSW
Iron			20 mg/L	1			EPA 200.7	0.010			07/02/2018 19:24	JSW

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

L8F1823

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/19/2018
Date Received 06/28/2018

Quarterly Well Sampling

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

A handwritten signature in black ink, appearing to read "DL", is written over a horizontal line.

David Lester For AI Moore A.M.

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

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CERTIFICATE OF ANALYSIS

P8C0209

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 04/04/2018
Date Due 04/11/2018
Date Received 03/22/2018
Customer # E5660**

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1											Sampled	03/22/2018 @ 12:44
Sampled By David Richardson												
Sulfate			240 mg/L	5			EPA 300.0	2.5			03/28/2018 17:55	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/27/2018 22:46	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	03/27/2018 22:46	EML
Iron			0.89 mg/L	1			EPA 200.7	0.010			03/27/2018 22:46	EML
Sample: 02 Well C-2											Sampled	03/22/2018 @ 12:29
Sampled By David Richardson												
Sulfate			240 mg/L	5			EPA 300.0	2.5			03/28/2018 18:51	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/27/2018 22:52	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	03/27/2018 22:52	EML
Iron			18 mg/L	1			EPA 200.7	0.010			03/27/2018 22:52	EML
Sample: 03 Well C-3											Sampled	03/22/2018 @ 12:10
Sampled By David Richardson												
Sulfate			56 mg/L	5			EPA 300.0	2.5			03/28/2018 19:06	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/27/2018 22:57	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	03/27/2018 22:57	EML
Iron			2.3 mg/L	1			EPA 200.7	0.010			03/27/2018 22:57	EML
Sample: 04 Well S-2											Sampled	03/22/2018 @ 10:53
Sampled By David Richardson												
Sulfate			76 mg/L	5			EPA 300.0	2.5			03/28/2018 19:20	LJC
Boron			2.0 mg/L	1			EPA 200.7	0.50			03/27/2018 23:02	EML
Cadmium			0.0071 mg/L	1			EPA 200.7	0.010	0.002	0.0015	03/27/2018 23:02	EML
Iron			180 mg/L	10			EPA 200.7	0.10			03/28/2018 16:35	EML
Sample: 05 Well S-3											Sampled	03/22/2018 @ 10:26
Sampled By David Richardson												
Sulfate			13 mg/L	5			EPA 300.0	2.5			03/28/2018 19:34	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/27/2018 23:08	EML

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CERTIFICATE OF ANALYSIS

P8C0209

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 04/11/2018
Date Received 03/22/2018

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	03/22/2018 @ 10:26
Sampled By David Richardson												
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	03/27/2018 23:08	EML
Iron			27 mg/L	1			EPA 200.7	0.010			03/27/2018 23:08	EML
Sample: 06 Well S-4											Sampled	03/22/2018 @ 9:57
Sampled By David Richardson												
Sulfate			38 mg/L	5			EPA 300.0	2.5			03/28/2018 19:48	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/27/2018 23:13	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	03/27/2018 23:13	EML
Iron			0.66 mg/L	1			EPA 200.7	0.010			03/27/2018 23:13	EML
Sample: 07 Well S-5											Sampled	03/22/2018 @ 15:02
Sampled By David Richardson												
Sulfate			190 mg/L	5			EPA 300.0	2.5			03/28/2018 20:02	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/27/2018 23:18	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	03/27/2018 23:18	EML
Iron			2.7 mg/L	1			EPA 200.7	0.010			03/27/2018 23:18	EML
Sample: 08 Well S-6											Sampled	03/22/2018 @ 11:56
Sampled By David Richardson												
Sulfate			54 mg/L	5			EPA 300.0	2.5			03/28/2018 20:16	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/27/2018 23:23	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	03/27/2018 23:23	EML
Iron			15 mg/L	1			EPA 200.7	0.010			03/27/2018 23:23	EML
Sample: 09 Well S-1 Swamp											Sampled	03/22/2018 @ 11:29
Sampled By David Richardson												
Sulfate			19 mg/L	5			EPA 300.0	2.5			03/28/2018 20:31	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/27/2018 23:54	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	03/27/2018 23:54	EML
Iron			15 mg/L	1			EPA 200.7	0.010			03/27/2018 23:54	EML

Qualifier Definitions

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CERTIFICATE OF ANALYSIS

P8C0209

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 04/11/2018
Date Received 03/22/2018

Quarterly Well Sampling

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

A handwritten signature in black ink, appearing to read "Al Moore".

Al Moore A.M.

A handwritten signature in black ink, appearing to read "David Lester".

David Lester, Managing Director

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate Federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact David Lester, Managing Director at 502.962.6400 or Rob Crookston, President at president@microbac.com.

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10D

1990555005
Southern Illinois Power
10825 Lake of Egypt Rd.
Marion, IL 62959

On-Site Permit Exempt "815" Facility 2019 Annual Report

35 Ill. Adm. Code 815 requires all **landfills** exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit **annual** reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due **February 15, 2020** and covers the period of January 1, 2019 thru December 31, 2019.

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion By Products

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

930,160 (in place cubic yards)

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

IL 532 2428
LPC 536 Rev. Oct. 03

* THIS LANDFILL HASN'T RECEIVED MATERIAL FOR A NUMBER OF YEARS.

C. PROPOSED ACTIVITIES

- 1. Expected amount of waste to be disposed on-site **January 1, 2019** thru **December 31, 2019**:

_____ *0* _____ (in place cubic yards)

D. OTHER INFORMATION TO BE SUBMITTED

Please attach the following required information. Please indicate attachment number or letter in the blank provided.

Attachments

- 1. _____ Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
- 2. X _____ All raw monitoring data collected at the facility from the leachate collection system, groundwater monitoring network, and gas monitoring system.
- 3. _____ Graphical results of monitoring efforts.
- 4. _____ Statistical summaries and analysis of trends in the collected data.
- 5. _____ Changes to the monitoring program.
- 6. _____ Discussion of error analysis, detection limits, and observed trends.
- 7. _____ Description of structures to be built within the next year.
- 8. _____ Description of new monitoring stations to be installed within the next year.
- 9. _____ A summary of all modifications including significant modifications made to the operations during the course of the year.

E. SIGNATURE OF THE OPERATOR OR DULY AUTHORIZED AGENT

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

JASON A MCLAURIN
Name (print/type)

Jason A McLaurin
Signature

Phone: (618) 964 2446

Email: Jmclaurin@sipower.org

Please mail this form and attachments to the following address:

Illinois Environmental Protection Agency
Bureau of Land (#24)
Attn: Annual Reports and Data Collection Unit
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276



CERTIFICATE OF ANALYSIS

L9L0923

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 01/02/2020
Date Due 01/09/2020
Date Received 12/19/2019
Customer # E5660**

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1												
Sampled By Ted Meriwether											Sampled 12/14/2019 @ 10:12	
Chloride			380 mg/L	5			EPA 300.0	2.5			12/24/2019 14:32	LJC
Sulfate			300 mg/L	5			EPA 300.0	2.5			12/24/2019 14:32	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/31/2019 4:18	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/31/2019 4:18	JSW
Iron			0.38 mg/L	1			EPA 200.7	0.020			12/31/2019 4:18	JSW
Sample: 02 Well C-2												
Sampled By Ted Meriwether											Sampled 12/14/2019 @ 9:57	
Chloride			3.9 mg/L	5			EPA 300.0	2.5			12/24/2019 14:46	LJC
Sulfate			220 mg/L	5			EPA 300.0	2.5			12/24/2019 14:46	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/31/2019 4:24	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/31/2019 4:24	JSW
Iron			17 mg/L	1			EPA 200.7	0.020			12/31/2019 4:24	JSW
Sample: 03 Well C-3												
Sampled By Ted Meriwether											Sampled 12/14/2019 @ 12:29	
Chloride			570 mg/L	5			EPA 300.0	2.5			12/24/2019 15:00	LJC
Sulfate			66 mg/L	5			EPA 300.0	2.5			12/24/2019 15:00	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/31/2019 4:31	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/31/2019 4:31	JSW
Iron			0.60 mg/L	1			EPA 200.7	0.020			12/31/2019 4:31	JSW
Sample: 04 Well S-2												
Sampled By Ted Meriwether											Sampled 12/14/2019 @ 11:20	
Chloride			440 mg/L	5			EPA 300.0	2.5			12/24/2019 15:13	LJC
Sulfate			150 mg/L	5			EPA 300.0	2.5			12/24/2019 15:13	LJC
Boron			2.2 mg/L	1			EPA 200.7	0.50			12/31/2019 4:50	JSW
Cadmium			0.0078 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/31/2019 4:50	JSW
Iron			210 mg/L	50			EPA 200.7	1.0			12/31/2019 17:09	JSW

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CERTIFICATE OF ANALYSIS

L9L0923

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 01/09/2020
Date Received 12/19/2019

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	12/14/2019 @ 10:57
Sampled By Ted Meriwether												
Chloride			110 mg/L	5			EPA 300.0	2.5			12/24/2019 15:27	LJC
Sulfate			18 mg/L	5			EPA 300.0	2.5			12/24/2019 15:27	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/31/2019 4:57	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/31/2019 4:57	JSW
Iron			36 mg/L	1			EPA 200.7	0.020			12/31/2019 4:57	JSW
Sample: 06 Well S-4											Sampled	12/14/2019 @ 10:30
Sampled By Ted Meriwether												
Chloride			20 mg/L	5			EPA 300.0	2.5			12/24/2019 15:41	LJC
Sulfate			45 mg/L	5			EPA 300.0	2.5			12/24/2019 15:41	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/31/2019 5:03	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/31/2019 5:03	JSW
Iron			2.2 mg/L	1			EPA 200.7	0.020			12/31/2019 5:03	JSW
Sample: 07 Well S-5											Sampled	12/14/2019 @ 9:43
Sampled By Ted Meriwether												
Chloride			31 mg/L	5			EPA 300.0	2.5			12/24/2019 15:54	LJC
Sulfate			230 mg/L	5			EPA 300.0	2.5			12/24/2019 15:54	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/31/2019 5:09	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/31/2019 5:09	JSW
Iron			0.69 mg/L	1			EPA 200.7	0.020			12/31/2019 5:09	JSW
Sample: 08 Well S-6											Sampled	12/14/2019 @ 12:47
Sampled By Ted Meriwether												
Chloride			25 mg/L	5			EPA 300.0	2.5			12/24/2019 16:08	LJC
Sulfate			64 mg/L	5			EPA 300.0	2.5			12/24/2019 16:08	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/31/2019 5:15	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/31/2019 5:15	JSW
Iron			0.2 mg/L	1			EPA 200.7	0.020			12/31/2019 5:15	JSW
Sample: 09 Well S-1 Swamp											Sampled	12/14/2019 @ 11:54
Sampled By Ted Meriwether												

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CERTIFICATE OF ANALYSIS

L9L0923

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 01/09/2020
Date Received 12/19/2019

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 09 Well S-1 Swamp											Sampled	12/14/2019 @ 11:54
Sampled By Ted Meriwether												
Chloride			7.0 mg/L	5			EPA 300.0	2.5			12/24/2019 17:02	LJC
Sulfate			26 mg/L	5			EPA 300.0	2.5			12/24/2019 17:02	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/31/2019 5:22	JSW
Cadmium			0.0089 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/31/2019 5:22	JSW
Iron			16 mg/L	1			EPA 200.7	0.020			12/31/2019 5:22	JSW

Qualifier Definitions

Report Comments

Reviewed and Approved By:

AL MOORE

Field Manager

Reported: 01/02/2020 16:39

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CERTIFICATE OF ANALYSIS

L9I0556

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 09/19/2019
Date Due 10/02/2019
Date Received 09/12/2019
Customer # E5660**

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1													
Sampled By Ted Meriwether												Sampled 09/12/2019 @ 13:00	
Chloride			300	mg/L	5			EPA 300.0	2.5			09/17/2019 2:30	LJC
Sulfate			300	mg/L	5			EPA 300.0	2.5			09/17/2019 2:30	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			09/16/2019 18:57	JSW
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	09/16/2019 18:57	JSW
Iron			0.86	mg/L	1			EPA 200.7	0.020			09/16/2019 18:57	JSW
Sample: 02 Well C-2													
Sampled By Ted Meriwether												Sampled 09/12/2019 @ 13:20	
Chloride			23	mg/L	5			EPA 300.0	2.5			09/17/2019 2:44	LJC
Sulfate			120	mg/L	5			EPA 300.0	2.5			09/17/2019 2:44	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			09/16/2019 19:04	JSW
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	09/16/2019 19:04	JSW
Iron			12	mg/L	1			EPA 200.7	0.020			09/16/2019 19:04	JSW
Sample: 03 Well C-3													
Sampled By Ted Meriwether												Sampled 09/12/2019 @ 12:15	
Chloride			460	mg/L	5			EPA 300.0	2.5			09/17/2019 2:57	LJC
Sulfate			82	mg/L	5			EPA 300.0	2.5			09/17/2019 2:57	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			09/16/2019 19:10	JSW
Cadmium			0.0028	mg/L	1			EPA 200.7	0.010	0.002	0.00050	09/16/2019 19:10	JSW
Iron			1.3	mg/L	1			EPA 200.7	0.020			09/16/2019 19:10	JSW
Sample: 04 Well S-2													
Sampled By Ted Meriwether												Sampled 09/12/2019 @ 11:25	
Chloride			350	mg/L	5			EPA 300.0	2.5			09/17/2019 3:11	LJC
Sulfate			88	mg/L	5			EPA 300.0	2.5			09/17/2019 3:11	LJC
Boron			0.94	mg/L	1			EPA 200.7	0.50			09/16/2019 19:16	JSW
Cadmium			0.0045	mg/L	1			EPA 200.7	0.010	0.002	0.00050	09/16/2019 18:16	JSW
Iron			200	mg/L	50			EPA 200.7	1.0			09/17/2019 17:33	JSW

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CERTIFICATE OF ANALYSIS

L9I0556

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 10/02/2019
Date Received 09/12/2019

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3												Sampled	09/12/2019 @ 11:07
Sampled By Ted Meriwether													
Boron			<0.50	mg/L	1			EPA 200.7	0.50			09/16/2019 22:26	JSW
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	09/16/2019 22:26	JSW
Iron			64	mg/L	10			EPA 200.7	0.20			09/17/2019 18:10	JSW
Sample: 06 Well S-4												Sampled	09/12/2019 @ 10:55
Sampled By Ted Meriwether													
Chloride			22	mg/L	5			EPA 300.0	2.5			09/17/2019 3:25	LJC
Sulfate			43	mg/L	5			EPA 300.0	2.5			09/17/2019 3:25	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			09/16/2019 22:44	JSW
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	09/16/2019 22:44	JSW
Iron			19	mg/L	1			EPA 200.7	0.020			09/16/2019 22:44	JSW
Sample: 07 Well S-5												Sampled	09/12/2019 @ 13:35
Sampled By Ted Meriwether													
Chloride			34	mg/L	5			EPA 300.0	2.5			09/17/2019 3:38	LJC
Sulfate			230	mg/L	5			EPA 300.0	2.5			09/17/2019 3:38	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			09/16/2019 22:50	JSW
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	09/16/2019 22:50	JSW
Iron			3.0	mg/L	1			EPA 200.7	0.020			09/16/2019 22:50	JSW
Sample: 08 Well S-6												Sampled	09/12/2019 @ 12:45
Sampled By Ted Meriwether													
Chloride			24	mg/L	5			EPA 300.0	2.5			09/17/2019 3:52	LJC
Sulfate			65	mg/L	5			EPA 300.0	2.5			09/17/2019 3:52	LJC
Boron			<0.50	mg/L	1			EPA 200.7	0.50			09/16/2019 22:56	JSW
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	09/16/2019 22:56	JSW
Iron			9.1	mg/L	1			EPA 200.7	0.020			09/16/2019 22:56	JSW
Sample: 09 Well S-1 Swamp												Sampled	09/12/2019 @ 11:50
Sampled By Ted Meriwether													
Chloride			6.1	mg/L	5			EPA 300.0	2.5			09/17/2019 4:06	LJC
Sulfate			21	mg/L	5			EPA 300.0	2.5			09/17/2019 4:06	LJC

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CERTIFICATE OF ANALYSIS

L9I0556

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 10/02/2019
Date Received 09/12/2019

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 09 Well S-1 Swamp												Sampled	09/12/2019 @ 11:50
Sampled By Ted Meriwether													
Boron			<0.50	mg/L	1			EPA 200.7	0.50			09/16/2019 23:03	JSW
Cadmium			<0.002	mg/L	1			EPA 200.7	0.010	0.002	0.00050	09/16/2019 23:03	JSW
Iron			33	mg/L	1			EPA 200.7	0.020			09/16/2019 23:03	JSW
Sample: 10 Well S-3 Repull due to sample being broke in lab.												Sampled	09/17/2019 @ 12:30
Sampled By Ted Meriwether													
Chloride			140	mg/L	5			EPA 300.0	2.5			09/18/2019 16:07	LJC
Sulfate			17	mg/L	5			EPA 300.0	2.5			09/18/2019 16:07	LJC

Qualifier Definitions

Report Comments

Reviewed and Approved By:

David Richardson
Field Services Tech Paducah
Reported: 09/19/2019 16:34

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PRELIMINARY CERTIFICATE OF ANALYSIS

L9F0808

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

Date Reported 07/01/2019
Date Due 07/15/2019
Date Received 06/13/2019
Customer # E5660
Work Purchase Order:

Special Quarterly Sampling Jun 2019

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 01 C-1											Sampled	06/13/2019 @ 13:46
Sampled By Ted Meriwether/Mike Gribbin												
pH - Field			6.05	SU	1			SM 4500 H+ B	1.00		06/13/2019 13:46	TWM
Temperature at pH - Field			17.9	deg C	1			SM 2550B			06/13/2019 13:46	TWM
Solids, Dissolved			100	mg/L	1			SM 2540C	10		06/17/2019 17:00	MGM/I
Chloride			310	mg/L	6			EPA 300.0	3.0	1.3	06/14/2019 19:17	LJC
Fluoride			0.34	mg/L	1			EPA 300.0	0.50	0.060	06/14/2019 15:31	LJC
Nitrogen, Nitrate			0.17	mg/L	1			EPA 300.0	0.11	0.050	06/14/2019 15:31	LJC
Sulfate			320	mg/L	6			EPA 300.0	3.0	1.8	06/14/2019 19:17	LJC
Antimony			<1.6	ug/L	2			EPA 200.8	12	1.6	06/14/2019 22:33	JGF
Arsenic			<2.0	ug/L	2			EPA 200.8	300	2.0	06/14/2019 22:33	JGF
Barium			37	ug/L	2			EPA 200.8	200	0.11	06/14/2019 22:33	JGF
Beryllium			<0.15	ug/L	2			EPA 200.8	8.0	0.15	06/14/2019 22:33	JGF
Boron			0.46	mg/L	1			EPA 200.7	0.50	0.19	06/18/2019 6:40	JSW
Cadmium			<0.018	ug/L	2			EPA 200.8	0.54	0.018	06/14/2019 22:33	JGF
Chromium			2.0	ug/L	2			EPA 200.8	14	0.14	06/14/2019 22:33	JGF
Cobalt			4.8	ug/L	2			EPA 200.8	10	0.63	06/14/2019 22:33	JGF
Copper			1.5	ug/L	2			EPA 200.8	8.6	0.70	06/14/2019 22:33	JGF
Iron			870	ug/L	2			EPA 200.8	2000	33	06/14/2019 22:33	JGF
Lead			1.1	ug/L	2			EPA 200.8	6.2	0.16	06/14/2019 22:33	JGF
Manganese			180	ug/L	2			EPA 200.8	100	0.21	06/14/2019 22:33	JGF
Nickel			23	ug/L	2			EPA 200.8	100	0.32	06/14/2019 22:33	JGF
Selenium			33	ug/L	2			EPA 200.8	1.0	0.33	06/14/2019 22:33	JGF
Silver		L3	<0.038	ug/L	2			EPA 200.8	7.6	0.038	06/14/2019 22:33	JGF
Thallium			<0.15	ug/L	2			EPA 200.8	0.94	0.15	06/14/2019 22:33	JGF
Vanadium			3.5	ug/L	2			EPA 200.8	10	0.38	06/14/2019 22:33	JGF
Zinc		L3	<13	ug/L	2			EPA 200.8	220	13	06/14/2019 22:33	JGF
Total Mercury by CVAA								EPA 245.1 Rev 3.0				
Mercury			<0.000093	mg/L	1				0.00020	0.000093	06/20/2019 13:06	CGL

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PRELIMINARY CERTIFICATE OF ANALYSIS

L9F0808

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/15/2019
Date Received 06/13/2019

Special Quarterly Sampling Jun 2019

Analysis	OOB	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 01 C-1										Sampled	06/13/2019 @ 13:46
Sampled By Ted Meriwether/Mike Gribbin											
<u>Total Mercury by CVAA</u> EPA 245.1 Rev 3.0											
Total Cyanide			<0.0020 mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/18/2019 12:16	CGL
Sample: 02 C-2										Sampled	06/13/2019 @ 14:05
Sampled By Ted Meriwether/Mike Gribbin											
pH - Field			6.40 SU	1			SM 4500 H+ B	1.00		06/13/2019 14:05	TWM
Temperature at pH - Field			19.3 deg C	1			SM 2550B			06/13/2019 14:05	TWM
Solids, Dissolved			100 mg/L	1			SM 2540C	10		06/17/2019 17:00	MGM/I
Chloride			3.2 mg/L	1			EPA 300.0	0.50	0.21	06/14/2019 15:46	LJC
Fluoride			0.12 mg/L	1			EPA 300.0	0.50	0.060	06/14/2019 15:46	LJC
Nitrogen, Nitrate			0.053 mg/L	1			EPA 300.0	0.11	0.050	06/14/2019 15:46	LJC
Sulfate			270 mg/L	5			EPA 300.0	2.5	1.5	06/14/2019 19:32	LJC
Antimony			<1.6 ug/L	2			EPA 200.8	12	1.6	06/14/2019 22:39	JGF
Arsenic			2.9 ug/L	2			EPA 200.8	300	2.0	06/14/2019 22:39	JGF
Barium			46 ug/L	2			EPA 200.8	200	0.11	06/14/2019 22:39	JGF
Beryllium			<0.15 ug/L	2			EPA 200.8	8.0	0.15	06/14/2019 22:39	JGF
Boron			<0.19 mg/L	1			EPA 200.7	0.50	0.19	06/18/2019 6:47	JSW
Cadmium			<0.018 ug/L	2			EPA 200.8	0.54	0.018	06/14/2019 22:39	JGF
Chromium			1.6 ug/L	2			EPA 200.8	14	0.14	06/14/2019 22:39	JGF
Cobalt			24 ug/L	2			EPA 200.8	10	0.63	06/14/2019 22:39	JGF
Copper			<0.70 ug/L	2			EPA 200.8	8.8	0.70	06/14/2019 22:39	JGF
Iron			7500 ug/L	2			EPA 200.8	2000	33	06/14/2019 22:39	JGF
Lead			<0.16 ug/L	2			EPA 200.8	6.2	0.16	06/14/2019 22:39	JGF
Manganese			23000 ug/L	2			EPA 200.8	100	0.21	06/14/2019 22:39	JGF
Nickel			1.6 ug/L	2			EPA 200.8	100	0.32	06/14/2019 22:39	JGF
Selenium			1.4 ug/L	2			EPA 200.8	1.0	0.33	06/14/2019 22:39	JGF
Silver		L3	<0.038 ug/L	2			EPA 200.8	7.6	0.038	06/14/2019 22:39	JGF
Thallium			<0.15 ug/L	2			EPA 200.8	0.94	0.15	06/14/2019 22:39	JGF
Vanadium			1.4 ug/L	2			EPA 200.8	10	0.38	06/14/2019 22:39	JGF

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PRELIMINARY CERTIFICATE OF ANALYSIS

L9F0808

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/15/2019
Date Received 06/13/2019

Special Quarterly Sampling Jun 2019

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 02 C-2											Sampled	06/13/2019 @ 14:05
Sampled By Ted Meriwether/Mike Gribbin												
Zinc		L3	<13	ug/L	2			EPA 200.8	220	13	06/14/2019 22:39	JGF
Total Mercury by CVAA								EPA 245.1 Rev 3.0				
Mercury			<0.000093	mg/L	1				0.00020	0.000093	06/20/2019 13:08	CGL
Total Cyanide			<0.0020	mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/18/2019 12:17	CGL
Sample: 03 C-3											Sampled	06/13/2019 @ 12:30
Sampled By Ted Meriwether/Mike Gribbin												
pH - Field			6.96	SU	1			SM 4500 H+ B	1.00		06/13/2019 12:30	TWM
Temperature at pH - Field			16.9	deg C	1			SM 2550B			06/13/2019 12:30	TWM
Solids, Dissolved			120	mg/L	1			SM 2540C	10		06/17/2019 17:00	MGM/I
Chloride			480	mg/L	9			EPA 300.0	4.5	1.9	06/14/2019 19:47	LJC
Fluoride			0.19	mg/L	1			EPA 300.0	0.50	0.060	06/14/2019 16:02	LJC
Nitrogen, Nitrate			0.082	mg/L	1			EPA 300.0	0.11	0.050	06/14/2019 16:02	LJC
Sulfate			110	mg/L	9			EPA 300.0	4.5	2.6	06/14/2019 19:47	LJC
Antimony			<1.6	ug/L	2			EPA 200.8	12	1.6	06/14/2019 22:46	JGF
Arsenic			3.3	ug/L	2			EPA 200.8	300	2.0	06/14/2019 22:46	JGF
Barium			200	ug/L	2			EPA 200.8	200	0.11	06/14/2019 22:46	JGF
Beryllium			<0.15	ug/L	2			EPA 200.8	8.0	0.15	06/14/2019 22:46	JGF
Boron			<0.19	mg/L	1			EPA 200.7	0.50	0.19	06/18/2019 6:53	JSW
Cadmium			<0.018	ug/L	2			EPA 200.8	0.54	0.018	06/14/2019 22:46	JGF
Chromium			2.9	ug/L	2			EPA 200.8	14	0.14	06/14/2019 22:46	JGF
Cobalt			7.2	ug/L	2			EPA 200.8	10	0.63	06/14/2019 22:46	JGF
Copper			3.0	ug/L	2			EPA 200.8	8.6	0.70	06/14/2019 22:46	JGF
Iron			2300	ug/L	2			EPA 200.8	2000	33	06/14/2019 22:46	JGF
Lead			3.1	ug/L	2			EPA 200.8	6.2	0.16	06/14/2019 22:46	JGF
Manganese			810	ug/L	2			EPA 200.8	100	0.21	06/14/2019 22:46	JGF
Nickel			10	ug/L	2			EPA 200.8	100	0.32	06/14/2019 22:46	JGF
Selenium			12	ug/L	2			EPA 200.8	1.0	0.33	06/14/2019 22:46	JGF
Silver		L3	1.3	ug/L	2			EPA 200.8	7.6	0.038	06/14/2019 22:46	JGF

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PRELIMINARY CERTIFICATE OF ANALYSIS

L9F0808

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/15/2019
Date Received 06/13/2019

Special Quarterly Sampling Jun 2019

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 03 C-3											Sampled	06/13/2019 @ 12:30
Sampled By Ted Meriwether/Mike Gribbin												
Thallium			<0.15	ug/L	2			EPA 200.8	0.94	0.15	06/14/2019 22:46	JGF
Vanadium			6.3	ug/L	2			EPA 200.8	10	0.38	06/14/2019 22:46	JGF
Zinc		L3	26	ug/L	2			EPA 200.8	220	13	06/14/2019 22:46	JGF
<u>Total Mercury by CVAA</u>								EPA 245.1 Rev 3.0				
Mercury			<0.000093	mg/L	1				0.00020	0.000093	06/20/2019 13:09	CGL
Total Cyanide			0.0056	mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/18/2019 12:19	CGL
Sample: 04 S-1											Sampled	06/13/2019 @ 11:22
Sampled By Ted Meriwether/Mike Gribbin												
pH - Field			6.57	SU	1			SM 4500 H+ B	1.00		06/13/2019 11:22	TWM
Temperature at pH - Field			14.7	deg C	1			SM 2550B			06/13/2019 11:22	TWM
Solids, Dissolved			290	mg/L	1			SM 2540C	10		06/17/2019 17:00	MGM/I
Chloride			6.8	mg/L	1			EPA 300.0	0.50	0.21	06/14/2019 16:17	LJC
Fluoride			0.17	mg/L	1			EPA 300.0	0.50	0.060	06/14/2019 16:17	LJC
Nitrogen, Nitrate			0.056	mg/L	1			EPA 300.0	0.11	0.050	06/14/2019 16:17	LJC
Sulfate			24	mg/L	1			EPA 300.0	0.50	0.29	06/14/2019 16:17	LJC
Antimony			<1.6	ug/L	2			EPA 200.8	12	1.6	06/14/2019 22:52	JGF
Arsenic			9.4	ug/L	2			EPA 200.8	300	2.0	06/14/2019 22:52	JGF
Barium			110	ug/L	2			EPA 200.8	200	0.11	06/14/2019 22:52	JGF
Beryllium			<0.15	ug/L	2			EPA 200.8	8.0	0.15	06/14/2019 22:52	JGF
Boron			<0.19	mg/L	1			EPA 200.7	0.50	0.19	06/18/2019 7:19	JSW
Cadmium			<0.018	ug/L	2			EPA 200.8	0.54	0.018	06/14/2019 22:52	JGF
Chromium			6.9	ug/L	2			EPA 200.8	14	0.14	06/14/2019 22:52	JGF
Cobalt			4.3	ug/L	2			EPA 200.8	10	0.63	06/14/2019 22:52	JGF
Copper			6.3	ug/L	2			EPA 200.8	8.6	0.70	06/14/2019 22:52	JGF
Iron			7700	ug/L	2			EPA 200.8	2000	33	06/14/2019 22:52	JGF
Lead			6.2	ug/L	2			EPA 200.8	6.2	0.16	06/14/2019 22:52	JGF
Manganese			390	ug/L	2			EPA 200.8	100	0.21	06/14/2019 22:52	JGF
Nickel			8.0	ug/L	2			EPA 200.8	100	0.32	06/14/2019 22:52	JGF

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PRELIMINARY CERTIFICATE OF ANALYSIS

L9F0808

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/15/2019
Date Received 06/13/2019

Special Quarterly Sampling Jun 2019

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 04 S-1											Sampled	06/13/2019 @ 11:22
Sampled By Ted Meriwether/Mike Gribbin												
Selenium			<0.33	ug/L	2			EPA 200.8	1.0	0.33	06/14/2019 22:52	JGF
Silver		L3	<0.038	ug/L	2			EPA 200.8	7.6	0.038	06/14/2019 22:52	JGF
Thallium			<0.15	ug/L	2			EPA 200.8	0.94	0.15	06/14/2019 22:52	JGF
Vanadium			13	ug/L	2			EPA 200.8	10	0.38	06/14/2019 22:52	JGF
Zinc		L3	24	ug/L	2			EPA 200.8	220	13	06/14/2019 22:52	JGF
<u>Total Mercury by CVAA</u>								EPA 245.1 Rev 3.0				
Mercury			<0.000093	mg/L	1				0.00020	0.000093	06/20/2019 13:10	CGL
Total Cyanide			<0.0020	mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/18/2019 12:21	CGL
Sample: 05 S-2											Sampled	06/13/2019 @ 11:49
Sampled By Ted Meriwether/Mike Gribbin												
pH - Field			6.06	SU	1			SM 4500 H+ B	1.00		06/13/2019 11:49	TWM
Temperature at pH - Field			16.8	deg C	1			SM 2550B			06/13/2019 11:49	TWM
Solids, Dissolved			190	mg/L	1			SM 2540C	10		06/17/2019 17:00	MGM/I
Chloride			360	mg/L	7			EPA 300.0	3.5	1.5	06/15/2019 1:35	LJC
Fluoride			0.062	mg/L	1			EPA 300.0	0.50	0.060	06/14/2019 16:47	LJC
Nitrogen, Nitrate			<0.050	mg/L	1			EPA 300.0	0.11	0.050	06/14/2019 16:47	LJC
Sulfate			130	mg/L	7			EPA 300.0	3.5	2.1	06/15/2019 1:35	LJC
Antimony			<1.6	ug/L	2			EPA 200.8	12	1.6	06/14/2019 22:58	JGF
Arsenic			<2.0	ug/L	2			EPA 200.8	300	2.0	06/14/2019 22:58	JGF
Barium			970	ug/L	2			EPA 200.8	200	0.11	06/14/2019 22:58	JGF
Beryllium			<0.15	ug/L	2			EPA 200.8	8.0	0.15	06/14/2019 22:58	JGF
Boron			2.2	mg/L	1			EPA 200.7	0.50	0.19	06/18/2019 7:25	JSW
Cadmium			<0.018	ug/L	2			EPA 200.8	0.54	0.018	06/14/2019 22:58	JGF
Chromium			4.4	ug/L	2			EPA 200.8	14	0.14	06/14/2019 22:58	JGF
Cobalt			1.2	ug/L	2			EPA 200.8	10	0.63	06/14/2019 22:58	JGF
Copper			1.9	ug/L	2			EPA 200.8	8.6	0.70	06/14/2019 22:58	JGF
Iron			140000	ug/L	2			EPA 200.8	2000	33	06/14/2019 22:58	JGF
Lead			2.7	ug/L	2			EPA 200.8	6.2	0.16	06/14/2019 22:58	JGF

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PRELIMINARY CERTIFICATE OF ANALYSIS

L9F0808

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/15/2019
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Special Quarterly Sampling Jun 2019

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 05 S-2											Sampled	06/13/2019 @ 11:49
Sampled By Ted Meriwether/Mike Gribbin												
Manganese			18000	ug/L	2			EPA 200.8	100	0.21	06/14/2019 22:58	JGF
Nickel			1.7	ug/L	2			EPA 200.8	100	0.32	06/14/2019 22:58	JGF
Selenium			17	ug/L	2			EPA 200.8	1.0	0.33	06/14/2019 22:58	JGF
Silver		L3	<0.038	ug/L	2			EPA 200.8	7.6	0.038	06/14/2019 22:58	JGF
Thallium			<0.15	ug/L	2			EPA 200.8	0.94	0.15	06/14/2019 22:58	JGF
Vanadium			6.5	ug/L	2			EPA 200.8	10	0.38	06/14/2019 22:58	JGF
Zinc		L3	<13	ug/L	2			EPA 200.8	220	13	06/14/2019 22:58	JGF
<u>Total Mercury by CVAA</u>								EPA 245.1 Rev 3.0				
Mercury			<0.000093	mg/L	1				0.00020	0.000093	06/20/2019 13:11	CGL
Total Cyanide			0.0022	mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/18/2019 12:23	CGL
Sample: 06 S-3											Sampled	06/13/2019 @ 12:07
Sampled By Ted Meriwether/Mike Gribbin												
pH - Field			6.28	SU	1			SM 4500 H+ B	1.00		06/13/2019 12:07	TWM
Temperature at pH - Field			16.9	deg C	1			SM 2550B			06/13/2019 12:07	TWM
Solids, Dissolved			290	mg/L	1			SM 2540C	10		06/17/2019 17:00	MGM/I
Chloride			170	mg/L	3			EPA 300.0	1.5	0.63	06/15/2019 1:51	LJC
Fluoride			0.088	mg/L	1			EPA 300.0	0.50	0.060	06/14/2019 17:02	LJC
Nitrogen, Nitrate			<0.050	mg/L	1			EPA 300.0	0.11	0.050	06/14/2019 17:02	LJC
Sulfate			4.7	mg/L	1			EPA 300.0	0.50	0.29	06/14/2019 17:02	LJC
Antimony			<1.6	ug/L	2			EPA 200.8	12	1.6	06/14/2019 23:05	JGF
Arsenic			8.9	ug/L	2			EPA 200.8	300	2.0	06/14/2019 23:05	JGF
Barium			330	ug/L	2			EPA 200.8	200	0.11	06/14/2019 23:05	JGF
Beryllium			<0.15	ug/L	2			EPA 200.8	8.0	0.15	06/14/2019 23:05	JGF
Boron			<0.19	mg/L	1			EPA 200.7	0.50	0.19	06/18/2019 7:32	JSW
Cadmium			<0.018	ug/L	2			EPA 200.8	0.54	0.018	06/14/2019 23:05	JGF
Chromium			2.9	ug/L	2			EPA 200.8	14	0.14	06/14/2019 23:05	JGF
Cobalt			1.3	ug/L	2			EPA 200.8	10	0.63	06/14/2019 23:05	JGF
Copper			2.5	ug/L	2			EPA 200.8	8.6	0.70	06/14/2019 23:05	JGF

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PRELIMINARY CERTIFICATE OF ANALYSIS

L9F0808

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/15/2019
Date Received 06/13/2019

Special Quarterly Sampling Jun 2019

Analysis	OO	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 06 S-3											Sampled	06/13/2019 @ 12:07
Sampled By Ted Meriwether/Mike Gribbin												
Iron			57000	ug/L	2			EPA 200.8	2000	33	06/14/2019 23:05	JGF
Lead			2.6	ug/L	2			EPA 200.8	6.2	0.16	06/14/2019 23:05	JGF
Manganese			3500	ug/L	2			EPA 200.8	100	0.21	06/14/2019 23:05	JGF
Nickel			2.0	ug/L	2			EPA 200.8	100	0.32	06/14/2019 23:05	JGF
Selenium			3.0	ug/L	2			EPA 200.8	1.0	0.33	06/14/2019 23:05	JGF
Silver		L3	<0.038	ug/L	2			EPA 200.8	7.6	0.038	06/14/2019 23:05	JGF
Thallium			<0.15	ug/L	2			EPA 200.8	0.94	0.15	06/14/2019 23:05	JGF
Vanadium			4.5	ug/L	2			EPA 200.8	10	0.38	06/14/2019 23:05	JGF
Zinc		L3	<13	ug/L	2			EPA 200.8	220	13	06/14/2019 23:05	JGF
<u>Total Mercury by CVAA</u>								EPA 245.1 Rev 3.0				
Mercury			<0.000093	mg/L	1				0.00020	0.000093	06/20/2019 13:17	CGL
Total Cyanide			<0.0020	mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/18/2019 12:24	CGL
Sample: 07 S-4											Sampled	06/13/2019 @ 10:55
Sampled By Ted Meriwether/Mike Gribbin												
pH - Field			6.72	SU	1			SM 4500 H+ B	1.00		06/13/2019 10:55	TWM
Temperature at pH - Field			16.4	deg C	1			SM 2550B			06/13/2019 10:55	TWM
Solids, Dissolved			160	mg/L	1			SM 2540C	10		06/17/2019 17:00	MGM/I
Chloride			23	mg/L	1			EPA 300.0	0.50	0.21	06/14/2019 18:17	LJC
Fluoride			0.14	mg/L	1			EPA 300.0	0.50	0.060	06/14/2019 18:17	LJC
Nitrogen, Nitrate			0.19	mg/L	1			EPA 300.0	0.11	0.050	06/14/2019 18:17	LJC
Sulfate			47	mg/L	1			EPA 300.0	0.50	0.29	06/14/2019 18:17	LJC
Antimony			<1.6	ug/L	2			EPA 200.8	12	1.6	06/14/2019 23:11	JGF
Arsenic			<2.0	ug/L	2			EPA 200.8	300	2.0	06/14/2019 23:11	JGF
Barium			34	ug/L	2			EPA 200.8	200	0.11	06/14/2019 23:11	JGF
Beryllium			<0.15	ug/L	2			EPA 200.8	8.0	0.15	06/14/2019 23:11	JGF
Boron			<0.19	mg/L	1			EPA 200.7	0.50	0.19	06/18/2019 7:50	JSW
Cadmium			<0.018	ug/L	2			EPA 200.8	0.54	0.018	06/14/2019 23:11	JGF
Chromium			2.3	ug/L	2			EPA 200.8	14	0.14	06/14/2019 23:11	JGF

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L9F0808

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/15/2019
Date Received 06/13/2019

Special Quarterly Sampling Jun 2019

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 07 S-4											Sampled	06/13/2019 @ 10:55
Sampled By Ted Meriwether/Mike Gribbin												
Cobalt			<0.83	ug/L	2			EPA 200.8	10	0.63	06/14/2019 23:11	JGF
Copper			<0.70	ug/L	2			EPA 200.8	8.6	0.70	06/14/2019 23:11	JGF
Iron			10000	ug/L	2			EPA 200.8	2000	33	06/14/2019 23:11	JGF
Lead			<0.16	ug/L	2			EPA 200.8	6.2	0.16	06/14/2019 23:11	JGF
Manganese			44	ug/L	2			EPA 200.8	100	0.21	06/14/2019 23:11	JGF
Nickel			<0.32	ug/L	2			EPA 200.8	100	0.32	06/14/2019 23:11	JGF
Selenium			2.1	ug/L	2			EPA 200.8	1.0	0.33	06/14/2019 23:11	JGF
Silver		L3	<0.038	ug/L	2			EPA 200.8	7.6	0.038	06/14/2019 23:11	JGF
Thallium			<0.15	ug/L	2			EPA 200.8	0.94	0.15	06/14/2019 23:11	JGF
Vanadium			1.3	ug/L	2			EPA 200.8	10	0.38	06/14/2019 23:11	JGF
Zinc		L3	<13	ug/L	2			EPA 200.8	220	13	06/14/2019 23:11	JGF
<u>Total Mercury by CVAA</u>								EPA 245.1 Rev 3.0				
Mercury			<0.000093	mg/L	1				0.00020	0.000093	06/20/2019 13:19	CGL
Total Cyanide			<0.0020	mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/18/2019 12:26	CGL
Sample: 08 S-5											Sampled	06/13/2019 @ 13:13
Sampled By Ted Meriwether/Mike Gribbin												
pH - Field			6.22	SU	1			SM 4500 H+ B	1.00		06/13/2019 13:13	TWM
Temperature at pH - Field			17.5	deg C	1			SM 2550B			06/13/2019 13:13	TWM
Solids, Dissolved			76	mg/L	1			SM 2540C	10		06/17/2019 17:00	MGM/I
Chloride			33	mg/L	1			EPA 300.0	0.50	0.21	06/14/2019 18:32	LJC
Fluoride			0.16	mg/L	1			EPA 300.0	0.50	0.060	06/14/2019 18:32	LJC
Nitrogen, Nitrate			0.62	mg/L	1			EPA 300.0	0.11	0.050	06/14/2019 18:32	LJC
Sulfate			230	mg/L	5			EPA 300.0	2.5	1.5	06/15/2019 2:06	LJC
Antimony			<1.6	ug/L	2			EPA 200.8	12	1.6	06/14/2019 23:17	JGF
Arsenic			<2.0	ug/L	2			EPA 200.8	300	2.0	06/14/2019 23:17	JGF
Barium			40	ug/L	2			EPA 200.8	200	0.11	06/14/2019 23:17	JGF
Beryllium			<0.15	ug/L	2			EPA 200.8	8.0	0.15	06/14/2019 23:17	JGF
Boron			<0.19	mg/L	1			EPA 200.7	0.50	0.19	06/18/2019 7:56	JSW

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**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/15/2019
Date Received 06/13/2019

Special Quarterly Sampling Jun 2019

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 08 S-5											Sampled	06/13/2019 @ 13:13
Sampled By Ted Meriwether/Mike Gribbin												
Cadmium			<0.018	ug/L	2			EPA 200.8	0.54	0.018	06/14/2019 23:17	JGF
Chromium			1.4	ug/L	2			EPA 200.8	14	0.14	06/14/2019 23:17	JGF
Cobalt			<0.63	ug/L	2			EPA 200.8	10	0.63	06/14/2019 23:17	JGF
Copper			<0.70	ug/L	2			EPA 200.8	8.6	0.70	06/14/2019 23:17	JGF
Iron			560	ug/L	2			EPA 200.8	2000	33	06/14/2019 23:17	JGF
Lead			<0.16	ug/L	2			EPA 200.8	6.2	0.16	06/14/2019 23:17	JGF
Manganese			33	ug/L	2			EPA 200.8	100	0.21	06/14/2019 23:17	JGF
Nickel			4.3	ug/L	2			EPA 200.8	100	0.32	06/14/2019 23:17	JGF
Selenium			<0.33	ug/L	2			EPA 200.8	1.0	0.33	06/14/2019 23:17	JGF
Silver		L3	<0.038	ug/L	2			EPA 200.8	7.6	0.038	06/14/2019 23:17	JGF
Thallium			<0.15	ug/L	2			EPA 200.8	0.94	0.15	06/14/2019 23:17	JGF
Vanadium			<0.38	ug/L	2			EPA 200.8	10	0.38	06/14/2019 23:17	JGF
Zinc		L3	<13	ug/L	2			EPA 200.8	220	13	06/14/2019 23:17	JGF
<u>Total Mercury by CVAA</u>								EPA 245.1 Rev 3.0				
Mercury			<0.000093	mg/L	1				0.00020	0.000093	06/20/2019 13:20	CGL
Total Cyanide			<0.0020	mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/17/2019 14:34	CGL
Sample: 09 S-6											Sampled	06/13/2019 @ 12:57
Sampled By Ted Meriwether/Mike Gribbin												
pH - Field			6.04	SU	1			SM 4500 H+ B	1.00		06/13/2019 12:57	TWM
Temperature at pH - Field			18.5	deg C	1			SM 2550B			06/13/2019 12:57	TWM
Solids, Dissolved			220	mg/L	1			SM 2540C	10		06/17/2019 17:00	MGM/I
Chloride			25	mg/L	1			EPA 300.0	0.50	0.21	06/14/2019 18:47	LJC
Fluoride			0.12	mg/L	1			EPA 300.0	0.50	0.080	06/14/2019 18:47	LJC
Nitrogen, Nitrate			3.4	mg/L	1			EPA 300.0	0.11	0.050	06/14/2019 18:47	LJC
Sulfate			87	mg/L	1			EPA 300.0	0.50	0.29	06/14/2019 18:47	LJC
Antimony			<1.6	ug/L	2			EPA 200.8	12	1.6	06/14/2019 23:36	JGF
Arsenic			<2.0	ug/L	2			EPA 200.8	300	2.0	06/14/2019 23:36	JGF
Barium			55	ug/L	2			EPA 200.8	200	0.11	06/14/2019 23:36	JGF

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**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 07/15/2019
Date Received 06/13/2019

Special Quarterly Sampling Jun 2019

Analysis	OOB	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 09	S-6										Sampled	06/13/2019 @ 12:57
Sampled By Ted Meriwether/Mike Gribbin												
Beryllium			<0.15	ug/L	2			EPA 200.8	8.0	0.15	06/14/2019 23:36	JGF
Boron			<0.19	mg/L	1			EPA 200.7	0.50	0.19	06/18/2019 8:03	JSW
Cadmium			<0.018	ug/L	2			EPA 200.8	0.54	0.018	06/14/2019 23:36	JGF
Chromium			<0.14	ug/L	2			EPA 200.8	14	0.14	06/14/2019 23:36	JGF
Cobalt			<0.63	ug/L	2			EPA 200.8	10	0.63	06/14/2019 23:36	JGF
Copper			<0.70	ug/L	2			EPA 200.8	8.6	0.70	06/14/2019 23:36	JGF
Iron			500	ug/L	2			EPA 200.8	2000	33	06/14/2019 23:36	JGF
Lead			<0.16	ug/L	2			EPA 200.8	6.2	0.16	06/14/2019 23:36	JGF
Manganese			25	ug/L	2			EPA 200.8	100	0.21	06/14/2019 23:36	JGF
Nickel			2.6	ug/L	2			EPA 200.8	100	0.32	06/14/2019 23:36	JGF
Selenium			<0.33	ug/L	2			EPA 200.8	1.0	0.33	06/14/2019 23:36	JGF
Silver		L3	<0.038	ug/L	2			EPA 200.8	7.6	0.038	06/14/2019 23:36	JGF
Thallium			<0.15	ug/L	2			EPA 200.8	0.94	0.15	06/14/2019 23:36	JGF
Vanadium			<0.38	ug/L	2			EPA 200.8	10	0.38	06/14/2019 23:36	JGF
Zinc		L3	<13	ug/L	2			EPA 200.8	220	13	06/14/2019 23:36	JGF
<u>Total Mercury by CVAA</u>								EPA 245.1 Rev 3.0				
Mercury			<0.000093	mg/L	1				0.00020	0.000093	06/20/2019 13:21	CGL
Total Cyanide			<0.0020	mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/17/2019 14:39	CGL

Qualifier Definitions

L3 Lab control sample (LCS) recovery above upper Control Limit, analyte not detected.

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PRELIMINARY CERTIFICATE OF ANALYSIS

L9F0808

**Southern Illinois Power Coop.
Jason McLaurin**

**Date Due
Date Received**

**07/15/2019
06/13/2019**

Special Quarterly Sampling Jun 2019

The following analyses were subcontracted to a qualified laboratory:

<u>Laboratory</u>	<u>Analysis</u>	<u>Method</u>
Merrillville	Total Cyanide	SM 4500-CN C/E-1999
	Total Mercury by CVAA	EPA 245.1 Rev 3.0
Paducah	pH - Field	SM 4500 H+ B
	Temperature at pH - Field	SM 2550B

Project Requested Certification(s):

<u>Certificate ID</u>	<u>Agency</u>
108202	Kentucky Wastewater Laboratory Certification Program (j)

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE: _____
Draft Report A.M.

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

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CERTIFICATE OF ANALYSIS

L9C0364

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 03/20/2019
Date Due 03/28/2019
Date Received 03/08/2019
Customer # E5660**

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1												
Sampled By David Richardson											Sampled 03/08/2019 @ 10:10	
Sulfate			300 mg/L	5			EPA 300.0	2.5			03/12/2019 19:41	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/16/2019 6:24	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	03/16/2019 6:24	JSW
Iron			8.2 mg/L	1			EPA 200.7	0.020			03/16/2019 6:24	JSW
Sample: 02 Well C-2												
Sampled By David Richardson											Sampled 03/08/2019 @ 10:25	
Sulfate			270 mg/L	5			EPA 300.0	2.5			03/12/2019 19:56	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/16/2019 6:31	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	03/16/2019 6:31	JSW
Iron			15 mg/L	1			EPA 200.7	0.020			03/16/2019 6:31	JSW
Sample: 03 Well C-3												
Sampled By David Richardson											Sampled 03/08/2019 @ 10:40	
Sulfate			72 mg/L	5			EPA 300.0	2.5			03/12/2019 20:11	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/16/2019 6:37	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	03/16/2019 6:37	JSW
Iron			1.1 mg/L	1			EPA 200.7	0.020			03/16/2019 6:37	JSW
Sample: 04 Well S-2												
Sampled By David Richardson											Sampled 03/08/2019 @ 11:45	
Sulfate			110 mg/L	5			EPA 300.0	2.5			03/12/2019 20:26	LJC
Boron			1.9 mg/L	1			EPA 200.7	0.50			03/16/2019 9:44	JSW
Cadmium			0.0059 mg/L	1			EPA 200.7	0.010	0.002	0.00050	03/16/2019 9:44	JSW
Iron			200 mg/L	50			EPA 200.7	1.0			03/19/2019 21:37	JSW
Sample: 05 Well S-3												
Sampled By David Richardson											Sampled 03/08/2019 @ 11:24	
Sulfate			7.0 mg/L	5			EPA 300.0	2.5			03/12/2019 20:41	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/16/2019 9:51	JSW

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CERTIFICATE OF ANALYSIS

L9C0364

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 03/28/2019
Date Received 03/08/2019

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Well S-3											Sampled	03/08/2019 @ 11:24
Sampled By David Richardson												
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	03/16/2019 9:51	JSW
Iron			49 mg/L	10			EPA 200.7	0.20			03/19/2019 21:43	JSW
Sample: 06 Well S-4											Sampled	03/08/2019 @ 11:03
Sampled By David Richardson												
Sulfate			41 mg/L	5			EPA 300.0	2.5			03/12/2019 20:56	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/16/2019 9:07	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	03/16/2019 9:07	JSW
Iron		M3	6.2 mg/L	1			EPA 200.7	0.020			03/16/2019 9:07	JSW
Sample: 07 Well S-5											Sampled	03/08/2019 @ 9:55
Sampled By David Richardson												
Sulfate			230 mg/L	5			EPA 300.0	2.5			03/12/2019 21:56	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/16/2019 9:57	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	03/16/2019 9:57	JSW
Iron			2.2 mg/L	1			EPA 200.7	0.020			03/16/2019 9:57	JSW
Sample: 08 Well S-6											Sampled	03/08/2019 @ 12:45
Sampled By David Richardson												
Sulfate			61 mg/L	5			EPA 300.0	2.5			03/12/2019 22:11	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/16/2019 10:03	JSW
Cadmium			0.0037 mg/L	1			EPA 200.7	0.010	0.002	0.00050	03/16/2019 10:03	JSW
Iron			1.0 mg/L	1			EPA 200.7	0.020			03/16/2019 10:03	JSW
Sample: 09 Well S-1 Swamp											Sampled	03/08/2019 @ 12:15
Sampled By David Richardson												
Sulfate			21 mg/L	5			EPA 300.0	2.5			03/12/2019 22:26	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/16/2019 10:09	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	03/16/2019 10:09	JSW
Iron			14 mg/L	1			EPA 200.7	0.020			03/16/2019 10:09	JSW

Qualifier Definitions

The data and other information contained on this, and other accompanying documents, represents only the sample(s) analyzed and is rendered upon the condition that it is not to be reproduced wholly or in part for advertising or other purposes without written approval from the laboratory.

Microbac Laboratories, Inc.

3323 Gilmore Industrial Blvd. Louisville, KY 40213 502.962.6400 Fax: 502.962.6411
Evansville 812.464.9000 | Lexington 859.276.3506 | Paducah 270.898.3637 | Hazard 606.487. 0511



CERTIFICATE OF ANALYSIS

L9C0364

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 03/28/2019
Date Received 03/08/2019

Quarterly Well Sampling

M3 Analyte in the parent sample for the Matrix Spike was >4x the concentration of the spike solution which renders the spike amount insignificant. Matrix spike recoveries do not impact the quality of the parent sample data for this analyte.

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

A handwritten signature in black ink, appearing to read "Al Moore", is written over a horizontal line.

Al Moore A.M.

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

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Evansville 812.464.9000 | Lexington 859.276.3506 | Paducah 270.898.3637 | Hazard 606.487.0511



1990555005
Southern Illinois Power
10825 Lake of Egypt Rd.
Marion, IL 62959

On-Site Permit Exempt "815" Facility 2020 Annual Report

35 Ill. Adm. Code 815 requires all **landfills** exempt from permits pursuant to Section 21(d) of the Environmental Protection Act to submit **annual** reports to the Agency. These reports must be filed during the operation of the facility and for the entire post closure monitoring period.

This annual report is due **February 15, 2021** and covers the period of January 1, 2020 thru December 31, 2020.

The below information is required to be submitted to the Illinois Environmental Protection Agency under 35 Illinois Administrative Code 815.301. If you have any questions, please contact the Permit Section's at 217/524-3300.

A. LIST TYPE OF WASTE: Coal Combustion By Products

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

B. WASTE VOLUME SUMMARY

1. Total amount of solid waste disposed, stored or treated on-site to date:

1,344,247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

930,160 (in place cubic yards)

The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statutes 5/21/92. Disclosure of this information is required. Failure to do so may result in a civil penalty of up to \$50,000 and an additional civil penalty up to \$10,000 for each day during which the violation continues. This form has been approved by the Forms Management Center.

IL 532-2428
LPC 536 Rev. Oct. 03

C. PROPOSED ACTIVITIES

- 1. Expected amount of waste to be disposed on-site **January 1, 2021** thru **December 31, 2021**:

0 (in place cubic yards)

D. OTHER INFORMATION TO BE SUBMITTED

Please attach the following required information. Please indicate attachment number or letter in the blank provided.

Attachments

- 1. _____ Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
- 2. X All raw monitoring data collected at the facility from the leachate collection system, groundwater monitoring network, and gas monitoring system.
- 3. _____ Graphical results of monitoring efforts.
- 4. _____ Statistical summaries and analysis of trends in the collected data.
- 5. _____ Changes to the monitoring program.
- 6. _____ Discussion of error analysis, detection limits, and observed trends.
- 7. _____ Description of structures to be built within the next year.
- 8. _____ Description of new monitoring stations to be installed within the next year.
- 9. _____ A summary of all modifications including significant modifications made to the operations during the course of the year.

E. SIGNATURE OF THE OPERATOR OR DULY AUTHORIZED AGENT

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

JASON A. MCLAURIN
Name (print/type)

Jason A. McLaurin
Signature

Phone: (618) 964-2446

Email: Jmclaurin@sipower.org

Please mail this form and attachments to the following address:

Illinois Environmental Protection Agency
Bureau of Land (#24)
Attn: Annual Reports and Data Collection Unit
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276



Illinois Environmental Protection Agency
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

217/524-3300

January 14, 2021

Dear Environmental Coordinator:

All landfills exempt from permits pursuant to Section 21 (d) of the Environmental Protection Act are required to file an **Annual Report for On-Site Facilities**. This annual report is due on **February 15, 2021** and covers the calendar year (January 1 thru December 31, 2021).

If you are located within a county (Christian, Cook-City of Chicago, Crawford, DuPage, Jackson, Kankakee, Lake, LaSalle, Lawrence, Macon, Madison, McHenry, Montgomery, Ogle, Perry, Richland, St Clair, Sangamon, Tazewell, Vermilion, Wayne, Will) which has been delegated by Illinois EPA to enforce solid waste regulations, please submit your completed report to Illinois EPA in **triplicate**. If you are located in any other county, please submit your completed report to Illinois EPA in **duplicate**.

If after reviewing the enclosed form you have any questions, please contact the Bureau of Land's Permit Section's, Solid Waste Unit at the above number .

Sincerely,

Hope Wright
Waste Reduction and Compliance Section
Compliance Unit
Bureau of Land

Enclosure

HW:jab\Document2



Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

LOL1503

Southern Illinois Power Coop.

Project Name: Quarterly Well Sampling

Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959

Project / PO Number: N/A
Received: 12/23/2020
Reported: 01/14/2021

Analytical Testing Parameters

Client Sample ID:	Well S-2	Collected By:	Tom W Mosley
Sample Matrix:	Ground Water	Collection Date:	12/23/2020 10:53
Lab Sample ID:	LOL1503-01		

Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 4500-H+ B-2011								
pH	6.16		1.00	S.U.			12/23/20 1053	TZM

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 2540 C-2011								
Total Dissolved Solids (TDS)	1000		20	mg/L		12/29/20 0832	12/29/20 1458	RXG

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Cadmium	<1.0		1.0	ug/L		01/12/21 1022	01/12/21 1712	JSW
Iron	170000		60	ug/L		01/12/21 1022	01/12/21 1712	JSW

Anions by IC	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 300.0, Rv. 2.1 (1993)								
Chloride	480		5.0	mg/L			12/30/20 1130	LJC
Sulfate	180		2.5	mg/L		12/29/20 1920	12/29/20 1920	LJC

Analyses Subcontracted to: Microbac Laboratories, Inc. - Chicagoland

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Boron	2500		250	ug/L		12/31/20 0847	01/05/21 1228	BTM



Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

LOL1503

Client Sample ID: Well S-3	Collected By: Tom W Mosley
Sample Matrix: Ground Water	Collection Date: 12/23/2020 10:36
Lab Sample ID: LOL1503-02	

Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 4500-H+ B-2011								
pH	6.11		1.00	S.U.			12/23/20 1036	TZM

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 2540 C-2011								
Total Dissolved Solids (TDS)	690		20	mg/L		12/29/20 0832	12/29/20 1458	RXG

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Cadmium	<1.0		1.0	ug/L		01/12/21 1022	01/12/21 1716	JSW
Iron	92000		60	ug/L		01/12/21 1022	01/12/21 1716	JSW

Anions by IC	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 300.0, Rv. 2.1 (1993)								
Chloride	330		2.5	mg/L		12/29/20 2019	12/29/20 2019	LJC
Sulfate	21		2.5	mg/L		12/29/20 2019	12/29/20 2019	LJC

Analyses Subcontracted to: Microbac Laboratories, Inc. - Chicagoland

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Boron	260		25	ug/L		12/31/20 0847	01/05/21 1233	BTM



Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

LOL1503

Client Sample ID: Well S-4	Collected By: Tom W Mosley
Sample Matrix: Ground Water	Collection Date: 12/23/2020 10:10
Lab Sample ID: LOL1503-03	

Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 4500-H+ B-2011								
pH	6.52		1.00	S.U.			12/23/20 1010	TZM

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 2540 C-2011								
Total Dissolved Solids (TDS)	4500		20	mg/L		12/29/20 0832	12/29/20 1458	RXG

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Cadmium	<1.0		1.0	ug/L		01/12/21 1022	01/12/21 1721	JSW
Iron	<60		60	ug/L		01/12/21 1022	01/12/21 1721	JSW

Anions by IC	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 300.0, Rv. 2.1 (1993)								
Chloride	23		2.5	mg/L		12/29/20 2034	12/29/20 2034	LJC
Sulfate	55		2.5	mg/L		12/29/20 2034	12/29/20 2034	LJC

Analyses Subcontracted to: Microbac Laboratories, Inc. - Chicagoland

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Boron	<5.0		5.0	ug/L		12/31/20 0847	01/05/21 1237	BTM



Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

LOL1503

Client Sample ID: Well S-5	Collected By: Tom W Mosley
Sample Matrix: Ground Water	Collection Date: 12/23/2020 12:41
Lab Sample ID: LOL1503-04	

Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 4500-H+ B-2011								
pH	6.56		1.00	S.U.			12/23/20 1241	TZM

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 2540 C-2011								
Total Dissolved Solids (TDS)	480		10	mg/L		12/29/20 0832	12/29/20 1458	RXG

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Cadmium	<1.0		1.0	ug/L		01/12/21 1022	01/12/21 1725	JSW
Iron	<60		60	ug/L		01/12/21 1022	01/12/21 1725	JSW

Anions by IC	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 300.0, Rv. 2.1 (1993)								
Chloride	32		2.5	mg/L		12/29/20 2048	12/29/20 2048	LJC
Sulfate	310		2.5	mg/L		12/29/20 2048	12/29/20 2048	LJC

Analyses Subcontracted to: Microbac Laboratories, Inc. - Chicagoland

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Boron	5.2		5.0	ug/L		12/31/20 0847	01/05/21 1242	BTM



Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

LOL1503

Client Sample ID: Well S-6	Collected By: Tom W Mosley
Sample Matrix: Ground Water	Collection Date: 12/23/2020 11:50
Lab Sample ID: LOL1503-05	

Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 4500-H+ B-2011								
pH	6.46		1.00	S.U.			12/23/20 1150	TZM

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 2540 C-2011								
Total Dissolved Solids (TDS)	270		10	mg/L		12/29/20 0832	12/29/20 1458	RXG

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Cadmium	<1.0		1.0	ug/L		01/12/21 1022	01/12/21 1729	JSW
Iron	<60		60	ug/L		01/12/21 1022	01/12/21 1729	JSW

Anions by IC	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 300.0, Rv. 2.1 (1993)								
Chloride	30		2.5	mg/L		12/29/20 2103	12/29/20 2103	LJC
Sulfate	81		2.5	mg/L		12/29/20 2103	12/29/20 2103	LJC

Analyses Subcontracted to: Microbac Laboratories, Inc. - Chicagoland

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Boron	8.7		5.0	ug/L		12/31/20 0847	01/05/21 1247	BTM



Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

LOL1503

Client Sample ID: Well S-1 Swamp	Collected By: Tom W Mosley
Sample Matrix: Ground Water	Collection Date: 12/23/2020 11:23
Lab Sample ID: LOL1503-06	

Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 4500-H+ B-2011								
pH	6.65		1.00	S.U.			12/23/20 1123	TZM

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 2540 C-2011								
Total Dissolved Solids (TDS)	320		20	mg/L		12/29/20 0832	12/29/20 1458	RXG

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Cadmium	<1.0		1.0	ug/L		01/12/21 1022	01/12/21 1733	JSW
Iron	4000		60	ug/L		01/12/21 1022	01/12/21 1733	JSW

Anions by IC	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 300.0, Rv. 2.1 (1993)								
Chloride	7.7		2.5	mg/L		12/29/20 2117	12/29/20 2117	LJC
Sulfate	27		2.5	mg/L		12/29/20 2117	12/29/20 2117	LJC

Analyses Subcontracted to: Microbac Laboratories, Inc. - Chicagoland

Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								
Boron	19		5.0	ug/L		12/31/20 0847	01/05/21 1251	BTM

Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.

Definitions

- MDL:** Minimum Detection Limit
- mg/L:** Milligrams per Liter
- RL:** Reporting Limit
- S.U.:** Standard Units
- ug/L:** Micrograms per Liter

Project Requested Certification(s)

~~Microbac Laboratories, Inc. - Chicagoland~~
 E-10397
 108202
 90147

Kansas Dept Health & Env. NELAP (i)
 Kentucky EPPC analysis Underground Storage Tanks (k)
 Kentucky Wastewater Laboratory Certification Program (j)



Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

L0L1503

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.

Reviewed and Approved By:

A handwritten signature in black ink, appearing to read "Jarod Roop".

JAROD ROOP

Customer Relationship Specialist

Reported: 01/14/2021 10:11



CERTIFICATE OF ANALYSIS

L011291

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 10/21/2020
Date Due 10/16/2020
Date Received 09/27/2020
Customer # E5660**

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 01 Well C-1										Sampled	09/27/2020 @ 10:14
Sampled By Ted Meriwether											
pH - Field			6.05 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2020 10:14	TWM
Solids, Dissolved			1100 mg/L	6666f			SM 2540 C-2011	17		09/30/2020 15:05	RXG
Cadmium, Dissolved			<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2020 19:13	7800 l
Iron, Dissolved			<60 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2020 19:13	7800 l
Chloride			330 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/2020 22:33	KTL
Sulfate			290 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/2020 22:33	KTL
<u>Total Recoverable Dissolved Metals by ICP/MS</u>							EPA 200.8, Rv. 5.4 (1994)				
Boron			520 ug/L	10				50	40	10/05/2020 13:34	CGL
Sample: 02 Well C-2										Sampled	09/27/2020 @ 9:50
Sampled By Ted Meriwether											
pH - Field			6.08 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2020 9:50	TWM
Solids, Dissolved			400 mg/L	1			SM 2540 C-2011	10		09/30/2020 15:05	RXG
Cadmium, Dissolved			<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2020 19:25	7800 l
Iron, Dissolved			1100 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2020 19:25	7800 l
Chloride			15 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/2020 22:47	KTL
Sulfate			98 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/2020 22:47	KTL
<u>Total Recoverable Dissolved Metals by ICP/MS</u>							EPA 200.8, Rv. 5.4 (1994)				
Boron			66 ug/L	5				25	20	10/05/2020 13:38	CGL
Sample: 03 Well C-3										Sampled	09/27/2020 @ 11:00
Sampled By Ted Meriwether											
pH - Field			6.91 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2020 11:00	TWM
Solids, Dissolved			1500 mg/L	1			SM 2540 C-2011	10		09/30/2020 15:05	RXG
Cadmium, Dissolved			7.9 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2020 19:29	7800 l
Iron, Dissolved			<60 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2020 19:29	7800 l
Chloride			440 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/2020 23:02	KTL

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CERTIFICATE OF ANALYSIS

L011291

**Southern Illinois Power Coop.
Jason McLaurin**

**Date Due 10/16/2020
Date Received 09/27/2020**

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech	
Sample: 03 Well C-3											Sampled	09/27/2020 @ 11:00
Sampled By Ted Meriwether												
Sulfate			70 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/2020 23:02	KTL	
<u>Total Recoverable Dissolved Metals by ICP/MS</u>												
Boron			31 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	5.0	4.0	10/05/2020 13:43	CGL	
Sample: 04 Well S-2											Sampled	09/27/2020 @ 13:15
Sampled By Ted Meriwether												
pH - Field			6.03 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2020 13:15	TWM	
Solids, Dissolved			830 mg/L	66666			SM 2540 C-2011	17		09/30/2020 15:05	RXG	
Cadmium, Dissolved			<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2020 19:41	7800 I	
Iron, Dissolved			16000 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2020 19:41	7800 I	
Chloride			370 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 0:17	KTL	
Sulfate			110 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 0:17	KTL	
<u>Total Recoverable Dissolved Metals by ICP/MS</u>												
Boron			2300 ug/L	50			EPA 200.8, Rv. 5.4 (1994)	250	200	10/06/2020 12:22	CGL	
Sample: 05 Well S-3											Sampled	09/27/2020 @ 12:50
Sampled By Ted Meriwether												
pH - Field			6.05 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2020 12:50	TWM	
Solids, Dissolved			540 mg/L	66666			SM 2540 C-2011	17		09/30/2020 15:05	RXG	
Cadmium, Dissolved			<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2020 19:45	7800 I	
Iron, Dissolved			6600 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2020 19:45	7800 I	
Chloride			170 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 0:32	KTL	
Sulfate			25 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 0:32	KTL	
<u>Total Recoverable Dissolved Metals by ICP/MS</u>												
Boron			43 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	5.0	4.0	10/05/2020 13:52	CGL	
Sample: 06 Well S-4											Sampled	09/27/2020 @ 12:20
Sampled By Ted Meriwether												

The data and other information contained on this, and other accompanying documents, represents only the sample(s) analyzed and is rendered upon the condition that it is not to be reproduced wholly or in part for advertising or other purposes without written approval from the laboratory.

Microbac Laboratories, Inc.

3323 Gilmore Industrial Blvd. Louisville, KY 40213 502.962.6400 Fax: 502.962.6411
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CERTIFICATE OF ANALYSIS

L011291

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 10/16/2020
Date Received 09/27/2020

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 06 Well S-4											Sampled	09/27/2020 @ 12:20
Sampled By Ted Meriwether												
pH - Field			6.66	S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2020 12:20	TWM
Solids, Dissolved			360	mg/L	1			SM 2540 C-2011	10		09/30/2020 15:05	RXG
Cadmium, Dissolved			<1.0	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2020 19:50	7800 ↓
Iron, Dissolved			<60	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2020 19:50	7800 ↓
Chloride			31	mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 0:47	KTL
Sulfate			50	mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 0:47	KTL
<u>Total Recoverable Dissolved Metals by ICP/MS</u>									EPA 200.8, Rv. 5.4 (1994)			
Boron		J	4.1	ug/L	1				5.0	4.0	10/05/2020 13:57	CGL
Sample: 07 Well S-5											Sampled	09/27/2020 @ 9:30
Sampled By Ted Meriwether												
pH - Field			6.00	S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2020 9:30	TWM
Solids, Dissolved			420	mg/L	1			SM 2540 C-2011	10		09/30/2020 15:05	RXG
Cadmium, Dissolved			<1.0	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2020 19:54	7800 ↓
Iron, Dissolved			<60	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2020 19:54	7800 ↓
Chloride			38	mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 1:02	KTL
Sulfate			220	mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 1:02	KTL
<u>Total Recoverable Dissolved Metals by ICP/MS</u>									EPA 200.8, Rv. 5.4 (1994)			
Boron			5.7	ug/L	1				5.0	4.0	10/05/2020 14:02	CGL
Sample: 08 Well S-6											Sampled	09/27/2020 @ 12:00
Sampled By Ted Meriwether												
pH - Field			6.10	S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2020 12:00	TWM
Solids, Dissolved			220	mg/L	1.25			SM 2540 C-2011	12		09/30/2020 15:05	RXG
Cadmium, Dissolved			<1.0	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2020 19:58	7800 ↓
Iron, Dissolved			<60	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2020 19:58	7800 ↓
Chloride			35	mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 1:17	KTL
Sulfate			64	mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 1:17	KTL

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CERTIFICATE OF ANALYSIS

L011291

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 10/16/2020
Date Received 09/27/2020

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis Date	Tech
Sample: 08 Well S-6												
Sampled By Ted Meriwether												
<u>Total Recoverable</u>												
<u>Dissolved Metals by</u>												
<u>ICP/MS</u>												
Boron			<4.0	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	5.0	4.0	10/05/2020 14:15	CGL
Sample: 09 Well S-1 Swamp												
Sampled By Ted Meriwether												
pH - Field			6.71	S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2020 11:35	TWM
Solids, Dissolved			190	mg/L	6666f			SM 2540 C-2011	17		09/30/2020 15:05	RXG
Cadmium, Dissolved			<1.0	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2020 20:02	7800 J
Iron, Dissolved			440	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2020 20:02	7800 J
Chloride			21	mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 1:32	KTL
Sulfate			33	mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2020 1:32	KTL
<u>Total Recoverable</u>												
<u>Dissolved Metals by</u>												
<u>ICP/MS</u>												
Boron			18	ug/L	1			EPA 200.8, Rv. 5.4 (1994)	5.0	4.0	10/05/2020 14:20	CGL

Qualifier Definitions

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

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CERTIFICATE OF ANALYSIS

L011291

Southern Illinois Power Coop.
Jason McLaurin

Date Due 10/16/2020
Date Received 09/27/2020

Quarterly Well Sampling

The following analyses were not run at the main Louisville lab within the Microbac Kentucky Division, but at a satellite location.

Laboratory	Analysis	Method
Microbac Laboratories, Kentucky Testing Laboratory, Paducah Site	pH - Field	SM 4500-H+ B-2011

The following analyses were subcontracted to a qualified laboratory:

Laboratory	Analysis	Method
Merrillville	Total Recoverable Dissolved Metals by ICP/MS	EPA 200.8, Rv. 5.4 (1994)
Microbac Kentucky Division	Sulfate	EPA 300.0, Rv. 2.1 (1993)
	Chloride	EPA 300.0, Rv. 2.1 (1993)

Project Requested Certification(s):

Certificate ID	Agency
E-10397	Kansas Dept Health & Env. NELAP (i)
90147	Kentucky Wastewater Laboratory Certification Program (j)

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

JAROD ROOP
Customer Relationship Specialist
Reported: 10/21/2020 15:19

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CERTIFICATE OF ANALYSIS

L0F1201

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

**Date Reported 02/22/2021
Date Due 06/29/2020
Date Received 06/22/2020
Customer # E5660**

Quarterly Well Sampling

Analysis	OOB	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 01 Well C-1										
Sampled 06/22/2020 @ 10:07										
Sampled By David Richardson										
Chloride			320 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 17:21	LJC
Sulfate			290 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 17:21	LJC
Boron by EPA 6010D			0.629 mg/L	1			EPA 6010D	0.100	06/26/2020 15:17	KHL
Iron by EPA 6010D			0.710 mg/L	1			EPA 6010D	0.200	06/26/2020 15:17	KHL
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium			<0.000600 mg/L	1				0.000600	06/26/2020 13:37	JYH
Sample: 02 Well C-2										
Sampled 06/22/2020 @ 9:57										
Sampled By David Richardson										
Chloride			24 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 17:35	LJC
Sulfate			160 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 17:35	LJC
Boron by EPA 6010D			<0.100 mg/L	1			EPA 6010D	0.100	06/26/2020 15:28	KHL
Iron by EPA 6010D			11.4 mg/L	1			EPA 6010D	0.200	06/26/2020 15:28	KHL
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium			<0.000600 mg/L	1				0.000600	06/26/2020 13:41	JYH
Sample: 03 Well C-3										
Sampled 06/22/2020 @ 11:30										
Sampled By David Richardson										
Chloride			440 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 17:49	LJC
Sulfate			82 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 17:49	LJC
Boron by EPA 6010D			<0.100 mg/L	1			EPA 6010D	0.100	06/26/2020 15:39	KHL
Iron by EPA 6010D			3.07 mg/L	1			EPA 6010D	0.200	06/26/2020 15:39	KHL
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium			<0.000600 mg/L	1				0.000600	06/26/2020 13:44	JYH
Sample: 04 Well S-2										
Sampled 06/22/2020 @ 10:50										
Sampled By David Richardson										
Chloride			350 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 18:56	LJC
Sulfate			94 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 18:56	LJC
Boron by EPA 6010D			1.62 mg/L	1			EPA 6010D	0.100	06/26/2020 15:43	KHL

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CERTIFICATE OF ANALYSIS

LOF1201

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 06/29/2020
Date Received 06/22/2020

Quarterly Well Sampling

Analysis	OC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 04 Well S-2										
Sampled By David Richardson										
Iron by EPA 6010D			195 mg/L	1			EPA 6010D	0.200	06/26/2020 15:43	KHL
<u>Cadmium by EPA 6020</u>										
Cadmium			<0.000600 mg/L	1			EPA 6020	0.000600	06/26/2020 14:02	JYH
Sample: 05 Well S-3										
Sampled By David Richardson										
Chloride			80 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 19:10	LJC
Sulfate			18 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 19:10	LJC
Boron by EPA 6010D			<0.100 mg/L	1			EPA 6010D	0.100	06/26/2020 15:47	KHL
Iron by EPA 6010D			63.7 mg/L	1			EPA 6010D	0.200	06/26/2020 15:47	KHL
<u>Cadmium by EPA 6020</u>										
Cadmium			<0.000600 mg/L	1			EPA 6020	0.000600	06/26/2020 14:06	JYH
Sample: 06 Well S-4										
Sampled By David Richardson										
Chloride			30 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 19:24	LJC
Sulfate			51 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 19:24	LJC
Boron by EPA 6010D			<0.100 mg/L	1			EPA 6010D	0.100	06/26/2020 15:50	KHL
Iron by EPA 6010D			7.60 mg/L	1			EPA 6010D	0.200	06/26/2020 15:50	KHL
<u>Cadmium by EPA 6020</u>										
Cadmium			<0.000600 mg/L	1			EPA 6020	0.000600	06/26/2020 14:10	JYH
Sample: 07 Well S-5										
Sampled By David Richardson										
Chloride			37 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 19:38	LJC
Sulfate			220 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 19:38	LJC
Boron by EPA 6010D			<0.100 mg/L	1			EPA 6010D	0.100	06/26/2020 15:54	KHL
Iron by EPA 6010D			3.50 mg/L	1			EPA 6010D	0.200	06/26/2020 15:54	KHL
<u>Cadmium by EPA 6020</u>										
Cadmium			<0.000600 mg/L	1			EPA 6020	0.000600	06/26/2020 14:13	JYH
Sample: 08 Well S-6										
Sampled 06/22/2020 @ 11:47										

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CERTIFICATE OF ANALYSIS

L0F1201

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 06/29/2020
Date Received 06/22/2020

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 08 Well S-6										
Sampled By David Richardson										
Chloride			35 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 19:51	LJC
Sulfate			66 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 19:51	LJC
Boron by EPA 6010D			<0.100 mg/L	1			EPA 6010D	0.100	06/26/2020 15:58	KHL
Iron by EPA 6010D			2.41 mg/L	1			EPA 6010D	0.200	06/26/2020 15:58	KHL
<u>Cadmium by EPA 6020</u>										
Cadmium			<0.000600 mg/L	1			EPA 6020	0.000600	06/26/2020 14:17	JYH
Sample: 09 Well S-1 Swamp										
Sampled By David Richardson										
Chloride			21 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 20:06	LJC
Sulfate			34 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 20:06	LJC
Boron by EPA 6010D			<0.100 mg/L	1			EPA 6010D	0.100	06/26/2020 16:02	KHL
Iron by EPA 6010D			15.1 mg/L	1			EPA 6010D	0.200	06/26/2020 16:02	KHL
<u>Cadmium by EPA 6020</u>										
Cadmium			<0.000600 mg/L	1			EPA 6020	0.000600	06/26/2020 14:21	JYH

Qualifier Definitions

The following analyses were subcontracted to a qualified laboratory:

<u>Laboratory</u>	<u>Analysis</u>	<u>Method</u>
Marietta	Cadmium by EPA 6020	EPA 6020
	Iron by EPA 6010D	EPA 6010D
	Boron by EPA 6010D	EPA 6010D

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CERTIFICATE OF ANALYSIS

L0F1201

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 06/29/2020
Date Received 06/22/2020

Quarterly Well Sampling

Report Comments

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Reviewed and Approved By:

A handwritten signature in cursive script that reads "David Richardson".

David Richardson
Field Services Tech Paducah
Reported: 02/22/2021 12:27

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CERTIFICATE OF ANALYSIS

L0C1448

**Southern Illinois Power Coop.
Jason McLaurin
11543 Lake of Egypt Road
Marion, IL 62959**

Date Reported 04/17/2020
Date Due 04/15/2020
Date Received 03/26/2020
Customer # E5660

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 01 Well C-1										
Sampled By Tom W Mosley									Sampled	03/26/2020 @ 9:30
Arsenic			<0.050 mg/L	1			EPA 6010D	0.050	04/01/2020 17:38	JSW
Barium			0.012 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:38	JSW
Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:38	JSW
Boron			0.43 mg/L	0.5			EPA 6010D	0.25	04/01/2020 17:38	JSW
Chromium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:38	JSW
Cobalt			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:38	JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:38	JSW
Iron			0.43 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:38	JSW
Lead			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:38	JSW
Manganese			0.092 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:38	JSW
Nickel			0.019 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:38	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:38	JSW
Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:38	JSW
Zinc			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:38	JSW
Chloride			350 mg/L	9			EPA 300.0, Rv. 2.1 (1993)	4.5	04/01/2020 6:25	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 17:33	JGF
Nitrogen, Nitrate		H1	<0.11 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/2020 17:33	JGF
Sulfate			300 mg/L	9			EPA 300.0, Rv. 2.1 (1993)	4.5	04/01/2020 6:25	JGF
Mercury, Total 245.1 for Water samples NPDES App.			<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 12:16	TMM
<u>Antimony by EPA 6020</u>							EPA 6020			
Antimony			<0.00100 mg/L	1				0.00100	04/16/2020 11:00	JYH
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium			<0.000600 mg/L	1				0.000600	04/16/2020 11:00	JYH
Sample: 02 Well C-2										
Sampled By Tom W Mosley									Sampled	03/26/2020 @ 9:44
Arsenic			<0.050 mg/L	1			EPA 6010D	0.050	04/01/2020 17:45	JSW
Barium			0.024 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:45	JSW

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CERTIFICATE OF ANALYSIS

L0C1448

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 04/15/2020
Date Received 03/26/2020

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 02 Well C-2									Sampled	03/26/2020 @ 9:44
Sampled By		Tom W Mosley								
Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:45	JSW
Boron			<0.25 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/01/2020 17:45	JSW
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25	04/01/2020 17:45	JSW
Cadmium			<0.0050 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/01/2020 17:45	JSW
Chromium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:45	JSW
Cobalt			0.022 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:45	JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:45	JSW
Iron			7.6 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.010	04/01/2020 17:45	JSW
Iron			7.6 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:45	JSW
Lead			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:45	JSW
Manganese			24 mg/L	10			EPA 6010D	0.10	04/03/2020 16:00	JSW
Nickel			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:45	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:45	JSW
Thallium			0.031 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:45	JSW
Zinc			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:45	JSW
Chloride			2.4 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 17:47	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 17:47	JGF
Nitrogen, Nitrate		H1	2.9 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/2020 17:47	JGF
Sulfate			280 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 17:47	JGF
Mercury, Total 245.1 for Water samples NPDES App.			<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 12:26	TMM
<u>Antimony by EPA 6020</u>							EPA 6020			
Antimony			<0.00100 mg/L	1				0.00100	04/16/2020 11:04	JYH
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium			<0.000600 mg/L	1				0.000600	04/16/2020 11:04	JYH
Sample: 03 Well C-3									Sampled	03/26/2020 @ 12:00
Sampled By		Tom W Mosley								
Arsenic			<0.050 mg/L	1			EPA 6010D	0.050	04/01/2020 17:52	JSW
Barium			0.18 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:52	JSW

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CERTIFICATE OF ANALYSIS

LOC1448

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 04/15/2020
Date Received 03/26/2020

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 03 Well C-3										
Sampled By Tom W Mosley									Sampled	03/26/2020 @ 12:00
Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:52	JSW
Boron			<0.25 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/01/2020 17:52	JSW
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25	04/01/2020 17:52	JSW
Cadmium			<0.0050 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/01/2020 17:52	JSW
Chromium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:52	JSW
Cobalt			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:52	JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:52	JSW
Iron			2.0 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.010	04/01/2020 17:52	JSW
Iron			2.0 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:52	JSW
Lead			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:52	JSW
Manganese			0.37 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:52	JSW
Nickel			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:52	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:52	JSW
Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:52	JSW
Zinc			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:52	JSW
Chloride			500 mg/L	13			EPA 300.0, Rv. 2.1 (1993)	6.5	04/01/2020 7:40	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 18:01	JGF
Nitrogen, Nitrate		H1	<0.11 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/2020 18:01	JGF
Sulfate			93 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 18:01	JGF
Mercury, Total 245.1 for Water samples NPDES App.			<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 12:29	TMM
<u>Antimony by EPA 6020</u>							EPA 6020			
Antimony			<0.00100 mg/L	1				0.00100	04/16/2020 11:07	JYH
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium			0.00113 mg/L	1				0.000600	04/16/2020 11:07	JYH
Sample: 04 Well S-2										
Sampled By Tom W Mosley									Sampled	03/26/2020 @ 10:58
Arsenic			<0.050 mg/L	1			EPA 6010D	0.050	04/01/2020 17:58	JSW
Barium			0.94 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:58	JSW

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CERTIFICATE OF ANALYSIS

L0C1448

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 04/15/2020
Date Received 03/26/2020

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 04 Well S-2										
Sampled By Tom W Mosley									Sampled	03/26/2020 @ 10:58
Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:58	JSW
Boron			2.1 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/01/2020 17:58	JSW
Boron			2.1 mg/L	0.5			EPA 6010D	0.25	04/01/2020 17:58	JSW
Cadmium			0.0053 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/01/2020 17:58	JSW
Chromium			0.0066 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:58	JSW
Cobalt			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:58	JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:58	JSW
Iron			350 mg/L	10			EPA 200.7, Rv. 4.4 (1994)	0.20	04/03/2020 16:06	JSW
Iron			350 mg/L	10			EPA 6010D	0.20	04/03/2020 16:06	JSW
Lead			0.012 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 17:58	JSW
Manganese			33 mg/L	10			EPA 6010D	0.10	04/03/2020 16:06	JSW
Nickel			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 17:58	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:58	JSW
Thallium			0.046 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:58	JSW
Zinc			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 17:58	JSW
Chloride			400 mg/L	10			EPA 300.0, Rv. 2.1 (1993)	5.0	04/01/2020 7:54	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 18:15	JGF
Nitrogen, Nitrate		H1	<0.11 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/2020 18:15	JGF
Sulfate			120 mg/L	10			EPA 300.0, Rv. 2.1 (1993)	5.0	04/01/2020 7:54	JGF
Mercury, Total 245.1 for Water samples NPDES App.			<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 12:31	TMM
<u>Antimony by EPA 6020</u>							EPA 6020			
Antimony			<0.00100 mg/L	1				0.00100	04/16/2020 11:11	JYH
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium			<0.000600 mg/L	1				0.000600	04/16/2020 11:11	JYH
Sample: 05 Well S-3										
Sampled By Tom W Mosley									Sampled	03/26/2020 @ 10:40
Arsenic			<0.050 mg/L	1			EPA 6010D	0.050	04/01/2020 18:05	JSW
Barium			0.28 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:05	JSW

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Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 05 Well S-3										
Sampled By Tom W Mosley										
Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:05	JSW
Boron			<0.25 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/01/2020 18:05	JSW
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25	04/01/2020 18:05	JSW
Cadmium			<0.0050 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/01/2020 18:05	JSW
Chromium			0.0054 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:05	JSW
Cobalt			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:05	JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:05	JSW
Iron			310 mg/L	50			EPA 200.7, Rv. 4.4 (1994)	1.0	04/03/2020 16:18	JSW
Iron			310 mg/L	50			EPA 6010D	1.0	04/03/2020 16:18	JSW
Lead			0.0068 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:05	JSW
Manganese			2.9 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:05	JSW
Nickel			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:05	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:05	JSW
Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:05	JSW
Zinc			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:05	JSW
Chloride			100 mg/L	2			EPA 300.0, Rv. 2.1 (1993)	1.0	04/01/2020 8:09	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 18:29	JGF
Nitrogen, Nitrate		H1	<0.11 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/2020 18:29	JGF
Sulfate			3.7 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 18:29	JGF
Mercury, Total 245.1 for Water samples NPDES App. Antimony by EPA 6020			<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 12:34	TMM
Antimony			<0.00100 mg/L	1			EPA 6020	0.00100	04/16/2020 11:14	JYH
Cadmium by EPA 6020			<0.000600 mg/L	1			EPA 6020	0.000600	04/16/2020 11:14	JYH
Cadmium			<0.000600 mg/L	1			EPA 6020	0.000600	04/16/2020 11:14	JYH
Sample: 06 Well S-4										
Sampled By Tom W Mosley										
Arsenic			<0.050 mg/L	1			EPA 6010D	0.050	04/01/2020 18:11	JSW
Barium			0.020 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:11	JSW

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CERTIFICATE OF ANALYSIS

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Jason McLaurin**

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Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 06 Well S-4										
Sampled By Tom W Mosley									Sampled	03/26/2020 @ 10:20
Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:11	JSW
Boron			<0.25 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/01/2020 18:11	JSW
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25	04/01/2020 18:11	JSW
Cadmium			<0.0050 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/01/2020 18:11	JSW
Chromium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:11	JSW
Cobalt			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:11	JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:11	JSW
Iron			4.7 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.010	04/01/2020 18:11	JSW
Iron			4.7 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:11	JSW
Lead			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:11	JSW
Manganese			0.012 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:11	JSW
Nickel			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:11	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:11	JSW
Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:11	JSW
Zinc			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:11	JSW
Chloride			21 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 19:38	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 19:38	JGF
Nitrogen, Nitrate		Hf	0.19 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/2020 19:38	JGF
Sulfate			49 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 19:38	JGF
Mercury, Total 245.1 for Water samples NPDES App.			<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 12:36	TMM
<u>Antimony by EPA 6020</u>							EPA 6020			
Antimony			<0.00100 mg/L	1				0.00100	04/16/2020 11:32	JYH
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium			<0.000600 mg/L	1				0.000600	04/16/2020 11:32	JYH
Sample: 07 Well S-5										
Sampled By Tom W Mosley									Sampled	03/26/2020 @ 10:00
Arsenic			<0.050 mg/L	1			EPA 6010D	0.050	04/01/2020 18:36	JSW
Barium			0.041 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:36	JSW

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CERTIFICATE OF ANALYSIS

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Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 07 Well S-5									Sampled	03/26/2020 @ 10:00
Sampled By		Tom W Mosley								
Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:36	JSW
Boron			<0.25 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/01/2020 18:36	JSW
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25	04/01/2020 18:36	JSW
Cadmium			<0.0050 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/01/2020 18:36	JSW
Chromium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:36	JSW
Cobalt			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:36	JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:36	JSW
Iron			0.26 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.010	04/01/2020 18:36	JSW
Iron			0.26 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:36	JSW
Lead			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:36	JSW
Manganese			0.063 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:36	JSW
Nickel			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:36	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:36	JSW
Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:36	JSW
Zinc			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:36	JSW
Chloride			34 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 19:52	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 19:52	JGF
Nitrogen, Nitrate		H1	0.64 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/2020 19:52	JGF
Sulfate			260 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5	04/01/2020 8:24	JGF
Mercury, Total 245.1 for Water samples NPDES App. <u>Cadmium by EPA 6020</u>			<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 12:39	TMM
Cadmium			<0.000600 mg/L	1			EPA 6020	0.000600	04/16/2020 11:36	JYH
Sample: 08 Well S-6									Sampled	03/26/2020 @ 12:20
Sampled By		Tom W Mosley								
Arsenic			<0.050 mg/L	1			EPA 6010D	0.050	04/01/2020 18:54	JSW
Barium			0.33 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:54	JSW
Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:54	JSW
Boron			<0.25 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/01/2020 18:54	JSW

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Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 08 Well S-6									Sampled	03/26/2020 @ 12:20
Sampled By		Tom W Mosley								
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25	04/01/2020 18:54	JSW
Cadmium			<0.0050 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/01/2020 18:54	JSW
Chromium			0.061 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:54	JSW
Cobalt			0.019 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:54	JSW
Copper			0.030 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:54	JSW
Iron			44 mg/L	25			EPA 200.7, Rv. 4.4 (1994)	0.50	04/03/2020 16:25	JSW
Iron			44 mg/L	25			EPA 6010D	0.50	04/03/2020 16:25	JSW
Lead			0.031 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:54	JSW
Manganese			0.98 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:54	JSW
Nickel			0.039 mg/L	0.5			EPA 6010D	0.010	04/01/2020 18:54	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:54	JSW
Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:54	JSW
Zinc			0.078 mg/L	0.5			EPA 6010D	0.025	04/01/2020 18:54	JSW
Chloride			28 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 20:06	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 20:06	JGF
Nitrogen, Nitrate		H1	2.8 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/2020 20:06	JGF
Sulfate			75 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 20:06	JGF
Mercury, Total 245.1 for Water samples NPDES App.			<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 12:41	TMM
<u>Antimony by EPA 6020</u>							EPA 6020			
Antimony			<0.00100 mg/L	1				0.00100	04/16/2020 11:39	JYH
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium			<0.000600 mg/L	1				0.000600	04/16/2020 11:39	JYH
Sample: 09 Well S-1 Swamp									Sampled	03/26/2020 @ 11:30
Sampled By		Tom W Mosley								
Arsenic			0.12 mg/L	1			EPA 6010D	0.050	04/01/2020 19:00	JSW
Barium			1.5 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 19:00	JSW
Beryllium			0.0081 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 19:00	JSW
Boron			<0.25 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/01/2020 19:00	JSW

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CERTIFICATE OF ANALYSIS

LOC1448

**Southern Illinois Power Coop.
Jason McLaurin**

Date Due 04/15/2020
Date Received 03/26/2020

Quarterly Well Sampling

Analysis	OOC	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 09 Well S-1 Swamp										
Sampled By Tom W Mosley									Sampled	03/26/2020 @ 11:30
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25	04/01/2020 19:00	JSW
Cadmium			0.0092 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/01/2020 19:00	JSW
Chromium			0.069 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 19:00	JSW
Cobalt			0.054 mg/L	0.5			EPA 6010D	0.010	04/01/2020 19:00	JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010	04/01/2020 19:00	JSW
Iron			54 mg/L	250			EPA 200.7, Rv. 4.4 (1994)	5.0	04/03/2020 16:31	JSW
Iron			54 mg/L	250			EPA 6010D	5.0	04/03/2020 16:31	JSW
Lead			0.080 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 19:00	JSW
Manganese			2.3 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 19:00	JSW
Nickel			0.067 mg/L	0.5			EPA 6010D	0.010	04/01/2020 19:00	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 19:00	JSW
Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/01/2020 19:00	JSW
Zinc			0.31 mg/L	0.5			EPA 6010D	0.025	04/01/2020 19:00	JSW
Chloride			6.2 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 20:35	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 20:35	JGF
Nitrogen, Nitrate		H1	<0.11 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/2020 20:35	JGF
Sulfate			27 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 20:35	JGF
Mercury, Total 245.1 for Water samples NPDES App.			<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 15:16	TMM
<u>Antimony by EPA 6020</u>							EPA 6020			
Antimony		D1	<0.00500 mg/L	5				0.00500	04/16/2020 11:43	JYH
<u>Cadmium by EPA 6020</u>							EPA 6020			
Cadmium		D1	0.00993 mg/L	5				0.00300	04/16/2020 11:43	JYH

Qualifier Definitions

- D1 Dilution was performed due to matrix interference.
- H1 Sample received outside of holding time for these analytes.

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L0C1448

**Southern Illinois Power Coop.
Jason McLaurin**

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Date Received 03/26/2020

Quarterly Well Sampling

The following analyses were subcontracted to a qualified laboratory:

<u>Laboratory</u>	<u>Analysis</u>	<u>Method</u>
Marietta	Cadmium by EPA 6020	EPA 6020
	Antimony by EPA 6020	EPA 6020
	Mercury, Total 245.1 for Water samples NPDES App.	EPA 245.1, Rv. 3 (1994)

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

David Richardson
~~Field Services Tech Paducah~~
Reported: 04/17/2020 15:02

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