# **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 David Hagen, Principal Consultant
- 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.



SIPC 1 September 2021 Page 3



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).<sup>1</sup> [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.<sup>2</sup> 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

<sup>&</sup>lt;sup>1</sup> https://www.federalregister.gov/documents/2015/04/17/2015-00257/hazardous-and-solid-waste-management-system-disposal-of-coalcombustion-residuals-from-electric – EPA-HQ-RCRA-2009-0640-11970 – Federal CCR Rule. <sup>2</sup> Ibid.



SIPC 1 September 2021 Page 5

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.)



SIPC 1 September 2021 Page 6



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.

Pond	Sediment Volume (ft. <sup>3</sup> )	Pond Volume (ft. <sup>3</sup> )	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 <sup>(2)</sup>	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%]

Table 1: Estimated	l sediment and Pond volum	es, mean sediment thickness	, and volume ratio. <sup>(1)</sup>

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 survey grid. 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)<sup>3</sup> 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 ft<sup>3</sup> 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)).<sup>4</sup> In contrast, the results above indicate that the mean thicknesses of Pond sediments of the Ponds investigated here are less than 2 feet.

<sup>&</sup>lt;sup>4</sup> 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



<sup>&</sup>lt;sup>3</sup> 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.

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%.<sup>5</sup> After the introduction of the 1990 Clean Air Act Amendments to control the emission of nitrogen oxides (NOx), the unburned carbon content in fly ash significantly increased, up to 20% in some cases.<sup>6</sup> 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.

<sup>6</sup> Ibid.



<sup>&</sup>lt;sup>5</sup> Ahmaruzzaman, M., 2010. A review on the utilization of fly ash. Progress in energy and combustion science, 36(3), pp.327-363.

SIPC 1 September 2021 Page 9



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 configuration<sup>7</sup>, Panel (b) is a vertical cross-section for the CCR impoundment at the Marshall Steam Station Site in North Carolina<sup>8</sup>, and Panel (c) is a vertical cross-section for the Roxboro Steam Electric Plant in North Carolina<sup>9</sup>.

<sup>&</sup>lt;sup>9</sup> 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)



<sup>&</sup>lt;sup>7</sup> 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)

<sup>&</sup>lt;sup>8</sup> 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)

SIPC 1 September 2021 Page 10

Pond	Samula	C	Dry weight	%	Dond	Sampla	Dry weight %		
	Sample	Carbon	Hydrogen	Nitrogen	Fond	Sample	Carbon	Hydrogen	Nitrogen
Dond 3A	S-3Ax	64.08	4.32	1.35	Pond 3	S-3n	11.17	0.9	0.27
Pond SA	S-3An	27.05	1.99	0.53		S-3x	15.11	0.97	0.26
	S-4gs	47.62	3.03	0.94	Pond 6	S-S6x	7.35	0.51	0.1
Bond 4	S-4gp	36.44	2.39	0.72	Folia o	S-S6n	4.19	0.6	0.1
Fond 4	S-4x	28.92	1.98	0.62		S-SFAn	23.99	1.66	0.49
	S-4n	34.14	2.22	0.69	South Fly	S-SFAx	16.52	1.27	0.27
	vorago)			1.3	Ash Pond	S-SFAgx	8.49	0.93	0.31
Coal (average)		04.1	4.4			S-SFAgn	6.19	0.7	0.22

Table 2: Carbon.	hvdrogen.	and nitrogen	contents for Pond	d sediment and	coal samples.
		and merogen			cour sumples

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 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.

				Control Sample			
				Sha	ke Test Res	ults	
		Groundwater	Groundwater				
		Quality Class I	Quality Class				
		Potable	II General				
		Resource	Resource	Scrubber	Unit 4		
		Groundwater	Groundwater	Sludge	Fly Ash	Coal	
Parameter	Units	(a)	(b)	05/25/2021	07/08/2021	05/25/2021	
Alkalinity, Bicarbonate							
(as CaCO3)	mg/L	NA	NA	15	56	9	
Alkalinity, Carbonate							
(as CaCO3)	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	

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

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.<sup>10</sup> 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

<sup>&</sup>lt;sup>10</sup> 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.



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												
Davanatas	Unite	S-3Ax	S-3An	S-3n	S-3x	S-S6x	S-S6n	S-4gs	S-4gp	S-4x	S-4n	S-SFAn	S-SFAx	S-SFAgx	S-SFAgn
Farameter	Units	04/27/2021	04/2//2021	04/2//2021	04/27/2021	04/2//2021	04/2//2021	04/2//2021	04/27/2021	04/2//2021	04/2//2021	04/27/2021	04/27/2021	04/27/2021	04/2//2021
Alkalinity, Bicarbonate (as CaCO3)	mg/L	53	54	12	28	20	10	66	70	58	56	16	13	12	22
Alkalinity, Carbonate															
(as CaCO3)	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.

			Ponds 3, 3A, 4, and S-6, and South Fly Ash Pond									
			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 CaCO3)	mg/L	0	16	20	34	23	26	14	6	34	22	26
Alkalinity, Carbonate												
(as CaCO3)	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

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

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.

Control Sample Name	Fly Ash	Bottom Ash	Bed Ash	Slag	Fly Ash + Bottom Ash + Bed Ash + Slag	Coal	Other	Total
SIPC Fly Ash <sup>(2,3)</sup>	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



SIPC 1 September 2021 Page 14

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.

Pond	Sample	Fly Ash	Bottom	Slag	Slag + Fly Ash	Coal	Other	Total
Name	Name		Asn		+ Bottom Ash			
Dand 24	S-3An	1%	8%	11%	20%	13%	67%	100%
FUILU SA	S-3Ax	1%	6%	27%	34%	48%	18%	100%
Pond 3	S-3n	17%	5%	1%	23%	7%	70%	100%
Fond 5	S-3x	22%	7%	5%	34%	4%	62%	100%
Dand C.C.	S-S6n	27%	3%	0%	30%	2%	68%	100%
FUILU 3-0	S-S6x	32%	10%	11%	53%	0%	47%	100%
	S-4n	1%	1%	23%	25%	23%	52%	100%
Pond 4	S-4x	13%	19%	32%	64%	0%	36%	100%
P0110 4	S-4gp	8%	22%	38%	68%	0%	32%	100%
	S-4gs	10%	16%	32%	58%	1%	41%	100%
	S-SFAn	18%	26%	20%	64%	2%	34%	100%
South Fly	S-SFAx	11%	4%	13%	28%	5%	67%	100%
Ash Pond	S-SFAgn	2%	6%	2%	10%	6%	84%	100%
	S-SFAgx	9%	32%	17%	58%	1%	41%	100%

Table 7. S	ummany of (	CP material and	d coal fraction	s in Dond sod	limont complex
Table 7: S	ummarv of G	.CR material and	a coal fraction	is in Pona sec	liment samples.

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.



SIPC 1 September 2021 Page 15

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%

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

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.

<u>Arsenic</u>: 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.

				Control Sa	am	ple Shake T	est	t Results (c)					Sec	diment Shak	ke 1	Fest Results	; (c				
		Part 620 –	Part 620 –						Т												
		Groundwater	Groundwater																		
		Quality Class I	Quality Class II																		
		Potable	General																		
		Resource	Resource	Scrubber		Unit 4															
		Groundwater	Groundwater	Sludge		Fly Ash		Coal		S-3Ax		S-3An		S-3n		S-3x		S-S6x		S-S6n	
Parameter	Units	(a)	(b)	05/25/2021		07/08/202:	L	05/25/2021	4	04/27/2021	Ļ	04/27/202	1	04/27/202	1	04/27/202	1	04/27/202	1	04/27/202	1
Antimony	mg/L	0.006	0.024	< 0.0010	В	0.0216	_	< 0.0010	В	< 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	н	19	н	14	н	9	Н	6	н	10	н
Fluoride	mg/L	4	4	1.37	_	7.33		0.11	_	0.84	н	3.44	н	1.63	н	1.56	Н	1.48	н	1.24	н
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	н	50	н	861	Н	1360	н	1370	н	1350	Н
Thallium	mg/L	0.002	0.02	0.0024	х	0.0495		< 0.0020		< 0.0020		< 0.0020		< 0.0020	В	< 0.0020		< 0.0020		< 0.0020	В
Total																					
Dissolved	mg/L	1200	1200	1950	н	3730	н	166 H	н	162	н	184	н	1310	н	2110	н	2090	н	2100	н
Solids									T								Ц		Ц		Ц
								9	Se	diment Sha	ke	Test Result	s (c)	)							
		Part 620 –	Part 620 –						Т								Τ				T
		Groundwater	Groundwater																		
		Quality Class I	Quality Class II																		
		Potable	General																		
		Resource	Resource																		
		Groundwater	Groundwater	S-4gs		S-4gp		S-4x		S-4n		S-SFA	۱	S-SFAx		S-SFAg	Ċ	S-SFAgr	n		
Parameter	Units	(a)	(b)	04/27/2021		04/27/2023	ι	04/27/2021		04/27/2021	L	04/27/202	1	04/27/202	1	04/27/202	1	04/27/202	:1		
Antimony	mg/L	0.006	0.024	< 0.0010		0.0017		< 0.0010	Т	< 0.0010		0.0014		0.0022		0.0022	Π	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	Т	0.639		1.41		1.14	П	1.08	Π	1.1			
Chloride	mg/L	200	200	2	н	6	н	25 H	н	11	н	42	SH	81	Н	22	н	30	н		
Fluoride	mg/L	4	4	1.1	н	0.68	н	0.9 H	н	1.1	н	2.61	н	1.21	Н	3.59	Н	3.67	н		
Selenium	mg/L	0.05	0.05	0.0028		0.0039		< 0.0010	Т	< 0.0010		0.0044		0.127		0.0487	Π	0.0262			
Sulfate	mg/L	400	400	31	н	11	н	49 H	н	22	н	1160	н	1340	н	59	н	69	н		
Thallium	mg/L	0.002	0.02	< 0.0020	в	< 0.0020		< 0.0020		< 0.0020		< 0.0020		< 0.0020		< 0.0020		< 0.0020			
Total																	Π				
Dissolved	mg/L	1200	1200	132	н	100	н	178 H	н	118	н	1920	н	2200	н	168	н	216	н		
Solids	0.																				
					4		۲		-		۲		_		۲		Ч		-		
Notes:									Ť						Н		H		H		ľ
< - Not detected	l above t	he indicated repo	rting limit.	B - Analyte o	det	tected in as	soc	ciated Method	d F	Blank.				mg/L - Milli	gra	ams per lite	r.				
- Not sampled.			_	H - Holding t	tin	nes exceede	d.		Τ					S - Spike Re	co	very outsid	e r	ecovery lim	nits.		
(a) - Illinois Adn	ninistrati	ve Code. (July 20	13). Title 35: Env	ironmental P	Pro	tection. Sub	otit	tle F: Public V	Wa	ater Supplie	s.	Chapter I: I	Poll	ution Contro	ol E	Board.					
Part 620: 0	Groundw	ater Quality. Subp	oart D: Groundwa	ter Quality St	tar	ndards. Sect	ior	n 620.410 Gro	ur	ndwater Qua	alit	ty Standards	for	Class I: Pot	abl	e Resource	Gr	oundwater	<u>.                                    </u>		
https://po	b.illinois	.gov/documents/	dsweb/Get/Docu	ument-33425,	L																
(b) - Illinois Adn	ninistrati	ve Code. (July 20	13). Title 35: Env	vironmental F	Pro	otection. Sul	otii	tle F: Public \	Wa	ater Supplie	s.	Chapter I:	Poll	ution Contr	ol E	Board.	Ш		$\square$		
Part 620: 0	Groundw	ater Quality.Subp	art D: Groundwat	er Quality St	an	dards. Secti	ion	n 620.420 Grou	un	dwater Qua	lit	y Standards	for	Class II: Ger	ner	al Resource	G	roundwater	r.		
https://po	b.illinois	.gov/documents/	/dsweb/Get/Docu	ument-33425,	L												Ц		$\square$		
(c) - Data from T	eklab, In	c. Environmental	Laboratory. June	7, 2021. Anal	ys	is by ASTM I	D39	987, SW-846 3	300	05A, 6010B,	60	20A, Metals	in S	hake Extrac	t b	y ICPMS, an	d		$\square$		H
ASTM D398	7, SW-84	5 7470A in Shake I	xtract.						+		Ц				Н		Н		$\vdash$		
	Carri	a than tha Ca	huster Quality of	Detel 1				ali constanta d	+		Н				Н		H		$\vdash$		H
	Greate	r than the Ground	awater Quality Cl	ass i Potable	Re	source Gro	uno	uwater		d Carried		- Outline of							$\vdash$		$\vdash$
	Greate	r than both the G	roundwater Qual	ity Class I Pot	tat	Die Resource	e G	roundwater a	an	a Groundwa	ate	er Quality Cl	ass	ii General R	esc	ource Groun	'dN	ater	(   I		

Table 5. Simplified Summary of the Shake test results for Fond Scuments and control sample.
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<u>Selenium</u>: 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.

<u>Sulfate and TDS</u>: 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.

					Ponds 3, 3A, 4, and S-6 and South Fly Ash Pond									Pond
							I	Berm Result	s				B-3 Bern	n Results
		Part 620 –	Part 620 –											
		Groundwater	Groundwater											
		Quality Class I	Quality Class II											
		Potable	General											
		Resource	Resource	B-3a	B-3b	B-3Aa	B-3Aa	B-4a	B-4a	B-6b	B-SFAb	B-SFAa	B-B3a	B-B3b
		Groundwater	Groundwater	4-6 ft	4-6ft	2-4 ft	8-10 ft	0-2 ft	2-4 ft	4-6ft	4-6ft	2-4ft	4-6ft	4-6ft
Parameter	Units	(a)	(b)	03/22/2021	3/22/2021	03/22/2021	03/22/2021	03/22/2021	03/22/2021	3/22/2021	3/22/2021	3/22/2021	3/22/2021	3/22/2021
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
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	mg/L	1200	1200	2200	55	52	88	604	2080	1540	4770	466	5370	5030
Solids														

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

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.

		Groundwater Quality Class I	Groundwater Quality Class II			Pond B-3	- Group 1			Pond	B-3 – Group	2
		Potable	General									
		Resource	Resource									
		Groundwater	Groundwater	West Bank	East Bank	South End	Middle	Sample 1	Sample 4	Sample 3	Sample 4	Sample 5
Parameter	Units	(a)	(b)	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
рН	S.U.	6.5-9	6.5-9						-	9.09	7.58	7.64



#### 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 ANALYIS**

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.





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.<sup>11</sup> Figure 7 provides an example boxplot to show definitions of various components of a box

<sup>&</sup>lt;sup>11</sup> 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:



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.



https://www.epa.gov/sites/production/files/2015-03/documents/proucl\_v5.0\_tech.pdf

SIPC 1 September 2021 Page 23



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).



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	S2 or S4	0.5 – 86 or 23 – 170	
Pond 3	861 - 1360	55 01 54		
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	

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

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.<sup>12, 13</sup> 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.

<sup>&</sup>lt;sup>13</sup> Hanson Professional Services, Inc., 2020. Marion Power Plant – Emery Pond, 2020 Annual Groundwater Monitoring and Corrective Action Report.



<sup>&</sup>lt;sup>12</sup> Hanson Professional Services, Inc., 2019. Marion Power Plant – Emery Pond, 2019 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		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	<ul> <li>Shallow Pond sediment thicknesses</li> </ul>	Sulfate and TDS shake			
Pond S-6	<ul><li>based on bathymetric survey</li><li>The PLM results show a high fraction of non- CCR materials</li></ul>	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,	Sulfate concentrations at Wells S2 and S3 meet the part 620 Class I groundwater standard		
South Fly Ash Pond		meet all other groundwater standards with only two anomalous exceptions	Sulfate concentrations at Wells C1 and C2 meet the Part 620 Class I groundwater standards except one outlier		
В-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



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 univariant 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. <sup>3</sup> )	Pond Volume (ft. <sup>3</sup> )	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 low frequency sonar data.

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

	©Hanson Professional Services Inc. 2021
	Pond 3A Bottom Surface Map
<b>DN</b> s Inc.	POND BATHYMETERY MARION POWER PLANT MARION, WILLIAMSON CO., ILLINOIS
	20E0016B FIGURE 2





Quartile Dispersion: 0.140837539523 Relative Mean Diff: 0.268582213553	
Standard Error:         0.00764021226476           Coef. of Variation:         0.271904610401           Skewness:         2.34883671324           Kurtosis:         13.3028021887	
Sum:3826.65901541Sum Absolute:3826.65901541Sum Squares:5940.88470596Mean Square:2.24438409745	
©banson Professional Services Inc. 2021	
Pond 3A Sediment Thickness M	lap
N POND BATHYMETERY MARION POWER PLANT MARION, WILLIAMSON CO., ILLINC	DIS
20E0016B FIGUE	<b>₹E</b> 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.











I:\20jobs\20E0016B\Admin\15-Field-Laboratory Data\

	Variance: Standard Deviation: Interquartile Range: Range: Mean Difference: Median Abs. Deviation: Average Abs. Deviation: Quartile Dispersion: Relative Mean Diff.:	0.272925134428 0.522422371677 0.49809887302 6.334401524 0.511469167688 0.232801472429 0.344370653327 -nan(ind) -nan(ind)
82603 74	Standard Error: Coef. of Variation: Skewness: Kurtosis:	0.0105848114071 -nan(ind) 2.30072085234 12.2177530104
3 67 57 01 82 74 81 39	Sum: Sum Absolute: Sum Squares: Mean Square:	3359.51976324 3359.60027398 5297.73076458 2.17476632372
	©Pranson Profess	sional Services Inc. 2021
	Pond 3 Sedim	ent Thickness Map
<b>N</b> 5 Inc.	POND BA MARION F MARION, WILLIA	ATHYMETERY POWER PLANT AMSON CO., ILLINOIS

20E0016B

FIGURE 6






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.





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.

© canson Professional Services Inc. 2021 Pond S-6 Bottom Surface Map POND BATHYMETERY MARION POWER PLANT MARION, WILLIAMSON CO., ILLINOIS 20E0016B FIGURE 8



FIGURE 9





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.







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.

	©Honson Professione Services no. 2021
	Pond 4 Bottom Surface Map
N s Inc.	POND BATHYMETERY MARION POWER PLANT MARION, WILLIAMSON CO., ILLINOIS
	20E0016B FIGURE 11





- 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.





I:\20jobs\20E0016B\Admin\15-Field-Laboratory Data\Bathymetry\SouthFlyAshPond HF Surface.srf

### 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.





I:\20jobs\20E0016B\Admin\15-Field-Laboratory Data\Bathymetry\SouthFlyAshPond LF Surface.srf

### 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.





# Mon Apr 19 15:19:49 2021

Grid File Name:	I:\20jobs\20E0016B\Admin\15-Field-Lab	oratory Data
Grid Size: Total Nodes: Filled Nodes: NoData Nodes: NoData Value: Grid Geometry	Banymetry/SFA difference MC pond on 181 rows x 181 columns 32761 21064 0 1.70141E+38	ıy.gra
Charlesonnouty		
X Minimum: X Maximum: X Spacing:	802800 803700 5	
Y Minimum: Y Maximum: Y Spacing:	345400 346300 5	
Polygon '\SouthF	lyAsh' used for statistics	
Side: Polygons: Number of points:	Inside 1 40	
Univariate Gri	d Statistics	
Z		
Count:	21064	Variance:
1%-tile:	0.865867701976	Interguartile

Count:	21064	Variance:	0.119550251691
		Standard Deviation:	0.34576039636
1%-tile:	0.865867701976	Interquartile Range:	0.407676308014
5%-tile:	1.14253823024	Range:	2.72280717715
10%-tile:	1.21917412385	Mean Difference:	0.37592708488
25%-tile:	1.34110802766	Median Abs. Deviation:	0.193710353291
50%-tile:	1.50558164481	Average Abs. Deviation:	0.259983495766
75%-tile:	1.74878433567	Quartile Dispersion:	0.131938676199
90%-tile:	2.07446905667	Relative Mean Diff.:	0.238938718903
95%-tile:	2.23493081003		
99%-tile:	2.5408682886	Standard Error:	0.0023823459334
		Coef. of Variation:	0.219764814711
Minimum:	0.346031225034	Skewness:	0.713360079444
Maximum:	3.06883840218	Kurtosis:	4.00529195111
Mean:	1.57332008226	Sum:	33140.4142128
Median:	1.50558571167	Sum Absolute:	33140.4142128
Geometric Mean:	1.53607291577	Sum Squares	54658 5661669
Harmonic Mean:	1.49691221101	Mean Square	2 59488065737
Root Mean Square	e: 1.61086332672	mean equator	2.00.00000.01
Trim Mean (10%):	1.55884366498		
Interguartile Mean:	1.51884743709		
Midrange:	1.70743481361		
Winsorized Mean:	1.56533247773		
TriMean:	1.52526391324		

HANSON Hanson Professional Services Inc.





20E0016B

FIGURE 15

# Attachment B

# Laboratory Reports for Carbon/Hydrogen/Nitrogen Analysis

Lab No :	202100997-		ctronic Filin	g: Received, Clerk's Office (	9/02/2021
Date Rec'd :	4/28/2021			<b>STANDARD</b>	LABORATORIES, INC.
Date Sampled	4/27/2021	to	4/27/2021	8451 River King Drive	d
Sampled By:	CLIENT			- Freedurg, iL 62243	ANAB
				CERTIFICATE OF ANALYSIS	TESTING LABORATORY Certificate # L2179.02-1 Testing
	TEKLAB INC. 5445 HORSESHOE LAKE ROAD				
				Page : 1 of 14	
				Date : 5/4/2021	8:24:40 AM

P.O.#: 31111

Sample Weght :

Sample ID: 21041640-001

COLLINSVILLE, IL 62234-7425 ATTN: MARVIN DARLING

### Comment:

						Weight	%
PROXIMATE AN	IALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	SIS	As- Received	Dry Basis
% 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	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	5			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205		*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	****	Ferric Oxide, Fe2C	3		*****
				Alumina, Al2O3			*****
WATER SOLUBL	E			Titania, TiO2			*****
% Na2O	D8010	*****	*****	Lime, CaO			*****
% K2O	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SO	3		*****
				Potassium Oxide, I	K2O		*****
* Alkalies as Na2	O ASME1974	*****	*****	Sodium Oxide, Na2	20		*****
				Barium Oxide, BaC	)		*****
FUSION TEMP. (	OF ASH D1857 °F	Reducing	Oxidizing	Strontium Oxide, S	rO		*****
I.D.		*****	*****	Manganese Dioxide	, MnO2		*****
H=W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
				* T250 Deg F E	3W		*****
GRINDABILITY II	NDEX D409 ***	**** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
		*****		* lb Ash/mm BTU			*****
FREE SWELLING	A INDEX D720			* lb SO2/mm BTU			*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
	ioturo D1412		****	* Fouling Index	ASME1974		*****
				* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		****	(Mei	cury 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

(im butchison)

Lab No :	Electronic Filing	: Received Clerk's Office (	9/02/2021
Date Rec'd :	4/28/2021	STANDARD	LABORATORIES, INC.
Date Sampled	4/27/2021 to 4/27/2021	8451 River King Drive	d
Sampled By:	CLIENT	Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page: 2 of 14	
		Date : 5/4/2021	8:24:40 AM
	COLLINSVILLE. IL 62234-7425	P.O.# : 31111	

Sample ID: 21041640-002

COLLINSVILLE, IL 62234-7425 ATTN: MARVIN DARLING

#### Comment:

						Weight	%
PROXIMATE AN	IALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	SIS	As- Received	Dry Basis
% Moisture	D3302	64.65	*****	% Moisture	D3302	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	5			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205		*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	03		*****
				Alumina, Al2O3			*****
WATER SOLUBL	E			Titania, TiO2			*****
% Na2O	D8010	*****	*****	Lime, CaO			*****
% K2O	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SC	3		*****
				Potassium Oxide,	K2O		*****
* Alkalies as Na2	O ASME1974	*****	*****	Sodium Oxide, Nat	20		*****
				Barium Oxide, BaC	)		*****
FUSION TEMP. (	OF ASH D1857 °F	Reducina	Oxidizina	Strontium Oxide, S	irO		*****
I.D.		*****	*****	Manganese Dioxide	e, MnO2		*****
H=W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
				* T250 Deg F E	3W		*****
GRINDABILITY II	NDEX D409	**** @ ******	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	G INDEX D720	*****		* lb SO2/mm BTU			*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
			*****	* Fouling Index	ASME1974		*****
% Equilibrium Mo	isture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		*****	(Me	rcury D6722 Dry	Basis ug/g *****	* )

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(im futchison)

Lab No :	Electronic Filing	)9/02/2021	
Date Rec'd :	4/28/2021	STANDARD	LABORATORIES, INC.
Date Sampled	4/27/2021 to 4/27/2021	8451 River King Drive	d
Sampled By:	CLIENT	- Freedurg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page: 3 of 14	
		Date : 5/4/2021	8:24:40 AM
	COLLINSVILLE, IL 62234-7425	P.O.# : 31111	

ATTN: MARVIN DARLING

Sample ID: 21041640-003

### Comment:

						Weight	%
PROXIMATE AN	IALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	SIS	As- Received	Dry Basis
% Moisture	D3302	78.53	*****	% Moisture	D3302	78.53	*****
% Ash	D3174	*****	****	% Carbon	D5373	2.40	11.17
% Volatile	D3175	*****	*****	% Hydrogen	D5373	0.19	0.90
% Fixed Carbon	D3172	*****	*****	% Nitrogen	D5373	0.06	0.27
BTU	D5865	*****	*****	% Chlorine	D6721	*****	*****
MAF BTU	D3180	**	****	% Sulfur	D4239	*****	*****
% Total Sulfur	D4239	*****	*****	% Ash	D3174	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	;			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205	-	*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	3		*****
				Alumina, Al2O3			*****
WATER SOLUBI	F			Titania, TiO2			*****
% Na2O	D8010	*****	*****	Lime, CaO			*****
% K20	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SC	3		*****
				Potassium Oxide,	K2O		*****
* Alkalies as Na2	O ASME1974	*****	*****	Sodium Oxide, Nat	20		*****
				Barium Oxide, BaC	)		*****
	OF ASH D1857 °E	Reducina	Oxidizina	Strontium Oxide, S	rO		*****
		*****	*****	Manganese Dioxide	, MnO2		*****
H=W		*****	****	* Undetermined			*****
H=1/2W		*****	****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
-				* T250 Deg F E	3W		*****
GRINDABILITY II	NDEX D409 **	***** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	GINDEX D720	*****		* lb SO2/mm BTU			*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
				* Fouling Index	ASME1974		*****
% Equilibrium Mo	isture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348	8	****	(Me	cury D6722 Dry	Basis ug/g *****	* )

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(im butchison

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Date Sampled	4/27/2021 to 4/27/2021	8451 River King Drive	d
Sampled By:	CLIENT	- Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page: 4 of 14	
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Sample ID: 21041640-004

ATTN: MARVIN DARLING

#### Comment:

						Weight	%
PROXIMATE AN	ALYSIS	As- Beceived	Dry Basis	UI TIMATE ANAI Y	SIS	As- Beceived	Dry Basis
% 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	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	;			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignite	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205		*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	3		*****
				Alumina, Al2O3			*****
WATER SOLUBL	.E			Titania, TiO2			*****
% Na2O	D8010	*****	*****	Lime, CaO			*****
% K2O	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SO	3		*****
				Potassium Oxide, I	<20		*****
* Alkalies as Na20	O ASME1974	*****	*****	Sodium Oxide, Na2	20		*****
				Barium Oxide, BaC	)		*****
FUSION TEMP. C	DF ASH D1857 °F	Reducing	Oxidizing	Strontium Oxide, S	rO		*****
I.D.		*****	*****	Manganese Dioxide	, MnO2		*****
H=W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
				* T250 Deg F E	3W		*****
GRINDABILITY I	NDEX D409 ***	**** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
		*****		* lb Ash/mm BTU			*****
FREESWELLING	AINDEX D720			* lb SO2/mm BTU			*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
% Equilibrium Mo	icturo D1/12		****	* Fouling Index	ASME1974		*****
				* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		*****	(Mei	cury D6722 Dry	Basis ug/g *****	* )

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Sampled By:	CLIENT	Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page:5 of 14	
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	COLLINSVILLE, IL 62234-7425	P.O.# : 31111	

Sample ID: 21041640-005

ATTN: MARVIN DARLING

### Comment:

						Weight	%
PROXIMATE AN	ALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	'SIS	As- Received	Dry Basis
% Moisture	D3302	50.16	*****	% Moisture	D3302	50.16	*****
% Ash	D3174	*****	*****	% Carbon	D5373	3.66	7.35
% Volatile	D3175	*****	*****	% Hydrogen	D5373	0.25	0.51
% Fixed Carbon	D3172	*****	*****	% Nitrogen	D5373	0.05	0.10
BTU	D5865	*****	*****	% Chlorine	D6721	*****	*****
MAF BTU	D3180	**	****	% Sulfur	D4239	*****	*****
% Total Sulfur	D4239	*****	*****	% Ash	D3174	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	i			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	SIS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, I	P2O5	-	*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe20	03		*****
				Alumina, Al2O3			*****
WATER SOLUBI	F			Titania, TiO2			*****
% Na2O	 D8010	*****	*****	Lime, CaO			*****
% K2O	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SC	03		*****
				Potassium Oxide,	K2O		*****
* Alkalies as Na20	O ASME1974	*****	*****	Sodium Oxide, Na	20		*****
				Barium Oxide, Ba	C		*****
FUSION TEMP. C	OF ASH D1857 °F	Reducina	Oxidizina	Strontium Oxide, S	SrO		*****
I.D.		*****	*****	Manganese Dioxide	e, MnO2		*****
H=W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
				* T250 Deg F	ЗW		*****
GRINDABILITY I	NDEX D409 ***	*** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	GINDEX D720	*****		* Ib SO2/mm BTL	l		*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
				* Fouling Index	ASME1974		*****
% Equilibrium Mo	isture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		****	(Me	rcury D6722 Dry	Basis ug/g *****	* )

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Sampled By:	CLIENT	- Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page: 6 of 14	
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	COLLINSVILLE, IL 62234-7425	P.O.# : 31111	

Sample ID: 21041640-006

ATTN: MARVIN DARLING

#### Comment:

						Weight	%
PROXIMATE AN	ALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	SIS	As- Received	Dry Basis
% Moisture	D3302	64.46	*****	% Moisture	D3302	64.46	*****
% Ash	D3174	*****	*****	% Carbon	D5373	1.49	4.19
% Volatile	D3175	*****	*****	% Hydrogen	D5373	0.21	0.60
% Fixed Carbon	D3172	*****	*****	% Nitrogen	D5373	0.03	0.10
BTU	D5865	*****	*****	% Chlorine	D6721	*****	*****
MAF BTU	D3180	*	****	% Sulfur	D4239	*****	*****
% Total Sulfur	D4239	*****	*****	% Ash	D3174	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	;			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205		*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	3		*****
				Alumina, Al2O3			*****
WATER SOLUBI	F			Titania, TiO2			*****
% Na2O	 D8010	*****	*****	Lime, CaO			*****
% K2O	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SO	3		*****
				Potassium Oxide, I	<20		*****
* Alkalies as Na20	O ASME1974	*****	*****	Sodium Oxide, Na2	20		*****
				Barium Oxide, BaC	)		*****
FUSION TEMP. (	OF ASH D1857 °F	Reducina	Oxidizina	Strontium Oxide, S	rO		*****
I.D.		*****	*****	Manganese Dioxide	, MnO2		*****
H=W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
				* T250 Deg F E	3W		*****
GRINDABILITY I	NDEX D409 ***	*** @ ******	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	GINDEX D720	*****		* lb SO2/mm BTU			*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
	,	-		* Fouling Index	ASME1974		*****
% Equilibrium Mo	isture D1412		****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		*****	(Mei	cury D6722 Dry	Basis ug/g *****	* )

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Sampled By:	CLIENT	- Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page: 7 of 14	
		Date : 5/4/2021	8:24:41 AM
	COLLINSVILLE, IL 62234-7425	P.O.# : 31111	

Sample ID: 21041640-007

ATTN: MARVIN DARLING

### Comment:

						Weight	%
PROXIMATE AN	ALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	'SIS	As- Received	Dry Basis
% Moisture	D3302	37.39	*****	% Moisture	D3302	37.39	*****
% Ash	D3174	*****	*****	% Carbon	D5373	29.81	47.62
% Volatile	D3175	*****	*****	% Hydrogen	D5373	1.90	3.03
% Fixed Carbon	D3172	*****	*****	% Nitrogen	D5373	0.59	0.94
BTU	D5865	*****	*****	% Chlorine	D6721	*****	*****
MAF BTU	D3180	**:	****	% Sulfur	D4239	*****	*****
% Total Sulfur	D4239	*****	*****	% Ash	D3174	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	i			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	SIS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, I	P2O5	-	*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe20	03		*****
				Alumina, Al2O3			*****
WATER SOLUBL	E			Titania, TiO2			*****
% Na2O	 D8010	*****	*****	Lime, CaO			*****
% K2O	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SC	03		*****
,				Potassium Oxide,	K2O		*****
* Alkalies as Na20	O ASME1974	*****	*****	Sodium Oxide, Na	20		*****
				Barium Oxide, Ba	C		*****
FUSION TEMP. C	OF ASH D1857 °F	Reducina	Oxidizina	Strontium Oxide, S	SrO		*****
I.D.		*****	*****	Manganese Dioxide	e, MnO2		*****
H=W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
				* T250 Deg F	BW		*****
GRINDABILITY I	NDEX D409 ***	**** @ ******	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	GINDEX D720	*****		* Ib SO2/mm BTL	I		*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
	DI 110		*****	* Fouling Index	ASME1974		*****
% Equilibrium Mo	Isture D1412			* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		****	(Me	rcury D6722 Dry	Basis ug/g *****	* )

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Sampled By:	CLIENT	- Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page: 8 of 14	
		Date : 5/4/2021	8:24:41 AM
	COLLINSVILLE, IL 62234-7425	P.O.# : 31111	

Sample ID: 21041640-008

ATTN: MARVIN DARLING

### Comment:

						Weight	%
PROXIMATE AN	ALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	SIS	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 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignite	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205		*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	3		*****
				Alumina, Al2O3			*****
WATER SOLUBL	E			Titania, TiO2			*****
% Na2O	 D8010	*****	*****	Lime, CaO			*****
% K2O	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SO	3		*****
				Potassium Oxide, I	K2O		*****
* Alkalies as Na20	O ASME1974	*****	*****	Sodium Oxide, Na2	20		*****
				Barium Oxide, BaC	)		*****
FUSION TEMP. (	OF ASH D1857 °F	Reducina	Oxidizina	Strontium Oxide, S	rO		*****
I.D.		*****	*****	Manganese Dioxide	, MnO2		*****
H=W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
				* T250 Deg F E	3W		*****
GRINDABILITY I	NDEX D409 '**	*** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	GINDEX D720	*****		* lb SO2/mm BTU			*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
				* Fouling Index	ASME1974		*****
% Equilibrium Mo	isture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		*****	(Mei	cury D6722 Dry	Basis ug/g *****	* )

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Sampled By:	CLIENT	- Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page : 9 of 14	
		Date : 5/4/2021	8:24:41 AM
	COLLINSVILLE, IL 62234-7425	P.O.# : 31111	

Sample ID: 21041640-009

ATTN: MARVIN DARLING

### Comment:

						Weight	%
		As-	Dry			As-	Dry
PROXIMATE AN	IALYSIS	Received	Basis	ULTIMATE ANALY	SIS	Received	Basis
% Moisture	D3302	54.13	*****	% Moisture	D3302	54.13	*****
% Ash	D3174	*****	*****	% Carbon	D5373	13.27	28.92
% Volatile	D3175	*****	****	% Hydrogen	D5373	0.91	1.98
% Fixed Carbon	D3172	*****	*****	% Nitrogen	D5373	0.28	0.62
BTU	D5865	*****	*****	% Chlorine	D6721	*****	*****
MAF BTU	D3180	**	****	% Sulfur	D4239	*****	*****
% Total Sulfur	D4239	*****	*****	% Ash	D3174	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	5			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205		*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	3		*****
				Alumina, Al2O3			*****
WATER SOLUBI	F			Titania, TiO2			*****
% Na2O		*****	*****	Lime, CaO			*****
% K20	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SO	3		*****
	AGME 1974			Potassium Oxide, I	K2O		*****
* Alkalies as Na2	O ASME1974	*****	*****	Sodium Oxide, Na	20		*****
				Barium Oxide, BaC	)		*****
	SE & SH D1857 °E	Reducing	Ovidizina	Strontium Oxide, S	rO		*****
	JI AGITETOJI T	*****	*****	Manganese Dioxide	, MnO2		*****
1.D.		*****	*****	* Undetermined	-		*****
H_1/2\N/		*****	*****	* Type of Ash	ASME1974		*****
		*****	*****	* Silica Value	ASME1974		*****
I LOID				* T250 Deg F E	3W		*****
GRINDABILITY II	NDEX D409 **	**** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
-		C		* lb_Ash/mm_BTU			*****
FREE SWELLING	GINDEX D720	*****		* lb_SO2/mm_BTU			*****
* Anne 1 On 1 '		M	*****	Using 20000 as	SO2 calculation	factor	
Apparent Specif	ic Gravity of Coal	1100107113		* Fouling Index	ASME1974		*****
% Equilibrium Mo	isture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348	3	*****	(Mei	cury D6722 Dry	Basis ug/g *****	* )

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(im butchison)

Lab No :	Electronic Filir 202100997-010	ng: Received Clerk's Office 0	9/02/2021
Date Rec'd :	4/28/2021	<b>STANDARD</b>	LABORATORIES, INC.
Date Sampled	4/27/2021 to 4/27/2021	8451 River King Drive	d
Sampled By:	CLIENT	Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page : 10 of 14	
		Date : 5/4/2021	8:24:41 AM
	COLLINSVILLE, IL 62234-7425	P.O.# : 31111	

Sample ID: 21041640-010

ATTN: MARVIN DARLING

### Comment:

						Weight	%
PROXIMATE AN	IALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	SIS	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	*****	*****
SULFUR FORMS	;			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	SIS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205	-	*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe20	03		*****
				Alumina, Al2O3			*****
WATER SOLUBI	F			Titania, TiO2			*****
% Na2O	D8010	*****	*****	Lime, CaO			*****
% K2O	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SC	03		*****
				Potassium Oxide,	K2O		*****
* Alkalies as Na2	O ASME1974	*****	*****	Sodium Oxide, Na	20		*****
				Barium Oxide, Ba	)		*****
FUSION TEMP (	OF ASH D1857 °F	Reducing	Oxidizina	Strontium Oxide, S	SrO		*****
		*****	*****	Manganese Dioxide	e, MnO2		*****
H=W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
				* T250 Deg F	ЗW		*****
GRINDABILITY II	NDEX D409 ***	**** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* Ib Ash/mm BTU			*****
FREE SWELLING	GINDEX D720	*****		* lb SO2/mm BTU			*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
				* Fouling Index	ASME1974		*****
% Equilibrium Mo	isture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		*****	(Me	rcury D6722 Dry	Basis ug/g *****	* )

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(im futchison)

Lab No :	E 202100997-0		nic Filing:	Received, Clerk's Office 0	9/02/2021
Date Rec'd :	4/28/2021			<b>STANDARD</b>	LABORATORIES, INC.
Date Sampled	4/27/2021	to 4/27	7/2021	8451 River King Drive	4
Sampled By:	CLIENT			Freeburg, IL 62243	ANAB
				CERTIFICATE OF ANALYSIS	TESTING LABORATORY Certificate # L2179.02-1 Testing
	TEKLAB INC.				
	5445 HORSE	SHOE LAK	E ROAD	Page : 11 of 14	
				Date : 5/4/2021	8:24:41 AM

P.O.#: 31111

Sample Weght :

Sample ID: 21041640-011

COLLINSVILLE, IL 62234-7425 ATTN: MARVIN DARLING

### Comment:

						Weight	%
PROXIMATE AN	ALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	SIS	As- Received	Dry Basis
% 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	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	;			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205		*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	03		*****
				Alumina, Al2O3			*****
WATER SOLUBI	F			Titania, TiO2			*****
% Na2O	 D8010	*****	*****	Lime, CaO			*****
% K20	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SC	3		*****
				Potassium Oxide,	K2O		*****
* Alkalies as Na20	O ASME1974	*****	*****	Sodium Oxide, Nat	20		*****
				Barium Oxide, BaC	)		*****
FUSION TEMP (	DE ASH D1857 °E	Reducina	Oxidizina	Strontium Oxide, S	irO		*****
		*****	*****	Manganese Dioxide	e, MnO2		*****
H=W		*****	****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
-				* T250 Deg F	3W		*****
GRINDABILITY I	NDEX D409 ***	**** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	GINDEX D720	*****		* lb SO2/mm BTU			*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	****	Using 20000 as	SO2 calculation	factor	
				* Fouling Index	ASME1974		*****
% Equilibrium Mo	isture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		****	(Me	rcury D6722 Dry	Basis ug/g *****	** )

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(im butchison

Lab No :	Electronic 202100997-012	c Filing: Received Clerk's Office (	9/02/2021
Date Rec'd :	4/28/2021	<b>EXERCISES</b> STANDARD	LABORATORIES, INC.
Date Sampled	4/27/2021 to 4/27/20	21 8451 River King Drive	d
Sampled By:	CLIENT	Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE F	OAD Page : 12 of 14	
		Date : 5/4/2021	8:24:41 AM
	COLLINSVILLE, IL 62234-74	25 P.O.# : 31111	

Sample ID: 21041640-012

ATTN: MARVIN DARLING

### Comment:

						Weight	%
PROXIMATE AN	IALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	SIS	As- Received	Dry Basis
% Moisture	D3302	44.73	*****	% Moisture	D3302	44.73	*****
% Ash	D3174	*****	*****	% Carbon	D5373	9.13	16.52
% Volatile	D3175	*****	*****	% Hydrogen	D5373	0.70	1.27
% Fixed Carbon	D3172	*****	*****	% Nitrogen	D5373	0.15	0.27
BTU	D5865	*****	*****	% Chlorine	D6721	*****	*****
MAF BTU	D3180	**	****	% Sulfur	D4239	*****	*****
% Total Sulfur	D4239	*****	*****	% Ash	D3174	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	3			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205	C C	*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	03		*****
				Alumina, Al2O3			*****
WATER SOLUBI	F			Titania, TiO2			*****
% Na2O	D8010	*****	*****	Lime, CaO			*****
% K20	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SC	3		*****
	/ CIME 10/ 4			Potassium Oxide,	K2O		*****
* Alkalies as Na2	O ASME1974	*****	*****	Sodium Oxide, Nat	20		*****
				Barium Oxide, BaC	)		*****
FUSION TEMP (	OF ASH D1857 °F	Reducina	Oxidizina	Strontium Oxide, S	irO		*****
		*****	*****	Manganese Dioxide	e, MnO2		*****
H–W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
. 2012				* T250 Deg F E	3W		*****
GRINDABILITY II	NDEX D409	**** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	G INDEX D720	*****		* lb SO2/mm BTU			*****
* Apparent Specif	fic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
	is clarify of oour			* Fouling Index	ASME1974		*****
% Equilibrium Mo	bisture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	ion @ 950C D7348	}	*****	(Mei	rcury D6722 Dry	Basis ug/g *****	* )

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Lab No :	Electronic Fi 202100997-013	ing: Received Clerk's Office 09/02/2021
Date Rec'd :	4/28/2021	STANDARD LABORATORIES, INC.
Date Sampled	4/27/2021 to 4/27/2021	8451 River King Drive
Sampled By:	CLIENT	ANAB
		CERTIFICATE OF ANALYSIS
	TEKLAB INC.	
	5445 HORSESHOE LAKE ROAD	Page : 13 of 14
		Date : 5/4/2021 8:24:41 AM
	COLLINSVILLE, IL 62234-7425	P.O.#: 31111

Sample ID: 21041640-013

ATTN: MARVIN DARLING

### Comment:

						Weight	%
PROXIMATE AN	IALYSIS	As- Received	Dry Basis	ULTIMATE ANALY	SIS	As- Received	Dry Basis
% Moisture	D3302	47.86	*****	% Moisture	D3302	47.86	*****
% Ash	D3174	*****	*****	% Carbon	D5373	4.43	8.49
% Volatile	D3175	*****	*****	% Hydrogen	D5373	0.49	0.93
% Fixed Carbon	D3172	*****	*****	% Nitrogen	D5373	0.16	0.31
BTU	D5865	*****	*****	% Chlorine	D6721	*****	*****
MAF BTU	D3180	**	****	% Sulfur	D4239	*****	*****
% Total Sulfur	D4239	*****	*****	% Ash	D3174	*****	*****
				% Oxygen (Diff.)	D3176	*****	*****
SULFUR FORMS	3			(Chlorine D6721 D	ry Basis ug/g	***** )	
% Pyritic	D8214MOD	*****	*****	MINERAL ANALYS	IS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205	0	*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	03		*****
				Alumina, Al2O3			*****
WATER SOLUBI	F			Titania, TiO2			*****
% Na2O	D8010	*****	*****	Lime, CaO			*****
% K20	D8010	*****	*****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SC	3		*****
	/ CIME 10/ 4			Potassium Oxide,	K2O		*****
* Alkalies as Na2	O ASME1974	*****	*****	Sodium Oxide, Nat	20		*****
				Barium Oxide, BaC	)		*****
FUSION TEMP (	OF ASH D1857 °F	Reducina	Oxidizina	Strontium Oxide, S	irO		*****
		*****	*****	Manganese Dioxide	e, MnO2		*****
H–W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
. 2012				* T250 Deg F E	3W		*****
GRINDABILITY II	NDEX D409	**** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	G INDEX D720	*****		* lb SO2/mm BTU			*****
* Annarent Specif	fic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
	is clarity of Odd			* Fouling Index	ASME1974		*****
% Equilibrium Mo	bisture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	ion @ 950C D7348	}	*****	(Mei	rcury D6722 Dry	Basis ug/g *****	* )

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Lab No :	Electronic Filin 202100997-014	g: Received, Clerk's Office 0	9/02/2021
Date Rec'd :	4/28/2021	STANDARD	LABORATORIES, INC.
Date Sampled	4/27/2021 to 4/27/2021	8451 River King Drive	d
Sampled By:	CLIENT	Freeburg, IL 62243	ANAB
		CERTIFICATE OF ANALYSIS	Certificate # L2179.02-1 Testing
	TEKLAB INC.		
	5445 HORSESHOE LAKE ROAD	Page : 14 of 14	
		Date : 5/4/2021	8:24:41 AM
	COLLINSVILLE, IL 62234-7425	P.O.# : 31111	

Sample ID: 21041640-014

ATTN: MARVIN DARLING

### Comment:

						Weight	%
PROXIMATE AN	IAI YSIS	As-	Dry Basis	μι τιλατε ανιάι γ	<b>SIS</b>	As- Received	Dry Basis
% Moisture	D3302	12 8/	Dasis *****	% Moisture	010	12 84	*****
% Ach	D3174	*****	****	% Carbon	D5373	3 54	6 10
% Volatila	D3174	*****	****	% Uvdrogon	D5373	0.40	0.13
% Volatile	D3173	*****	*****	% Nitrogon	D5373	0.40	0.70
	D5172	*****	****	% Nilloyen	D0070	0.13	0.22 *****
	D3190	**	****	% Chionne	D6721	*****	*****
	D3180	*****	*****	% Sullur	D4239	*****	*****
% Total Sulfur	D4239			% ASI	D3174	*****	*****
				% Oxygen (Diff.)	D3176	*****	
SULFUR FORMS		*****	****	(Chiorine D6/21 D	ry Basis ug/g	······ )	
% Pyritic		******	******		IS D6349	% Ignit	ed Basis
% Sulfate	D8214MOD	*****	*****	Phos. Pentoxide, F	205		*****
% Organic	D8214MOD	*****	*****	Silica, SiO2			*****
% Total Sulfur	D4239	*****	*****	Ferric Oxide, Fe2C	03		*****
				Alumina, Al2O3			*****
WATER SOLUBL	.E			Litania, LiO2			*****
% Na2O	D8010	*****	****	Lime, CaO			*****
% K2O	D8010	*****	****	Magnesia, MgO			*****
* % Chlorine	ASME1974	*****	*****	Sulfur Trioxide, SC	03		*****
				Potassium Oxide,	K2O		*****
* Alkalies as Na2	O ASME1974	*****	*****	Sodium Oxide, Na	20		*****
				Barium Oxide, BaC	)		*****
FUSION TEMP. (	DF ASH D1857 °F	Reducing	Oxidizing	Strontium Oxide, S	irO		*****
I.D.		*****	*****	Manganese Dioxide	e, MnO2		*****
H=W		*****	*****	* Undetermined			*****
H=1/2W		*****	*****	* Type of Ash	ASME1974		*****
FLUID		*****	*****	* Silica Value	ASME1974		*****
				* T250 Deg F E	3W		*****
GRINDABILITY II	NDEX D409 ***	**** @ *****	% Moist.	* Base/Acid Ratio	ASME1974		*****
				* lb Ash/mm BTU			*****
FREE SWELLING	G INDEX D720	*****		* lb SO2/mm BTU			*****
* Apparent Specif	ic Gravity of Coal	ModIC7113	*****	Using 20000 as	SO2 calculation	factor	
				* Fouling Index	ASME1974		*****
% Equilibrium Mo	isture D1412		*****	* Slagging Index	ASME1974		*****
* % Loss on Igniti	on @ 950C D7348		****	(Me	rcury D6722 Dry	Basis ug/g *****	* )

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(im butchison)

# Electronic Filice Antipercontropy fice 0 and 2/2024 work order # 21041640

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

Client:	Client: Hanson Professional Services, Inc.											Samples on: CE BLUE ICE NO ICE 24 °C LTG# 5																			
Address:	1525 South Sixth S	Street									Preserved in: ELAB FIELD FOR LAB USE ONLY																				
City / State	/ Zip Springfield, IL 627	03									1	Lab	No	otes	5																
Contact:	Rhon Hasenyager		_ Phone	Phone: (217) 788-2450																											
E-Mail:	rhasenyager@hanson-inc.	com	_ Fax:								C	lier	at C	Con	nme	nts															
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								T ( M	otal ( letals	Cart s: Ba	oon: a B (	sub Ca M	conti 1g N	racted a K I	d to S CP/M	itd. La IS: St	abs DAs	Be Cr	Co P	b Li N	lo Se	ΤI	<i>.</i>	D	À	Y					
Project Sediment Sampli	Name/Number	Si	ample Col	lect	tor's	s Na	ame					<u>۸</u>		RI)	X					IN		ATE.			IS R	EQU	IEST	ED	1.000		
IL	ig and marion,	KW.	MATIS									5			ရှ	G	A	Ω			p	.									
Result	s Requested	Billing Ins	tructions	#:	and	Туро	e of (	Cont	aine T	rs	ğ	nkir	~	ŝ	l e c i	<b>Fou</b>	Ikalir	loric	Me	Z	- HTS	Total									
Other	Day (50% Surcharge)			UNPRE	HNO3	NaOH	H2SO4	MeOH	NaHSO	OTHEF	leous	ıg Wat	Soll	udge	al Was	ndwate	nity (B/C)	te/Sulfate	ercury	etais	/Fluoride	Carbon									
Lab Use Only	Sample Identification	Date/Time	Sampled	s					4	Ĩ		er			G	Ē		Ű													
2104/440	S-3AXX	4.2721	0940														Ý					×									
-02	S-3ATA	1	0950														١	1	i	1	1	1									
Ear ,	S-31		1015																												
7004	S-3x		1045																												
-005	S-Slov		1125																												
-006	S-56 m		1145				•																								
-007	5-40s		1240											· .																	
-08	5-4ap		1300		10 <b>1</b> 00	Ś.T. és						and the second																			
-001	S-450		1315															h	$\square$	$\overline{\mathbf{N}}$	L										
-010	5-41		1400						1					9			Y	V	$ \Psi $	V	′  ♥	M									
<u>64</u>	Relinquished By	-	1	D	)ate	/Tin	ne							<del>,</del>		Re	ceiv	ed B	у				_	7 1	<u> </u>	D	ate/T	ïme	200		
	7-64-	<u></u>	4.28-2	27		D	75	2					W.	0	$\checkmark$	:	3							4/	28	$\frac{11}{11}$	_[	(	<u> </u>	<u>50</u>	1
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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

17

# Electronic Filing Aneire CUSTOD fice 0 2/2021 Z Work order # 2(04/64)

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

Client:	Н	anson Profession	al Servi	ices, Inc									S	iam	ple	s o	n: โ	⊴Ĥo	Æ	<u> </u>	BLUE	E ICE	諁	NO IO	CE				c	LTG	#	~	
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City / State	/Zip S	pringfield, IL 627	03										L	.ab	Not	es																	
Contact:	Rhon Has	enyager Phone: (217) 788-2450																															
E-Mail:	rhasenyag	jer@hanson-inc.c	com		Fax:								С	lien	t Co	om	men	ts:														<i></i>	_
Are these sample: Are these sample: Are there any requ mits in the comm	s known to s known to uired report ent sectior	be involved in litig be hazardous? ting limits to be m nYes	gation?	If yes, a I National International Internation International International Internation International International Internation International International International International International International International International I	surcharge lo sted analys	will a is?, l	ipply f ye:	∕ s, ple	I Y	es prov	ide	No	To Me	otal C etais	Carbo :: Ba	on:s BC	a Mg	ntra Na I	cted KIC	to Sta P/MS	l. La S: Sb	bs As B	e Cr	Co Pt	b Li Me	o Se	TI						
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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.

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BottleOrder: 65198





# **Trace Elements**

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

3/6/2012
012016530
Customer

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

Element	Abr.	Results
Aluminum	AI	XXXXX
Antimony	Sb	4.77
Arsenic	As	133.9
Barium	Ba	390.6
*Beryllium	Be	15.81
Boron	В	951.7
Bromine	Br	XXXXX
*Cadmium	Cd	18.48
Chlorine	CI	XXXXX
*Chromium	Cr	173.9
Cobalt	Со	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	Мо	XXXXX
*Nickel	Ni	171.9
Phosphorus	Р	XXXXX
Selenium	Se	0.01
Silver	Ag	< 0.01
Strontium	Sr	379.8
Tellurium	Те	XXXXX
Thallium	TI	21.34
Tin	Sn	3.96
*Vanadium	V	258.9
*Zinc	Zn	1507
Zirconium	Źr	XXXXX

\* Basic Set

ASTM D6357 -- ASTM D6722 -- ASTM D4208

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

Submitted by: Sharlonda Matthews



Electronic Filing: NECENER JOFfice 09/02/2021

Box 549

Salyersville, Kentucky 41465 Phone (606) 349-6145

Certificate of Analysis

COMPANY REQU	ESTING ANAL	YSIS:	Date Analyzed:	6/17/2012		
Southern Illino	is Power Co-C	р	Lab No	0/1	7/2013	
Marion,	IL 62959			013035523		
			Sampled By/Type:	CUSTOMER		
ID: Mail In : #4 Fly Ash : 06-	11-13 : LOI = 2	2.00%				
PROXIMATE ANALYSIS	As Received	Dry Basis	ULTIMATE ANALYSIS (ASTM D5373)	As Received	Dry Basis	
% Moisture (3302)	1.22		Moisture	XXXXX		
% Ash (D3174)	96.80	98.00	Carbon	xxxxx	xxxxx	
% Volatile (D3175)	xxxxx	xxxxx	Hydrogen	xxxxx	xxxxx	
% Fixed Carbon (Calculated)	xxxxx	xxxxx	Nitrogen	xxxxx	xxxxx	
B.T.U (D5865)	18	18	Sulfur	xxxxx	XXXXX	
M.A.F.B.T.U. (Calculated)	90	00	Ash	xxxxx	XXXXX	
% Sulfur (D4239)	0.98	0.99	Oxygen (diff.)	XXXXX	XXXXX	
lbs. SO <sub>2</sub> /mmBtu	110	0.00				
lbs. Ash/mmBtu 54444.44				% Wt. Ignited		
			4326)	Basis		
SULFUR FORMS (ASTM D2492)	As Received	Dry Basis		$S_1O_2$	XXXXX	
% Pyritic Sulfur	XXXXX	XXXXX		$AI_2O_3$	XXXXX	
% Sulfate Sulfur	XXXXX	XXXXX	Titanium dioxide	$T_1O_2$	XXXXX	
% Organic Sulfur	XXXXX	XXXXX	Iron oxide	$Fe_2O_3$	XXXXX	
% Total Sulfur	XXXXX	XXXXX	Calcium oxide	CaO	XXXXX	
			Magnesium oxide	MgO	XXXXX	
FUSION TEMPERATURE OI	F ASH (D1857)		Potassium oxide	K <sub>2</sub> O	XXXXX	
	Reducing (°F)	Oxidizing (°F)	Sodium oxide	Na <sub>2</sub> O	XXXXX	
Initial Temp.	XXXXX	XXXXX	Sulfur trioxide	SO <sub>3</sub>	XXXXX	
Softening Temp. H=W	XXXXX	XXXXX	Phosphorus pentoxide	$P_2O_5$	XXXXX	
Hemispherical Temp. H=1/2 W	XXXXX	XXXXX	Strontium oxide	SrO	XXXXX	
Fluid Temp	XXXXX	XXXXX	Barium oxide	BaO	XXXXX	
			Manganese oxide	MnO	XXXXX	
T-250 Temp. of Ash	XXX	XXX	Undetermined		XXXXX	
Base/Acid Ratio	XXX	xx	Arsenic ppm (ASTM D6357)	X	XXXX	
Fouling Factor	XXX	xx	Chlorine ppm (ASTM D4208)	x	xxxx	
Slagging Factor	XXX	xx	Mercury ppm (ASTM D6722)	(	).01	
			Oxidation (ASTM D5263)	X	xxxx	
WATER SOLUBLE AL	KALIES (Repor	ted in %)	Selenium ppm (ASTM D6357;MOD)	<	1.00	
CaO	XXX	(XX	Free Swelling Index (D720)	X	xxxx	
K <sub>2</sub> O	XXX	xx	Equilibrium Moisture (ASTM D1412)	x	xxxx	
Na <sub>2</sub> O	XXX	xx	Grindability Index (D409)	X	xxxx	

Submitted By:

Sharlonda Matthews

6197



# 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%

Parameter	Result	MDL	Units	Method	Parameter	Result	MDL	Units	Method
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 14049561 Lab: 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
			Analyst:	Ross Kelly
Contact:	Jason McLaurin		Approved:	Cyler Hayes
Submitter:	Jason McLaurin		Date Analyzed:	July 9, 2015
Date Received:	July 6, 2015		Date Reported:	July 9, 2015
	REPORT	OF CHEMICAL AN	ALYSIS	
Client's Sample I	D:	#4 Flyash no hyd	frate	
Material type:		Fly ash		
CTL Sample ID:		3997201		
Analyte		Weight %		
SiO <sub>2</sub>		41.92		
Al <sub>2</sub> O <sub>8</sub>		17.30		
Fe <sub>2</sub> O <sub>3</sub>		24.16		
CaO		5.23		
MgO		1.13		
SO3		1.52		
Na <sub>2</sub> O		0.80		
K <sub>2</sub> O		2.88		
TiQ <sub>2</sub>		1.04		
P205		0.35		
Mn <sub>2</sub> O <sub>3</sub>		0.05		
SrO		0.07		
Cr <sub>2</sub> O <sub>3</sub>		0.04		
ZnO		0.21		
BaO		0.06		
L.O.I. (950°C) <sup>a</sup>		2.77	24	
Total		99.54		
T-Alk (Na <sub>2</sub> O + 0.0	658K <sub>2</sub> O)	2.69		
Thermogravime	tric Analysis - Loss on Ignition on As Rec	eived Basis (C311	-13)	
Free moisture (A	mbient-110° C)	0.13		
the second se				

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 <sub>2</sub> +Al <sub>2</sub> O <sub>3</sub> +Fe <sub>2</sub> O <sub>3</sub>	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 Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>/LiBO<sub>2</sub>.
- 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
			Analyst:	Ross Kelly
Contact:	Jim Brown		Approved:	Don Broton
Submitter:	Jim Brown		Date Analyzed:	November 23, 2015
Date Received:	November 17, 2015		Date Reported:	November 23, 2015
		REPORT OF CHEMICAL	ANALYSIS	
Client's Sample	ID:	11/10/15 #4 FA W H	o'15 123 FA W Hydrate	
Material type:		Fly ash	Fly ash	
CTL Sample ID:		4108202	4108203	
Analyte		Weight %	Weight %	
SiO <sub>2</sub>		33.77	31.66	
$AI_2O_3$		14.96	11.49	
$Fe_2O_3$		21.85	9.04	
CaO		11.99	26.90	
MgO		0.95	0.97	
SO3		8.18	11.08	
Na <sub>2</sub> O		1.05	0.44	
K <sub>2</sub> O		2.66	1.68	
TiO <sub>2</sub>		0.98	0.52	
$P_2O_5$		0.35	0.11	
$Mn_2O_3$		0.05	0.04	
SrO		0.06	0.04	
$Cr_2O_3$		0.04	0.01	
ZnO		0.25	0.04	
BaO		0.05	0.05	
L.O.I. (950°C) <sup>2</sup>		2.06	5.25	

99.26

2.80

99.33

1.55

T-Alk (Na<sub>2</sub>O + 0.658K<sub>2</sub>O)

Notes:

Total

- 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  $Li_2B_4O_7/LiBO_2$ .
- 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.
- Volatile elements may be lost during high temperature ignition and fusion.
- This report may not be reproduced except in its entirety.



# Mineral Labs, Inc.

**Box 549** Salyersville, Kentucky 41465 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

SAMPLED BY CUSTOMER SAMPLED TYPE:

SAMPLE IDENTIFICATION AS SUPPLIED BY SAMPLER MAIL IN #4 FLY ASH 11/23/15 · 홍수 사람이 있는 것 같아. LOSS ON IGNITION = 1.31 MERCURY = 0.028 PPM DRY

	% Moisture	% Ash	% Volatile	% Fixed Carbon	BTU/Ib	% 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	
			- <b>FUSI</b> D1857	ON TEMPERATURE OF- 7-04	Reducin	ng Oxidizing
Free Swellin D720-91	g Index No.	XXX	lı	nitial	XXX	°F XXX
Grindebility	Index Ño					

D409	XXX	Softening	XXX	°F	XXX	٩P
SCREEN/W SIZE 0	D 4749-87 ET SIEVE ANALYSIS % WT. RETAINED	Hemispherical	xxx	٩F	xxx	٥F
		Fluid	XXX	٥F	XXX	٩

. . . . . . . . .

### WEIGHT DETERMINATION

٥F

	Average Light Draft	ххх	
12 -	Average Loaded Draft	ххх	
	Weight of Coal Loaded	ххх	Tons

X X X X X X X X X

x x x x x x x x x

Submitted By

R	7120656
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THIS DOCUMENT CANNOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY

# 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

=	S-SFAx 04/27/2021     S-SFAgx 04/27/2021     S-SFAgn 04/27/202       13     H     12     H     22       0     H     O     H     O
Image: space	S-SFAx     S-SFAgx     S-SFAgr       04/27/2021     04/27/2021     04/27/2021       13     H     12     H     22       0     H     O     H     O
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	S-SFAx 04/27/2021     S-SFAgx 04/27/2021     S-SFAgr 04/27/2021       13     H     12     H     22       0     H     O     H     O
ParameterPotable Resource Groundwater (a)General Resource (b)Scubber Sludge Of/25/2021Unit 4 Fly Ash Of/25/2021Coal Of/25/2021Sc-3Ax Od/27/2021Sc-3x Od/27/2021Sc-3x Od/27/2021Sc-3x Od/27/2021Sc-3x Od/27/2021Sc-3x Od/27/2021Sc-3x Od/27/2021Sc-3x Od/27/2021Sc-3x 	S-SFAx 04/27/2021     S-SFAgx 04/27/2021     S-SFAgr 04/27/202       13     H     12     H     22       0     H     O     H     O
Resource Parameter   Resource Groundwater   Resource Sludge (b)   Srubber Sludge O7/08/2021   Unit 4 Sludge O7/08/2021   S-3Ax O4/27/2021   S-3An 	S-SFAx 04/27/2021     S-SFAgx 04/27/2021     S-SFAgr 04/27/202       13     H     12     H     22       0     H     O     H     O
Alkalinity, Groundwate (as Carcola)   Groundwate (a	S-SFAx 04/27/2021     S-SFAgx 04/27/2021     S-SFAgr 04/27/202       13     H     12     H     22       0     H     O     H     O
Parameter     Units     (a)     (b)     05/25/2021     07/08/2021     05/25/2021     04/27/2021 <t< td=""><td>04/27/2021     04/27/2021     04/27/202       13     H     12     H     22       0     H     O     H     O</td></t<>	04/27/2021     04/27/2021     04/27/202       13     H     12     H     22       0     H     O     H     O
Alkalinity, Bicarbonate (as CaCO3)   mg/L   NA   NA   15   56   9   53   H   54   H   12   H   10   H   66   H   70   H   58   H   56   H   16   H     Alkalinity, Carbonate (as CaCO3)   mg/L   NA   0   27   12   0   H	13 H 12 H 22 0 H 0 H 0
Alkalinity, Bicarbonate (as CaCO3)   mg/L   NA   NA   15   56   9   53   H   54   H   12   H   28   H   10   H   66   H   70   H   58   H   56   H   16   H     Alkalinity, Carbonate (as (acCO3)   mg/L   NA   NA   0   27   12   0   H   0 </td <td>13 H 12 H 22 0 H 0 H 0</td>	13 H 12 H 22 0 H 0 H 0
CaCO3) Alkalinity, Carbonate (as 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	ононо
Alkalinity, Carbonate (as 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	ононо
Alkalinity, Carbonate (as 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	ононо
Oxidation-Reduction mV NA NA	1
Potential	
Antimony mg/L 0.006 0.024 < 0.0010 B 0.0216 < 0.0010 B < 0.0010 B < 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 < 0.0101 < 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     < 0.0010     < 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     < 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     < 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     < 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     < 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     < 0.0010     < 0.0010     < 0.0010     < 0.00	< 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 < 0.020 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
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
Chromium mg/L 0.1 1 < 0.0050 0.0073 < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 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	< 0.0150 < 0.0150 < 0.0150
Cobalt     mg/L     1     1     < 0.0050     < 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     < 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     < 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     < 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     < 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     < 0.0010     < 0.0010     < 0.0010	< 0.0010 < 0.0010 < 0.0010
μmhos/c	
Conductivity m NA NA	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1.21 H 3.59 H 3.67
$\frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{10000} \frac{1}{10000} \frac{1}{10000} \frac{1}{10000} \frac{1}{10000} \frac{1}{100000} \frac{1}{1000000} \frac{1}{10000000} \frac{1}{10000000} \frac{1}{10000000} \frac{1}{10000000} \frac{1}{10000000} \frac{1}{10000000000} \frac{1}{1000000000000} \frac{1}{10000000000000000000000000000000000$	
Litiniani ing/L NA NA 0.065 0.022 ⊂ 0.0050 ⊂ 0.0050 0.0055 0.0055 0.0056 ⊂ 0.0050 ⊂	2 55 B 4 03 B 4 56
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2.55 6 4.05 6 4.50
Molyhdenum 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
nH SU 65-9 65-9 7.77 7.79	8.68 7.46 7.92
Potassium $me/l$ NA $A$ < 0.100 140 0.445 1.19 1.74 2.21 2.61 2.94 5.06 0.992 1.55 1.66 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
Sulfate mg/L 400 400 1400 1400 100 42 H 50 H 861 H 1360 H 1370 H 31 H 11 H 49 H 22 H 1160 H	1340 H 59 H 69
Thallium     mg/L     0.002     0.0024     X     0.0495     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 0.0020     < 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 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

mg/L - Milligrams per liter.

NA - Not available.

Notes:

< - Not detected above the indicated reporting limit.

- Not sampled.

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

(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

S - Spike Recovery outside recovery limits.

S.U. - Standard Units.

### SHAKE TEST RESULTS FOR POND SEDIMENTS/BERM AND CONTROL SAMPLES

MARION STATION

						P	onds 3, 3A, 4, a	and S-6 and So	uth Fly Ash Po	nd			Forme	r Pond
					Berm Results (a)					B-3 Berm	Results (d)			
Parameter	Units	Part 620 – Groundwater Quality Class I Potable Resource Groundwater (a)	Part 620 – Groundwater Quality Class II General Resource Groundwater (b)	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 Н	34 H	22 H	26 Н
Alkalinity, Carbonate (as CaCO3) Oxidation-	mg/L	NA	NA	29	0 н	0	0	0	0	он	0 н	он	о н	он
Reduction	mV	NA	NA	171	284	189	204	191	225	348	330	336	298	275
Antimony Arsenic	mg/L mg/L	0.006 0.010	0.024 0.2	< 0.0010 0.0027	<0.0010 <0.0010	0.0018 0.0025	0.0081 0.0254	< 0.0010 0.0015	< 0.0010 < 0.0010	<0.0010 0.0030	<0.0010 <0.0010	<0.0010 0.0011	<0.0010 <0.0010	<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	<0.100
Chloride	mg/L	200	200	4	<1 H	< 1	< 1	1	2	5 H	8 H	7 Н	<1 H	7 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 Н	133 H	21 H	53 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
рН	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 E	в 1.06 В	3.33 B	6.47 B	2.44 B	4.56 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 sampled.

< - Not detected above the indicated reporting limit.

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

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

(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

mg/L - Milligrams per liter. NA - Not available.
# TOTAL CONCENTRAITON RESULTS FOR POND SEDIMENTS MARION STATION

			Sa	mpling Event	: 4/30/2021	1	Nun	nber of Sampl	ing Locations	: 14	1				
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



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,

Marin J. Darling I

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: Hans	son Professional Services, Inc.	Work Order: 21051595
lient Project: Sedi	ment 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.

Client Project: Sediment Sampling and Analysis - Marion, IL

Work Order: 21051595 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: Hanson Professional Services, Inc.

Client Project: Sediment Sampling and Analysis - Marion, IL

#### **Cooler Receipt Temp:** °C

(618) 344-1004

(618) 344-1005

5445 Horseshoe Lake Road

Collinsville, IL 62234-7425

EHurley@teklabinc.com

Address

Phone

Email

Address

Phone

Email

Fax

Fax

Additional analysis to WO# 21041640.

Work Order: 21051595 Report Date: 07-Jun-21

Collinsville		Springfield	Kansas City		
5445 Horseshoe Lake Road	Address	3920 Pintail Dr	Address	8421 Nieman Road	
Collinsville, IL 62234-7425		Springfield, IL 62711-9415		Lenexa, KS 66214	
(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998	
(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998	
jhriley@teklabinc.com	Email	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com	
Collinsville Air		Chicago			

1319 Butterfield Rd.

(630) 324-6855

Downers Grove, IL 60515

arenner@teklabinc.com

Address

Phone

Email

Fax

# **Locations**



# Accreditations

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc.

Client Project: Sediment Sampling and Analysis - Marion, IL

# Work Order: 21051595

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** 

ek

Client: Hanson	Client: Hanson Professional Services, Inc. Work Order: 21051595						
Client Project: Sedime	ent Sampling and Analysis - Ma	arion, Il	L			Керо	rt Date: 07-Jun-21
Lab ID: 210515	595-001			Client Samp	le ID: S-3A	x	
Matrix: SOLID				Collection	Date: 04/2	7/2021 9	:40
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch
ASTM D3987, EPA 600	0 160.1, IN SHAKE EXTRACT						
Total Dissolved Solids, S	SHAKE *	20	Н	162	mg/L	1	06/01/2021 17:08 R291754
Sample analysis did not m	neet hold time requirements.						
ASTM D3987, STAND	ARD METHODS 2320 B 1997 IN	SHAKE	EXTRA	СТ			
Alkalinity, Bicarbonate (a	as CaCO3) *	0	Н	53	mg/L	1	06/01/2021 11:54 R291711
Alkalinity, Carbonate (as	CaCO3) *	0	Н	0	mg/L	1	06/01/2021 11:54 R291711
Sample analysis did not m	neet hold time requirements.						
Sample analysis did not m	neet hold time requirements.						
ASTM D3987, SW-846	9036, IN SHAKE EXTRACT (TO	TAL)					
Sulfate, SHAKE	*	10	Н	42	mg/L	1	06/01/2021 18:03 R291767
Sample analysis did not m	neet hold time requirements.						
ASTM D3987, SW-846	9040 B, IN SHAKE EXTRACT						
рН	*	1.00		7.96		1	05/28/2021 19:50 R291655
ASTM D3987, SW-846	9214, IN SHAKE EXTRACT						
Fluoride	*	0.10	Н	0.84	mg/L	1	05/28/2021 14:08 R291654
Sample analysis did not m	neet hold time requirements.						
ASTM D3987, SW-846	9251, IN SHAKE EXTRACT						
Chloride, SHAKE	*	1	Н	13	mg/L	1	06/01/2021 18:03 R291768
Sample analysis did not m	neet hold time requirements.				-		
ASTM D3987, SW-846	3005A, 6010B, METALS IN SHA	KE EX	TRACT E	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	В	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	В	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	В	1.99	mg/L	1	06/01/2021 13:46 177444
Sample results for Ca, Mg	and Na exceed 10 times the method	blank co	ntaminatio	on. Data is report	able per the T	NI Standard	1.
ASTM D3987, SW-846	3005A, 6020A, METALS IN SHA	KE EX	<b>TRACT E</b>				
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** 

ek

Client: Hanson Professional Services, Inc. Work Order: 2105							Drder: 21051595	
Client Project: S	Sediment Samplin	g and Analysis - M	arion, IL				Report	Date: 07-Jun-21
Lab ID: 2	21051595-002			C	lient Sample	ID: S-3An		
Matrix: SOLID Collection Date: 04/27/							021 9:5	0
Ana	llyses Co	ertification	RL	Qual	Result	Units	DF ]	Date Analyzed Batch
ASTM D3987, E	PA 600 160.1, IN S	HAKE EXTRACT						
Total Dissolved S	Solids, SHAKE	*	20	Н	184	mg/L	1	06/01/2021 17:08 R291754
Sample analysis d	lid not meet hold time	requirements.						
ASTM D3987, S	TANDARD METHO	DS 2320 B 1997 IN	SHAKE	EXTRACT				
Alkalinity, Bicarb	onate (as CaCO3)	*	0	Н	54	mg/L	1	06/01/2021 11:59 R291711
Alkalinity, Carbor	nate (as CaCO3)	*	0	Н	0	mg/L	1	06/01/2021 11:59 R291711
Sample analysis d	lid not meet hold time	requirements.						
Sample analysis d	lid not meet hold time	requirements.						
ASTM D3987, S	W-846 9036, IN SH	AKE EXTRACT (TC	OTAL)					
Sulfate, SHAKE		*	20	Н	50	mg/L	2	06/01/2021 19:20 R291767
Sample analysis d	lid not meet hold time	requirements.						
ASTM D3987, S	W-846 9040 B, IN S	SHAKE EXTRACT						
рН		*	1.00		8.08		1	05/28/2021 19:53 R291655
ASTM D3987, S	W-846 9214, IN SH	AKE EXTRACT						
Fluoride		*	0.10	Н	3.44	mg/L	1	05/28/2021 14:11 R291654
Sample analysis d	lid not meet hold time	requirements.						
ASTM D3987, S	W-846 9251, IN SH	AKE EXTRACT						
Chloride, SHAKE	Ē	*	1	Н	19	mg/L	1	06/01/2021 18:14 R291768
Sample analysis d	lid not meet hold time	requirements.						
ASTM D3987, S	W-846 3005A, 601	DB, METALS IN SH	AKE EXT	RACT 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	В	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	В	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	В	2.65	mg/L	1	06/01/2021 13:51 177444
Sample results for	Ca, Mg and Na excee	ed 10 times the method	l blank cor	ntamination.	Data is reporta	ble per the TNI S	Standard.	
ASTM D3987, S	W-846 3005A, 6020	DA, METALS IN SH	AKE EXT	RACT 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 Professio	onal Services, Inc.					Work	Order: 21051595
Client Project:	Sediment Sampl	ing and Analysis - N	larion, I	L			Repo	rt Date: 07-Jun-21
Lab ID:	21051595-003			_	Client Samp	le ID: S-3n		
Matrix:	SOLID				Collection	Date: 04/2	7/2021 1	0:15
An	alyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch
ASTM D3987.	EPA 600 160.1. IN	SHAKE EXTRACT						
Total Dissolved	I Solids, SHAKE	*	20	Н	1310	mg/L	1	06/01/2021 17:20 R291754
Sample analysis	did not meet hold tim	e requirements.				Ū.		
ASTM D3987,	STANDARD METH	IODS 2320 B 1997 II	N SHAKE	EXTRA	ст			
Alkalinity, Bicar	bonate (as CaCO3)	*	0	Н	12	mg/L	1	06/01/2021 12:11 R291711
Alkalinity, Carb	onate (as CaCO3)	*	0	Н	0	mg/L	1	06/01/2021 12:11 R291711
Sample analysis	did not meet hold tim	e requirements.				-		
Sample analysis	did not meet hold tim	e requirements.						
ASTM D3987,	SW-846 9036, IN S	HAKE EXTRACT (T	OTAL)					
Sulfate, SHAKE	E	*	500	Н	861	mg/L	50	06/01/2021 19:39 R291767
Sample analysis	did not meet hold tim	e requirements.						
ASTM D3987,	SW-846 9040 B, IN	SHAKE EXTRACT						
pН		*	1.00		7.75		1	05/28/2021 19:54 R291655
ASTM D3987.	SW-846 9214. IN S	HAKE EXTRACT						
Fluoride	, -	*	0.10	н	1.63	mg/L	1	05/28/2021 14:13 R291654
Sample analysis	did not meet hold tim	e requirements.				5		
ASTM D3987.	SW-846 9251. IN S	HAKE EXTRACT						
Chloride, SHAK	κΕ	*	1	н	14	mg/L	1	06/01/2021 18:16 R291768
Sample analysis	did not meet hold tim	e requirements.				Ū		
ASTM D3987,	SW-846 3005A, 60	10B, METALS IN SH		TRACT E	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	В	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	В	2.93	mg/L	1	06/01/2021 13:52 177444
Sample results for	or Ca, Mg and Na exc	eed 10 times the metho	d blank co	ntaminatio	on. Data is report	table per the 7	NI Standard	I.
Matrix spike cont	trol limits for Ca are n	ot applicable due to hig	n sample/s	pike ratio.				
ASTM D3987,	SW-846 3005A, 60	20A, METALS IN SH	IAKE EX	TRACT E	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	В	< 0.0020	mg/L	5	06/01/2021 20:32 177446
Contamination pr	resent in the MBLK fo	r Thallium. Sample resu	ilts below t	he reporti	ng limit are repor	rtable per the	TNI Standar	d.

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

Client:	Client: Hanson Professional Services, Inc. Work Order: 21051595								95
<b>Client Project:</b>	Sediment Samplir	ng and Analysis - M	Marion, IL Report Date: 07-Jun-21					21	
Lab ID:	21051595-004			С	lient Sample	e ID: S-3x	-		
Matrix:	Matrix: SOLID Collection Date: 04/27/2021 10:45								
Ar	nalyses C	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987,	EPA 600 160.1, IN \$	SHAKE EXTRACT							
Total Dissolved	d Solids, SHAKE	*	20	Н	2110	mg/L	1	06/01/2021 17:21	R291754
Sample analysis	did not meet hold time	requirements.							
ASTM D3987,	STANDARD METHO	ODS 2320 B 1997 IN	SHAKE	EXTRACT					
Alkalinity, Bicar	rbonate (as CaCO3)	*	0	Н	28	mg/L	1	06/01/2021 12:16	R291711
Alkalinity, Carb	onate (as CaCO3)	*	0	Н	0	mg/L	1	06/01/2021 12:16	R291711
Sample analysis	did not meet hold time	requirements.							
Sample analysis	did not meet hold time	requirements.							
ASTM D3987,	SW-846 9036, IN SH	AKE EXTRACT (TO	OTAL)						
Sulfate, SHAK	E	*	500	Н	1360	mg/L	50	06/01/2021 19:41	R291767
Sample analysis	did not meet hold time	requirements.							
ASTM D3987,	SW-846 9040 B, IN	SHAKE EXTRACT							
рН		*	1.00		7.49		1	05/28/2021 19:56	R291655
ASTM D3987,	SW-846 9214, IN SH	AKE EXTRACT							
Fluoride		*	0.10	Н	1.56	mg/L	1	05/28/2021 14:15	R291654
Sample analysis	did not meet hold time	requirements.							
ASTM D3987,	SW-846 9251, IN SH	AKE EXTRACT							
Chloride, SHAł	ΚE	*	1	Н	9	mg/L	1	06/01/2021 18:19	R291768
Sample analysis	did not meet hold time	requirements.							
ASTM D3987,	SW-846 3005A, 601	0B, METALS IN SH	AKE EXT	RACT BY I	CP				
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	В	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	В	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	В	1.84	mg/L	1	06/01/2021 14:06	177444
Sample results for	or Ca, Mg and Na exce	ed 10 times the method	d blank cor	ntamination. I	Data is reporta	ble per the TNI S	Standard.		
ASTM D3987,	SW-846 3005A, 602	OA, METALS IN SH	AKE EXT	RACT BY I	CPMS				
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** 

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Client:	Client: Hanson Professional Services, Inc. Work Order: 21051595							
<b>Client Project:</b>	Sediment Samplin	g and Analysis - M	larion, IL	-			Report	Date: 07-Jun-21
Lab ID:	21051595-005	- ,	·	(	lient Sample	e ID: S-S6x		
Matrix:	SOLID				Collection I	Date: 04/27/2	021 11:	25
An	nalyses C	ertification	RL	Qual	Result	Units	DF	Date Analyzed Batch
ASTM D3987,	EPA 600 160.1, IN S	HAKE EXTRACT						
Total Dissolved	I Solids, SHAKE	*	20	Н	2090	mg/L	1	06/01/2021 17:21 R291754
Sample analysis	did not meet hold time	requirements.						
ASTM D3987,	STANDARD METHO	DS 2320 B 1997 IN	SHAKE	EXTRACT				
Alkalinity, Bicar	rbonate (as CaCO3)	*	0	Н	20	mg/L	1	06/01/2021 12:27 R291711
Alkalinity, Carb	onate (as CaCO3)	*	0	Н	0	mg/L	1	06/01/2021 12:27 R291711
Sample analysis	did not meet hold time	requirements.						
Sample analysis	did not meet hold time	requirements.						
ASTM D3987,	SW-846 9036, IN SH	AKE EXTRACT (TO	OTAL)					
Sulfate, SHAKE	=	*	500	Н	1370	mg/L	50	06/01/2021 19:44 R291767
Sample analysis	did not meet hold time	requirements.						
ASTM D3987,	SW-846 9040 B, IN \$	SHAKE EXTRACT						
рН		*	1.00		7.75		1	05/28/2021 19:58 R291655
ASTM D3987,	SW-846 9214, IN SH	AKE EXTRACT						
Fluoride		*	0.10	Н	1.48	mg/L	1	05/28/2021 14:20 R291654
Sample analysis	did not meet hold time	requirements.				-		
ASTM D3987,	SW-846 9251, IN SH	AKE EXTRACT						
Chloride, SHA	KE .	*	1	Н	6	mg/L	1	06/01/2021 18:24 R291768
Sample analysis	did not meet hold time	requirements.				-		
ASTM D3987,	SW-846 3005A, 601	0B, METALS IN SH	AKE EXT	RACT 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	В	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	В	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	В	1.55	mg/L	1	06/01/2021 14:07 177444
Sample results for	or Ca, Mg and Na excee	ed 10 times the method	d blank cor	ntamination.	Data is reporta	ble per the TNI S	Standard.	
ASTM D3987,	SW-846 3005A, 602	0A, METALS IN SH	AKE EXT	RACT 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 Pro	fessional Services, Inc.					Work	Corder: 21051595		
Client Project: Sediment S	ampling and Analysis -	Marion, Il	-			Repo	ort Date: 07-Jun-21		
Lab ID: 21051595-0	006			Client Samp	le ID: S-S6	n			
Matrix: SOLID				Collection	Date: 04/2	7/2021 1	1:45		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch		
ASTM D3987, EPA 600 160	.1, IN SHAKE EXTRACT								
Total Dissolved Solids, SHAK	E *	20	Н	2100	mg/L	1	06/01/2021 17:21 R291754		
Sample analysis did not meet h	old time requirements.								
ASTM D3987, STANDARD	METHODS 2320 B 1997	N SHAKE	EXTRA	СТ					
Alkalinity, Bicarbonate (as Ca	CO3) *	0	Н	10	mg/L	1	06/01/2021 12:32 R291711		
Alkalinity, Carbonate (as CaCo	O3) *	0	Н	0	mg/L	1	06/01/2021 12:32 R291711		
Sample analysis did not meet h	old time requirements.								
Sample analysis did not meet h	old time requirements.								
ASTM D3987, SW-846 9036	6, IN SHAKE EXTRACT (	TOTAL)							
Sulfate, SHAKE	*	500	Н	1350	mg/L	50	06/01/2021 19:49 R291767		
Sample analysis did not meet h	old time requirements.								
ASTM D3987, SW-846 9040	) B, IN SHAKE EXTRACT								
рН	*	1.00		7.99		1	05/28/2021 19:59 R291655		
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT									
Fluoride	*	0.10	н	1.24	mg/L	1	05/28/2021 14:22 R291654		
Sample analysis did not meet h	old time requirements.				-				
ASTM D3987. SW-846 9251	I. IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	Н	10	mg/L	1	06/01/2021 18:27 R291768		
Sample analysis did not meet h	old time requirements.				5				
ASTM D3987, SW-846 3005	5A. 6010B. METALS IN S	HAKE EXT	<b>FRACT E</b>						
Barium	NELAP	0.0025		0.0237	ma/L	1	06/01/2021 14:09 177444		
Boron	NELAP	0.0200		0.739	mg/L	1	06/01/2021 14:09 177444		
Calcium	NFLAP	0.100	в	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	NFLAP	0.0500	в	4.37	mg/l	1	06/01/2021 14:09 177444		
Potassium	NFLAP	0.100	_	5.06	mg/l	1	06/01/2021 14:09 177444		
Sodium	NFLAP	0.0500	в	2.44	mg/l	1	06/01/2021 14:09 177444		
Sample results for Ca. Mg and I	Na exceed 10 times the meth	od blank co	- ntaminatio	on. Data is repor	table per the 7	- NI Standard	d.		
ASTM D3987 SW-846 3005	54 60204 METALSINS			SY ICPMS					
Antimony	NFLAP	0.0010		0.0044	ma/l	5	06/01/2021 21:10 177446		
Arsenic	NFLAP	0.0010		0.0048	mg/l	5	06/01/2021 21:10 177446		
Bervllium	NFLAP	0.0010		< 0.0010	mg/l	5	06/01/2021 21:10 177446		
Chromium	NELAP	0.0150		< 0.0150	ma/l	5	06/01/2021 21:10 177446		
Cobalt	NELAP	0.0010		< 0.0010	ma/l	5	06/01/2021 21:10 177446		
Lead	NELAP	0.0010		< 0.0010	ma/l	5	06/01/2021 21:10 177446		
Molybdenum	NELAP	0.0015		0.289	ma/l	5	06/01/2021 21:10 177446		
Selenium	NELAP	0.0010		0,0040	ma/l	5	06/01/2021 21:10 177446		
Thallium	NELAP	0.0020	в	< 0.0020	ma/l	5	06/01/2021 21:10 177446		
Contamination present in the M	BI K for Thallium Sample res	ults below t	– he renorti	na limit are repo	table ner the	∽ TNI Standar	rd		

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Laboratory Results

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Environmental Laboratory

Client:	Hanson Professio	onal Services, Inc.					Work	Order: 21051595
Client Project:	Sediment Sampli	ng and Analysis - N	larion, Il	_			Repo	rt Date: 07-Jun-21
Lab ID:	21051595-007				Client Samp	le ID: S-4g	S	
Matrix:	SOLID				Collection	Date: 04/2	7/2021 12	2:40
An	alyses (	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch
ASTM D3987, E	EPA 600 160.1, IN	SHAKE EXTRACT						
Total Dissolved	Solids, SHAKE	*	20	Н	132	mg/L	1	06/01/2021 17:22 R291754
Sample analysis o	did not meet hold time	e requirements.						
ASTM D3987, S	STANDARD METH	ODS 2320 B 1997 IN	I SHAKE	EXTRA	СТ			
Alkalinity, Bicart	oonate (as CaCO3)	*	0	Н	66	mg/L	1	06/01/2021 12:37 R291711
Alkalinity, Carbo	onate (as CaCO3)	*	0	Н	0	mg/L	1	06/01/2021 12:37 R291711
Sample analysis o	did not meet hold time	e requirements.						
Sample analysis o	did not meet hold time	e requirements.						
ASTM D3987, S	SW-846 9036, IN S	HAKE EXTRACT (T	OTAL)					
Sulfate, SHAKE		*	10	н	31	mg/L	1	06/03/2021 16:51 R291837
Sample analysis o	did not meet hold time	e requirements.						
ASTM D3987, S	SW-846 9040 B, IN	SHAKE EXTRACT						
рH		*	1.00		8.07		1	05/28/2021 20:01 R291655
ASTM D3987. S	SW-846 9214. IN S	HAKE EXTRACT						
Fluoride		*	0.10	н	1.10	ma/L	1	05/28/2021 14:23 R291654
Sample analysis o	did not meet hold time	e requirements.			-	5		
ASTM D3987. S	SW-846 9251, IN S	HAKE EXTRACT						
Chloride, SHAK	F	*	1	н	2	ma/l	1	06/01/2021 18:30 R291768
Sample analysis o	_ did not meet hold time	e requirements.			_			
ASTM D3987 S	SW-846 3005A 60		ΔΚΕ ΕΧΤ	RACTE				
Barium		NELAP	0 0025		0.0235	ma/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	в	28.7	mg/L	1	06/01/2021 14:11 177444
Lithium		*	0.0050	2	< 0.0050	mg/L	1	06/01/2021 14:11 177444
Magnesium			0.0000	в	1 66	mg/L	1	06/01/2021 14:11 177444
Potassium		NELAP	0.0000	D	0 992	mg/L	1	06/01/2021 14:11 177444
Sodium		NELAP	0.0500	в	1 07	mg/L	1	06/01/2021 14:11 177444
Sample results fo	r Ca. Ma and Na exce	ed 10 times the metho	d blank col	ntaminatio	n Data is report	ahle ner the T	NI Standaro	1
	SW-846 3005A 60							
Antimony	540-040 3003A, 002	NELAD		RACIE		ma/l	5	06/01/2021 21:18 177446
Arconic			0.0010		< 0.0010	mg/L	5	06/01/2021 21:18 177440
Rondlium			0.0010		0.0010	mg/L	5	06/01/2021 21:18 177440
Chromium			0.0010			mg/L	5 5	06/01/2021 21.10 177440
Cobalt			0.0100			mg/L	5 5	06/01/2021 21.10 177440
Lood			0.0010			mg/L	ວ =	06/01/2021 21.10 177440
Leau			0.0010		< 0.0010	mg/L	5 5	06/01/2021 21.10 177440
Solonium			0.0015		0.0130	mg/L	5	
Thallium			0.0010	D	0.0028	mg/L	5	06/01/2021 21:18 17/440
Contomination pr	acout in the MDIK for	INELAF	0.0020	D ha ranari	< 0.0020	iliy/L	C TAU Standow	UU/U1/ZUZIZI.10 1//440

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Client: H	anson Professional	Services, Inc.					Work C	Order: 2105159	95
Client Project: Se	ediment Sampling a	and Analysis - Ma	rion, IL				Report	Date: 07-Jun-2	21
Lab ID: 21	1051595-008			C	lient Sample	e ID: S-4gp			
Matrix: S(	OLID				Collection <b>E</b>	Date: 04/27/2	021 13:	00	
Analy	yses Cert	ification	RL	Qual	Result	Units	DF 1	Date Analyzed	Batch
ASTM D3987, EP	A 600 160.1, IN SHA	AKE EXTRACT							
Total Dissolved So	blids, SHAKE *		20	Н	100	mg/L	1	06/02/2021 15:15	R291754
Sample analysis did	l not meet hold time req	uirements.							
ASTM D3987, ST	ANDARD METHOD	S 2320 B 1997 IN S	SHAKE	EXTRACT					
Alkalinity, Bicarbor	nate (as CaCO3) *		0	Н	70	mg/L	1	06/01/2021 12:43	R291711
Alkalinity, Carbona	ate (as CaCO3) *		0	Н	0	mg/L	1	06/01/2021 12:43	R291711
Sample analysis did	l not meet hold time req	uirements.							
Sample analysis did	I not meet hold time req	uirements.							
ASTM D3987, SW	V-846 9036, IN SHAP	KE EXTRACT (TOT	ΓAL)						
Sulfate, SHAKE	*		10	Н	11	mg/L	1	06/01/2021 18:48	R291767
Sample analysis did	I not meet hold time req	uirements.							
ASTM D3987, SW	V-846 9040 B, IN SH	AKE EXTRACT							
рН	*		1.00		8.00		1	05/28/2021 20:03	R291655
ASTM D3987, SW	V-846 9214, IN SHAP	<b>KE EXTRACT</b>							
Fluoride	*		0.10	Н	0.68	mg/L	1	05/28/2021 14:30	R291654
Sample analysis did	l not meet hold time req	uirements.							
ASTM D3987, SW	V-846 9251, IN SHAP	<b>KE EXTRACT</b>							
Chloride, SHAKE	*		1	Н	6	mg/L	1	06/01/2021 18:48	R291768
Sample analysis did	l not meet hold time req	uirements.							
ASTM D3987, SW	V-846 3005A, 6010B	, METALS IN SHA	КЕ ЕХТ	RACT BY I	СР				
Barium	١	NELAP (	0.0025		0.0328	mg/L	1	06/01/2021 14:12	177444
Boron	١	NELAP (	0.0200		0.426	mg/L	1	06/01/2021 14:12	177444
Calcium	١	NELAP	0.100	В	30.6	mg/L	1	06/01/2021 14:12	177444
Lithium	*	C	0.0050		< 0.0050	mg/L	1	06/01/2021 14:12	177444
Magnesium	١	NELAP (	0.0500	В	2.34	mg/L	1	06/01/2021 14:12	177444
Potassium	١	NELAP	0.100		1.55	mg/L	1	06/01/2021 14:12	177444
Sodium	١	NELAP (	0.0500	В	3.98	mg/L	1	06/01/2021 14:12	177444
Sample results for C	Ca, Mg and Na exceed	10 times the method l	blank cor	tamination. I	Data is reporta	ble per the TNI S	Standard.		
ASTM D3987, SW	V-846 3005A, 6020A	, METALS IN SHA	KE EXT	RACT BY I	CPMS				
Antimony	١	NELAP (	0.0010		0.0017	mg/L	5	06/04/2021 15:30	177446
Arsenic	١	NELAP (	0.0010		0.0045	mg/L	5	06/04/2021 15:30	177446
Beryllium	١	NELAP (	0.0010		< 0.0010	mg/L	5	06/04/2021 15:30	177446
Chromium	١	NELAP (	0.0150		< 0.0150	mg/L	5	06/04/2021 15:30	177446
Cobalt	١	NELAP (	0.0010		< 0.0010	mg/L	5	06/04/2021 15:30	177446
Lead	١	NELAP (	0.0010		< 0.0010	mg/L	5	06/04/2021 15:30	177446
Molybdenum	٢	NELAP (	0.0015		0.0143	mg/L	5	06/04/2021 15:30	177446
Selenium	١	NELAP (	0.0010		0.0039	mg/L	5	06/04/2021 15:30	177446
Thallium	١	NELAP (	0.0020		< 0.0020	mg/L	5	06/04/2021 15:30	177446

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**Laboratory Results** 

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Client: Hanson Profes	ssional Services, Inc.					Work	<b>Order:</b> 21051595			
Client Project: Sediment San	pling and Analysis -	Marion, Il	-			Repo	rt Date: 07-Jun-21			
Lab ID: 21051595-009	)			Client Samp	ole ID: S-4x					
Matrix: SOLID				Collection	Date: 04/2	7/2021 1	3:15			
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch			
ASTM D3987, EPA 600 160.1,	IN SHAKE EXTRACT									
Total Dissolved Solids, SHAKE	*	20	Н	178	mg/L	1	06/02/2021 15:15 R291754			
Sample analysis did not meet hold time requirements.										
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT										
Alkalinity, Bicarbonate (as CaCO	3) *	0	Н	58	mg/L	1	06/01/2021 12:49 R291711			
Alkalinity, Carbonate (as CaCO3)	*	0	Н	0	mg/L	1	06/01/2021 12:49 R291711			
Sample analysis did not meet hold	time requirements.									
Sample analysis did not meet hold	time requirements.									
ASTM D3987, SW-846 9036, II	N SHAKE EXTRACT (	TOTAL)								
Sulfate, SHAKE	*	20	Н	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. II	N SHAKE EXTRACT									
Fluoride	*	0.10	н	0.90	ma/L	1	05/28/2021 14:31 R291654			
Sample analysis did not meet hold	time requirements.				3					
ASTM D3987 SW-846 9251	N SHAKE EXTRACT									
Chloride, SHAKE	*	1	н	25	ma/l	1	06/01/2021 18:51 R291768			
Sample analysis did not meet hold	time requirements			20	iiig/ E					
	6010B METALS IN S									
ASTIN D3907, SW-040 3005A,	NELAD		RACTI	0.0413	ma/l	1	06/01/2021 14:14 177444			
Barran		0.0025		0.0413	mg/L	1				
Coloium		0.0200	в	0.540	mg/L	1				
		0.100	D	45.1	mg/∟	1				
Magnasium		0.0050	в	< 0.0050	mg/L	1				
Deteccium		0.0500	D	3.71	mg/∟	1				
Polassium		0.100	<b>D</b>	1.56	mg/L	1	06/01/2021 14:14 177444			
		0.0500	в	3.07	mg/∟		06/01/2021 14:14 177444			
Sample results for Ca, Mg and Na	exceed 10 times the metr	100 DIANK CO	ntaminati	on. Data is repor	table per the l	INI Standard	1			
ASTM D3987, SW-846 3005A,	6020A, METALS IN S	HAKE EXT		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			

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**Laboratory Results** 

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Client: Hanson Prof	essional Services, Inc.				Work	Order: 21051595			
Client Project: Sediment Sa	mpling and Analysis -	Marion, Il	-			Repor	t Date: 07-Jun-21		
Lab ID: 21051595-0	10			Client Samp	le ID: S-4r	า			
Matrix: SOLID				Collection	Date: 04/2	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	Н	118	mg/L	1	06/02/2021 15:16 R291754		
Sample analysis did not meet ho	ld time requirements.								
ASTM D3987, STANDARD N	IETHODS 2320 B 1997	N SHAKE	EXTRA	СТ					
Alkalinity, Bicarbonate (as CaC	O3) *	0	Н	56	mg/L	1	06/01/2021 12:54 R291711		
Alkalinity, Carbonate (as CaCO	3) *	0	Н	0	mg/L	1	06/01/2021 12:54 R291711		
Sample analysis did not meet ho. Sample analysis did not meet ho.	ld time requirements. Id time requirements.								
ASTM D3987, SW-846 9036	IN SHAKE EXTRACT (	ΓΟΤΑΙ )							
Sulfate, SHAKE	*	10	н	22	ma/l	1	06/01/2021 18:53 R291767		
Sample analysis did not meet ho	ld time requirements.					·			
ASTM D3987 SW-846 9040 B IN SHAKE EXTRACT									
	*	1.00		7.77		1	05/28/2021 20:09 R291655		
ASTM D3987 SW-846 9214	IN SHAKE EXTRACT								
Fluoride	*	0.10	н	1.10	ma/l	1	05/28/2021 14:33 R291654		
Sample analysis did not meet ho	ld time requirements.	0110		•		·	00,20,2021 1100 1201001		
ASTM D3987, SW-846 9251	IN SHAKE EXTRACT								
Chloride, SHAKE	*	1	н	11	ma/L	1	06/01/2021 18:54 R291768		
Sample analysis did not meet ho	ld time requirements.								
ASTM D3987, SW-846 3005	A. 6010B. METALS IN S	HAKE EXT	RACT E	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	В	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	В	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	В	1.74	mg/L	1	06/01/2021 14:16 177444		
Sample results for Ca, Mg and N	a exceed 10 times the meth	od blank co	ntaminati	on. Data is repor	table per the	TNI Standard.			
ASTM D3987, SW-846 3005/	A, 6020A, METALS IN S	HAKE EXT	RACT E	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		

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

Client: Hanson Professional Services, Inc. Work Order: 21	051595								
Client Project: Sediment Sampling and Analysis - Marion, IL Report Date: 07	-Jun-21								
Lab ID: 21051595-011 Client Sample ID: S-SFAn									
Matrix: SOLID Collection Date: 04/27/2021 14:40									
Analyses Certification RL Qual Result Units DF Date Anal	yzed Batch								
ASTM D3987, EPA 600 160.1, IN SHAKE EXTRACT									
Total Dissolved Solids, SHAKE * 20 H <b>1920</b> mg/L 1 06/02/2021	15:18 R291754								
Sample analysis did not meet hold time requirements.									
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 <b>0</b> mg/L 1 06/01/2021	13:01 R291711								
Sample analysis did not meet hold time requirements.									
Sample analysis did not meet hold time requirements.									
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)									
Sulfate, SHAKE * 500 H <b>1160</b> mg/L 50 06/01/2021	20:24 R291767								
Sample analysis did not meet hold time requirements.									
ASTM D3987, SW-846 9040 B. IN SHAKE EXTRACT									
pH * 1.00 <b>7.79</b> 1 05/28/2021	20:12 R291655								
ASTM D3987 SW-846 9214 IN SHAKE EXTRACT									
Fluoride * 0.10 H <b>2.61</b> mg/l 1 05/28/2021	14:39 R291654								
Sample analysis did not meet hold time requirements									
Chloride SHAKE * 2 SH <b>42</b> mg/l 2 06/01/2021	20.00 R291768								
Sample analysis did not meet hold time requirements	20.00 11201100								
Matrix spike did not recover within control limits due to matrix interference.									
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								
Baran NELAP 0.0200 <b>1.41</b> mg/L 1 06/01/2021	14:17 177444								
Calcium NELAP 0.100 B <b>470</b> mg/L 1 06/01/2021	14:17 177444								
Lithium * 0.0050 <b>0.0054</b> 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 <b>1.36</b> mg/L 1 06/01/2021	14.17 177444								
Sodium NELAP 0.0500 B <b>3.14</b> mg/L 1 06/01/2021	14.17 177444								
Sample results for Ca. Mg and Na exceed 10 times the method blank contamination. Data is reportable per the TNI Standard									
ASTM D3087 SW-846 3005A 6020A METALS IN SHAKE EXTRACT BY ICPMS									
Antimony NELAP 0.0010 0.0014 mg/l 5 0.6/04/2021	15:53 177446								
Arsenic NELAP 0.0010 0.0014 mg/L 5 06/04/2021	15:53 177446								
Bervilium NELAP 0.0010 <0.0010 mg/l 5 0.00104/2021	15:53 177446								
Chromium NELAP 0.0150 < 0.0150 mg/L 5 0.6/04/2021	15:53 177446								
Cobalt NELAP 0.010 < 0.010 mg/L 5 0.0/04/2021	15:53 177446								
Lead NELAP 0.0010 - 0.0010 mg/L 5 0.0010/4/2021	15:53 177446								
Molybdenum NELAP 0.0015 0.153 ma/l 5 0.601/2021	10.00 177440								
Morysdonam Meleni 0.0010 <b>0.133</b> mg/e 3 00/04/2021	15.53 177446								
Selenium NELAP 0.0010 0.0044 mg/l 5 06/04/2021	15:53 177446 15:53 177446								

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**Laboratory Results** 

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Client: Hanson Professional Services, Inc.		Work Order: 21051595							
Chent Project: Sediment Sampling and Analysis - Marion, 12		керог	Date: 07-Jun-21						
Lab ID: 21051595-012 Client Samp	ble ID: S-SFAX								
Matrix: SOLID Collection	Date: 04/27/2	021 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						
Sample analysis did not meet hold time requirements.									
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						
Sample analysis did not meet hold time requirements.									
Sample analysis did not meet hold time requirements.									
ASTM D3987, SW-846 9036, IN SHAKE EXTRACT (TOTAL)									
Sulfate, SHAKE * 500 H <b>1340</b>	mg/L	50	06/01/2021 20:40 R291767						
Sample analysis did not meet hold time requirements.									
ASTM D3987. SW-846 9040 B. IN SHAKE EXTRACT									
pH * 1.00 <b>8.68</b>		1	05/28/2021 20:13 R291655						
ASTM D3987, SW-846 9214, IN SHAKE EXTRACT									
Fluoride * 0.10 H <b>1.21</b>	mg/L	1	05/28/2021 14:40 R291654						
Sample analysis did not meet hold time requirements.	-								
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	ma/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 <b>1.64</b>	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						
Sample results for Ca. Mg and Na exceed 10 times the method blank contamination. Data is report	table per the TNI S	Standard.							
ASTM D3987 SW-846 3005A 6020A METALS IN SHAKE EXTRACT BY ICPMS									
		5							
Arsenic NELAP 0.0010 0.0022	ma/i		06/04/2021 $1601$ $177446$						
Bervilium NELAP 0.0010 ~0.0019	mg/L mg/l	5	06/04/2021 16:01 177446 06/04/2021 16:01 177446						
Chromium NELAP 0.0150 <0.0010	mg/L mg/L mg/l	5 5 5	06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446						
	mg/L mg/L mg/L mg/l	5 5 5 5	06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446						
Cobalt NELAP 0.0010 -0.0010	mg/L mg/L mg/L mg/L mg/l	5 5 5 5	06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446						
Cobalt         NELAP         0.0010         < 0.0010           Lead         NELAP         0.0010         < 0.0010	mg/L mg/L mg/L mg/L mg/L	5 5 5 5 5	06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446						
Cobalt         NELAP         0.0010         < 0.0010           Lead         NELAP         0.0010         < 0.0010	mg/L mg/L mg/L mg/L mg/L mg/L	5 5 5 5 5 5 5	06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446						
Cobalt         NELAP         0.0010         < 0.0010           Lead         NELAP         0.0010         < 0.0010	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	5 5 5 5 5 5 5 5 5 5	06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446 06/04/2021 16:01 177446						

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

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Client:	Hanson Profession	nal Services, Inc.					Work (	Order: 21051595	
Client Project:	Sediment Samplin	g and Analysis - M	larion, IL				Report	Date: 07-Jun-21	
Lab ID:	21051595-013	<i>,</i>	,	C	lient Sample	e ID: S-SFAgx	-		
Matrix:	SOLID				Collection I	Date: 04/27/2	021 15:	20	
An	nalyses C	ertification	RL	Qual	Result	Units	DF	Date Analyzed Batch	_
ASTM D3987,	EPA 600 160.1, IN S	HAKE EXTRACT							Г
Total Dissolved	I Solids, SHAKE	*	20	Н	168	mg/L	1	06/02/2021 15:20 R291754	
Sample analysis	did not meet hold time	requirements.							
ASTM D3987,	STANDARD METHO	DDS 2320 B 1997 IN	SHAKE	EXTRACT					Г
Alkalinity, Bicar	rbonate (as CaCO3)	*	0	Н	12	mg/L	1	06/01/2021 13:11 R291711	
Alkalinity, Carb	onate (as CaCO3)	*	0	н	0	mg/L	1	06/01/2021 13:11 R291711	
Sample analysis	did not meet hold time	requirements.							
Sample analysis	did not meet hold time	requirements.							
ASTM D3987,	SW-846 9036, IN SH	IAKE EXTRACT (TO	OTAL)						
Sulfate, SHAKE	Ē	*	50	Н	59	mg/L	5	06/03/2021 17:05 R291837	
Sample analysis	did not meet hold time	requirements.							
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT									
рН		*	1.00		7.46		1	05/28/2021 20:16 R291655	
ASTM D3987,	SW-846 9214, IN SH	IAKE EXTRACT							Γ
Fluoride		*	0.10	Н	3.59	mg/L	1	05/28/2021 14:42 R291654	
Sample analysis	did not meet hold time	requirements.				-			
ASTM D3987,	SW-846 9251, IN SH	IAKE EXTRACT							Г
Chloride, SHAk	, KE	*	1	н	22	mg/L	1	06/01/2021 19:12 R291768	
Sample analysis	did not meet hold time	requirements.				-			
ASTM D3987,	SW-846 3005A, 601	OB, METALS IN SH	AKE EXT	RACT BY	СР				Г
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	В	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	В	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	В	1.47	mg/L	1	06/01/2021 14:29 177444	
Sample results for	or Ca, Mg and Na exce	ed 10 times the method	d blank cor	ntamination. I	Data is reporta	ble per the TNI S	Standard.		
ASTM D3987,	SW-846 3005A, 602	0A, METALS IN SH	AKE EXT	RACT BY	CPMS				Г
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	

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

Client:	Hanson Profession	nal Services, Inc.					Work (	Order: 2105159	5
<b>Client Project:</b>	Sediment Samplir	ng and Analysis - M	larion, IL				Report	Date: 07-Jun-2	1
Lab ID:	21051595-014		·	C	lient Sample	e ID: S-SFAgr	1		
Matrix:	SOLID				Collection I	Date: 04/27/2	021 15:	45	
An	nalyses C	ertification	RL	Qual	Result	Units	DF	Date Analyzed 1	Batch
ASTM D3987,	EPA 600 160.1, IN S	SHAKE EXTRACT							
Total Dissolved	Solids, SHAKE	*	20	Н	216	mg/L	1	06/02/2021 15:21	R291754
Sample analysis	did not meet hold time	requirements.							
ASTM D3987,	STANDARD METHO	DDS 2320 B 1997 IN	SHAKE	EXTRACT					
Alkalinity, Bicar	rbonate (as CaCO3)	*	0	Н	22	mg/L	1	06/01/2021 13:16	R291711
Alkalinity, Carb	onate (as CaCO3)	*	0	Н	0	mg/L	1	06/01/2021 13:16	R291711
Sample analysis	did not meet hold time	requirements.							
Sample analysis	did not meet hold time	requirements.							
ASTM D3987,	SW-846 9036, IN SH	AKE EXTRACT (TO	OTAL)						
Sulfate, SHAKE	E	*	50	Н	69	mg/L	5	06/01/2021 20:52	R291767
Sample analysis	did not meet hold time	requirements.							
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT									
рН		*	1.00		7.92		1	05/28/2021 20:17	R291655
ASTM D3987,	SW-846 9214, IN SH	AKE EXTRACT							
Fluoride		*	0.10	н	3.67	mg/L	1	05/28/2021 14:43	R291654
Sample analysis	did not meet hold time	requirements.				-			
ASTM D3987,	SW-846 9251, IN SH	AKE EXTRACT							
Chloride, SHA	, KE	*	1	Н	30	mg/L	1	06/01/2021 19:15	R291768
Sample analysis	did not meet hold time	requirements.				U			
ASTM D3987.	SW-846 3005A, 601	0B. METALS IN SH	AKE EXT	RACT 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	В	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	В	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	В	1.58	mg/L	1	06/01/2021 14:30	177444
Sample results for	or Ca, Mg and Na exce	ed 10 times the method	d blank cor	ntamination.	Data is reporta	ble per the TNI S	Standard.		
ASTM D3987,	SW-846 3005A, 602	OA, METALS IN SH	AKE EXT	RACT 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

## TEKLAB, INC

5445 Horseshoe Lake Road

Collinsville, IL 62234-7425

TEL: (618) 344-1004

FAX: (618) 344-1005

#### Client:

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

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

TEL: (217) 788-2450 FAX: (217) 788-5241

Project: Sediment Sampling and Ana

# **CHAIN-OF-CUSTODY RECORD**

WorkOrder: 21051595

26-May-21

					Requested Tests									
Sample ID	ClientSampID	Matrix	Date Collected	Bottle	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	Α	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		Α	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		Α	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	Α	A	A	A	Α			
21051595-012	S-SFAx	Solid	4/27/2021 2:55:00 PM		A	A	Α	A	A	A	A			
21051595-013	S-SFAgx	Solid	4/27/2021 3:20:00 PM	1	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 r	un Total Carb	on, email form Tim Hut	chison 1	1/18/2020 jhr					naak - 2002 - <u>A</u> rond Vort (r), 40 - 2000 (radio)				

Sub Total Carbon to Standard Labs. EEP 4/28/21

	Date/Time	Date/Time
Relinquished by: Mary Kemp		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

Page 1 of 2

## TEKLAB, INC

5445 Horseshoe Lake Road

Collinsville, IL 62234-7425

TEL: (618) 344-1004

FAX: (618) 344-1005

#### Client:

Hanson Professional Services, Inc.	TEL: (217) 788-2450
1525 South Sixth Street	FAX: (217) 788-5241
Springfield, IL 62703	Project: Sediment Sampling and Ana

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

# **CHAIN-OF-CUSTODY RECORD**

WorkOrder: 21051595

26-May-21

					Requested Tests						
					M2320 B (B)	M2320 B (C)			******		
Sample ID	ClientSampID	Matrix	Date Collected	Bottle							
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				5	
21051595-003	S-3n	Solid	4/27/2021 10:15:00 AM		A	A					1
21051595-004	S-3x	Solid	4/27/2021 10:45:00 AM		A	A				1	
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				1	
21051595-008	S-4gp	Solid	4/27/2021 1:00:00 PM		Α	Α					1
21051595-009	S-4x	Solid	4/27/2021 1:15:00 PM		Α	A				1	
21051595-010	S-4n	Solid	4/27/2021 2:00:00 PM		Α	Α					
21051595-011	S-SFAn	Solid	4/27/2021 2:40:00 PM		Α	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		Α	A					1
21051595-014	S-SFAgn	Solid	4/27/2021 3:45:00 PM	]	Α	A					1
Comments:	Excel PrState EDD										

Excel PISiale 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: Mary Kemp		Received by:	1	
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

Page 2 of 2



http://www.teklabinc.com/

April 12, 2021

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



**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 & Hurley

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**

http://www.teklabinc.com/

Client: Hanson Profess	onal Services, Inc.	Work Order: 21031686
lient Project: Marion Berm In	vestigation 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.

#### Client Project: Marion Berm Investigation 20E0016B/1000

Work Order: 21031686 Report Date: 12-Apr-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: Hanson Professional Services, Inc. Client Project: Marion Berm Investigation 20E0016B/1000

Cooler Receipt Temp: 7.0 °C

 Work Order:
 21031686

 Report Date:
 12-Apr-21

			Locations				
Collinsville			Springfield		Kansas City		
Address 5445 Horseshoe Lake Road		Address	3920 Pintail Dr	Address	8421 Nieman Road		
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		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	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com		
	Collinsville Air		Chicago				
Address	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.				
	Collinsville, IL 62234-7425		Downers Grove, IL 60515				
Phone	(618) 344-1004	Phone	(630) 324-6855				
Fax	(618) 344-1005	Fax					
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com				



# Accreditations

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc.

## Client Project: Marion Berm Investigation 20E0016B/1000

# Work Order: 21031686

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

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

)							
Client: Hanson Profes	2.				Wor	•k Order: 21031686	
Client Project: Marion Berm I	Investigation 20E00	16B/1000				Rep	ort Date: 12-Apr-21
Lab ID: 21031686-001	5	·		Client Sar	nple ID: B-3a 4-	- 6 ft	·
Matrix: SOLID				Collectio	n Date: 03/22/2	010	11.10
			<u> </u>	Conectio	JII Date. 05/22/2	2021	11.10
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch
ASTM D3987, EPA 600 160.1,	IN SHAKE EXTRAC	T					00/00/0004 47 40 5000000
Total Dissolved Solids, SHAKE	-	20		2200	mg/L	1	03/26/2021 17:48 R289039
ASTM D3987, STANDARD ME	THODS 2320 B 1997	IN SHAKE	EXTRAG	CT .	"		
Alkalinity, Bicarbonate (as CaCO	3) ^	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 ME	THODS 2580B IN SH	IAKE EXTR	ACT				
Oxidation-Reduction Potential	*	0.100		171	mV	1	03/29/2021 11:41 175151
Sample was analyzed at 22C with s	aturated Ag/AgCl electi	rode.					
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 EXTRAC	т					
рН	*	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	3 1997, 2011						
Alkalinity, Bicarbonate	*	0		272	mea/Ka	1	03/29/2021 11:39 R289089
Alkalinity, Carbonate	*	0		28	mea/Ka	1	03/29/2021 11:39 R289089
STANDARD METHODS 2540 (	2 1007 2011				r 5		
Total Solids	*	0.1		58.0	%	1	03/26/2021 13:13 R289025
STANDARD METHODS 4500 (		2011		00.0	70		00/20/2021 10:10 11200020
Chlorido	NELAD	10		20	ma/Ka	1	03/31/2021 11:57 175231
		10		29	mg/rtg	-	03/31/2021 11:37 173231
SW-846 1312, STANDARD ME	THODS 2510 B 1997	IN SHAKE	EXIRA				00/00/0001 0 50 5000000
Conductivity	-	10		2450	µmnos/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 EXT	<b>FRACT B</b>	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	В	3.42	mg/L	1	03/31/2021 4:50 175182
Sample result for Na exceeds 10 tir	nes the method blank c	ontamination.	Data is re	eportable per t	he TNI Standard.		
Matrix spike control limits for Ca are	not applicable due to I	nigh sample/s	oike ratio.				
ASTM D3987, SW-846 3005A,	6020A, METALS IN	SHAKE EXT	RACT B	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** 

http://www.teklabinc.com/

Work Order: 21031686 Report Date: 12-Apr-21

Client: Hanson Professional Services, Inc. Client Project: Marion Berm Investigation 20E0016B/1000

Laboratory

## 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 30054	A, 6020A, METALS IN	SHAKE EXT	FRACT E				
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 7470	A IN SHAKE EXTRAC	Г					
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	03/29/2021 11:36 175196
SW-846 3050B, 6010B, MET	ALS 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
Matrix spike control limits for B, C	Ca, Mg, and K are not app	licable due to	high sam	ole/spike ratio.			
SW-846 3050B, 6020A, MET	ALS 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** 

ek

Client: Hanson Profes	ssional Services Inc				Wor	k Order: 21031686
Client Project: Marion Berm	Investigation 20E00	16B/1000			Rep	ort Date: 12-Apr-21
Lab ID: 21031686-002	2		Client Sa	mple ID: B-3Aa	2-4 ft	
Matrix: SOLID			Collecti	on Date: 03/22/2	2021	10:15
Analyses	Certification	RL	Qual Result	Units	DF	Date Analyzed Batch
ASTM D3987, EPA 600 160.1,	IN SHAKE EXTRACT	ſ				
Total Dissolved Solids, SHAKE	*	20	52	mg/L	1	03/26/2021 17:48 R289039
ASTM D3987, STANDARD ME	THODS 2320 B 1997	IN SHAKE	EXTRACT			
Alkalinity, Bicarbonate (as CaCO3	3) *	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 ME	THODS 2580B IN SH	IAKE EXTR	ACT			
Oxidation-Reduction Potential	*	0.100	189	mV	1	03/29/2021 11:41 175151
Sample was analyzed at 22C with s	saturated Ag/AgCl electro	ode.				
ASTM D3987, SW-846 9036. I	N SHAKE EXTRACT	(TOTAL)				
Sulfate, SHAKE	*		< 10	mg/L	1	03/29/2021 17:03 R289069
ASTM D3987, SW-846 9040 B	IN SHAKE EXTRAC	т		<u> </u>		
рН	*	- 1.00	7.74		1	03/29/2021 11:25 R289064
ASTM D3087 SW-846 0214						
Fluoride	*	0.10	0.80	ma/l	1	03/26/2021 17:11 R280047
		0.10	0.00	ing/E	<u> </u>	03/20/2021 11:11 11203047
ASTM D3987, SW-846 9251, If	*	1	. 4		1	02/20/2021 17:03 B280070
Chioride, SHAKE		1	< 1	mg/L	1	03/29/2021 17:03 R289070
STANDARD METHODS 2320 I	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, 2	2011				
Chloride	NELAP	10	< 10	mg/Kg	1	03/31/2021 12:05 175231
SW-846 1312, STANDARD ME	THODS 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				5. 5		
Fluoride	NELAP	1 01	10.8	ma/Ka	1	03/30/2021 15:34 175233
ASTM D3097 SW 946 2005 A	6010B METAL CING				•	
AJ INI 23301, SVV-040 SUUSA, Barium	NELAD		0 0027	mc/l	1	03/31/2021 5:28 175182
Boron		0.0020	0.0037	mg/L	1	03/31/2021 5:28 175182
Calcium	NELAP	0 100	5.105	mg/L	1	03/31/2021 5:28 175182
Lithium	*	0.0040	J.20 - 0 0040	mg/L	1	03/31/2021 5:28 175182
Magnesium		0.0040	< 0.0040 1 20	mg/L	1	03/31/2021 5:28 175182
Potassium	NELAP	0.0000	1.20	mg/L	1	03/31/2021 5:28 175182
Sodium	NELAP	0.100	0.465	ma/l	1	03/31/2021 5:28 175182
	6020A METALOIN			iiig/E	,	30/01/2021 0.20 110102
AJ INI DJ901, SW-840 JUUSA,	NELAD			ma/l	5	04/08/2021 19:25 175102
		0.0010	0.0018	mg/L	5 5	04/00/2021 10.20 1/0103 0//08/2021 19:25 175103
Bendlium		0.0010	0.0020	mg/L	5 5	04/00/2021 10.20 1/0103 0//08/2021 19:25 175103
		0.0010	< 0.0010	mg/L	5	04/00/2021 10:20 17:000
Chromium		0.0010	< 0.0010	mg/L	5	04/08/2021 18:25 175183
Cobalt		0.0100	< 0.0100	mg/L	5	04/08/2021 18:25 175183
Lead	NELAP	0.0010	~ 0.0010	mg/L	5	04/08/2021 18:25 175183
Molvbdenum	NELAP	0.0015	0.0311	mg/l	5	04/09/2021 21:45 175183

**Laboratory Results** 

http://www.teklabinc.com/

Work Order: 21031686 Report Date: 12-Apr-21

Client: Hanson Professional Services, Inc. Client Project: Marion Berm Investigation 20E0016B/1000

Laboratory

### 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, MET	ALS 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** 

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Client: Hanson Professional Servic	ces, Inc.			Wor	k Order: 21031686	
Client Project: Marion Berm Invoctigation	20F00168/1000			Ron	ort Date: 12-Apr-21	
Chent Hoject. Manon berni investigation	20200100/1000	~		Kep	ort Date: 12-Api-21	
Lab ID: 21031686-003	686-003 Client Sample ID: B-3Aa 8-10 ft					
Matrix: SOLID		Collecti	on Date: 03/22	/2021 :	10:15	
Analyses Certification	on RL	Qual Result	Units	DF	Date Analyzed Batch	
ASTM D3987, EPA 600 160.1, IN SHAKE EX	(TRACT					
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 2580	<b>B IN SHAKE EXTR</b>	ACT				
Oxidation-Reduction Potential *	0.100	204	mV	1	03/29/2021 11:41 175151	
Sample was analyzed at 22C with saturated Ag/Ag	Cl electrode.					
ASTM D3987, SW-846 9036, IN SHAKE EXT	FRACT (TOTAL)					
Sulfate, SHAKE *	10	25	mg/L	1	03/29/2021 17:10 R289069	
ASTM D3987, SW-846 9040 B. IN SHAKE E	XTRACT					
pH *	1.00	7.69		1	03/29/2021 11:28 R289064	
ASTM D3987, SW-846 9214. IN SHAKE EX1	TRACT					
Fluoride *	0.10	1.12	mg/L	1	03/26/2021 17:13 R289047	
ASTM D3087 SW-846 0251 IN SHAKE FX7	RACT		<u> </u>			
Chloride SHAKE *	1	< 1	ma/l	1	03/29/2021 17:10 R289070	
STANDARD METHODS 2220 B 4007 2044			ing/L		00/20/2021 11:10 11200010	
STANDARD METHODS 2320 B 1997, 2011	0	25	maglig	4	03/20/2021 12:08 8280080	
Alkalinity, Bicarbonate	0	30	meq/Kg	1	03/29/2021 12:08 R289089	
	0	0	meq/Kg	1	03/29/2021 12:08 R289089	
STANDARD METHODS 2540 G 1997, 2011	<u>.</u>		0/		00/00/0001 40 45 5000005	
l otal 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 NFI AP	0.0025	0.0661	ma/L	1	03/31/2021 5:31 175182	
Boron NFLAP	0.0200	0.196	ma/L	1	03/31/2021 5:31 175182	
Calcium NELAP	0.100	17.1	ma/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		B 0648	mg/L	1	03/31/2021 5:31 175182	
Communic recently for the successful 40 times the method	0.0500	0.040	J =			
Sample result for the exceeds 10 times the method	0.0500 I blank contamination.	Data is reportable per	the TNI Standard.			
ASTM D3987, SW-846 3005A, 6020A, MFTA	0.0500 I blank contamination. ALS IN SHAKE EXT	Data is reportable per	the TNI Standard.			
ASTM D3987, SW-846 3005A, 6020A, META Antimony NFLAP	0.0500 I blank contamination. ALS IN SHAKE EXT 0 0010	Data is reportable per FRACT BY ICPMS 0 0081	the TNI Standard. ma/l	5	04/08/2021 18:34 175183	
Astmony NELAP Arsenic NFLAP	0.0500 I blank contamination. ALS IN SHAKE EXT 0.0010 0.0010	Data is reportable per FRACT BY ICPMS 0.0081 0.0254	the TNI Standard. mg/L ma/L	5 5	04/08/2021 18:34 175183 04/08/2021 18:34 175183	
Astimony NELAP Arsenic NELAP Bervilium NFLAP	0.0500 I blank contamination. ALS IN SHAKE EX 0.0010 0.0010 0.0010	Data is reportable per <b>IRACT BY ICPMS</b> 0.0081 0.0254 < 0.0010	the TNI Standard. mg/L mg/L ma/L	5 5 5	04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183	
Astm D3987, SW-846 3005A, 6020A, META Antimony NELAP Arsenic NELAP Beryllium NELAP Cadmium NFLAP	0.0500 I blank contamination. ALS IN SHAKE EXT 0.0010 0.0010 0.0010 0.0010	Data is reportable per <b>IRACT BY ICPMS</b> 0.0081 0.0254 < 0.0010 < 0.0010	the TNI Standard. mg/L mg/L mg/L ma/L	5 5 5 5	04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183	
Artimony NELAP Artimony NELAP Beryllium NELAP Cadmium NELAP Chromium NFLAP	0.0500 I blank contamination. ALS IN SHAKE EXT 0.0010 0.0010 0.0010 0.0010 0.0150	Data is reportable per <b>IRACT BY ICPMS</b> 0.0081 0.0254 < 0.0010 < 0.0010 < 0.0150	the TNI Standard. mg/L mg/L mg/L mg/L ma/L	5 5 5 5 5	04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183	
Sample result for Na exceeds 10 times the methodASTM D3987, SW-846 3005A, 6020A, METAAntimonyNELAPArsenicNELAPBerylliumNELAPCadmiumNELAPChromiumNELAPCobaltNELAP	0.0500 I blank contamination. ALS IN SHAKE EXT 0.0010 0.0010 0.0010 0.0010 0.0150 0.0010	Data is reportable per <b>FRACT BY ICPMS</b> 0.0081 0.0254 < 0.0010 < 0.0100 < 0.0150 < 0.0010	the TNI Standard. mg/L mg/L mg/L mg/L mg/L mg/L mg/L	5 5 5 5 5 5 5	04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183 04/08/2021 18:34 175183	

**Laboratory Results** 

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#### Work Order: 21031686

Client: Hanson Professional Services, Inc. Client Project: Marion Berm Investigation 20E0016B/1000

Laboratory

## **Report Date:** 12-Apr-21 Client Sample ID: B-3Aa 8-10 ft

Lab ID: 21031686-003

Matrix: SOLID

# Collection Date: 03/22/2021 10:15

Analyses	Certification	RL	Qual Result	t Units	DF	Date Analyzed Batch	
ASTM D3987, SW-846 300	5A, 6020A, METALS IN	SHAKE EXT	RACT BY ICPMS				
Molybdenum	NELAP	0.0015	0.075	2 mg/L	5	04/09/2021 21:54 175183	
Selenium	NELAP	0.0010	0.003	5 mg/L	5	04/08/2021 18:34 175183	
Thallium	NELAP	0.0020	< 0.002	) mg/L	5	04/08/2021 18:34 175183	
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT							
Mercury, SHAKE	*	0.00020	< 0.0002	) mg/L	1	03/29/2021 11:46 175196	
SW-846 3050B, 6010B, ME	TALS BY ICP						
Barium	NELAP	4.63	233	B mg/Kg-dry	10	03/30/2021 23:39 175145	
Boron	NELAP	18.5	24 <sup>-</sup>	I mg/Kg-dry	10	03/30/2021 23:39 175145	
Calcium	NELAP	92.6	742	) mg/Kg-dry	10	03/30/2021 23:39 175145	
Magnesium	NELAP	46.3	167	) 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	2 mg/Kg-dry	10	03/30/2021 23:39 175145	
SW-846 3050B, 6020A, ME	TALS BY ICPMS						
Antimony	NELAP	0.39	12.	6 mg/Kg-dry	10	04/08/2021 23:21 175156	
Arsenic	NELAP	0.19	283	<b>3</b> mg/Kg-dry	10	04/05/2021 19:16 175146	
Beryllium	NELAP	0.28	3.72	2 mg/Kg-dry	10	04/05/2021 19:16 175146	
Cadmium	NELAP	0.19	11.0	6 mg/Kg-dry	10	04/05/2021 19:16 175146	
Chromium	NELAP	0.46	10	5 mg/Kg-dry	10	04/05/2021 19:16 175146	
Cobalt	NELAP	0.19	12. <sup>-</sup>	l mg/Kg-dry	10	04/05/2021 19:16 175146	
Lead	NELAP	0.19	582	2 mg/Kg-dry	10	04/05/2021 19:16 175146	
Lithium	*	0.28	19.3	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	7.4	6 mg/Kg-dry	10	04/05/2021 19:16 175146	
Thallium	NELAP	0.19	6.8	<b>3</b> mg/Kg-dry	10	04/05/2021 19:16 175146	
SW-846 7471B							
Mercury	NELAP	0.009	0.09 <sup>,</sup>	l mg/Kg	1	03/26/2021 11:07 175098	

**Laboratory Results** 

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Client: Honoon Duck	occional Convisoo Tra				War	k Ordon, 21021606	
Chem: nanson Prof	essional Services, INC.				wor	K OTUET: 21051000	
Client Project: Marion Berm Investigation 20E0016B/1000 Report Date: 12-Apr-21					ort Date: 12-Apr-21		
Lab ID: 21031686-00	ID: 21031686-004 Client Sample ID: B-4a 0-2 ft						
Matrix: SOLID	SOLID Collection Date: 03/22/2021 9:30						
Analyses	Certification	RL	Qual Result	Units	DF	Date Analyzed Batch	
ASTM D3987. EPA 600 160.1	1. IN SHAKE EXTRACT						
Total Dissolved Solids, SHAKE	*	20	604	mg/L	1	03/26/2021 17:50 R289039	
ASTM D3987, STANDARD M	IETHODS 2320 B 1997	IN SHAKE	EXTRACT				
Alkalinity, Bicarbonate (as CaC	O3) *	0	23	mg/L	1	03/29/2021 11:19 175151	
Alkalinity, Carbonate (as CaCO	3) *	0	0	mg/L	1	03/29/2021 11:19 175151	
ASTM D3987, STANDARD M	IETHODS 2580B IN SH	AKE EXTR	ACT				
Oxidation-Reduction Potential	*	0.100	191	mV	1	03/29/2021 11:41 175151	
Sample was analyzed at 22C with	h saturated Ag/AgCl electro	de.					
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	ſ					
рН	*	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	D-CL E (TOTAL) 1997, 2	011					
Chloride	NELAP	10	16	mg/Kg	1	03/31/2021 12:44 175231	
SW-846 1312, STANDARD N	IETHODS 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	
	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	
wagnesium Potossium		0.0500	4.84	mg/∟	1 1	03/31/2021 5:35 1/5182	
Sodium		0.100	2.54 B 2.54	mg/L	ו 1	03/31/2021 5.35 1/5182	
Sample result for Na exceeds 10	times the method blank co	ntamination	Data is reportable per	the TNI Standard	ı	00/01/2021 0.00 110102	
Antimonv	NELAP	0.0010	< 0.0010	ma/L	5	04/08/2021 18:42 175183	
Arsenic	NELAP	0.0010	0.0015	ma/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** 

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### Work Order: 21031686 Report Date: 12-Apr-21

Client: Hanson Professional Services, Inc. Client Project: Marion Berm Investigation 20E0016B/1000

#### 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 3005	5A, 6020A, METALS IN	SHAKE EXT	FRACT 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 7470	A IN SHAKE EXTRAC	Г				
Mercury, SHAKE	*	0.00020	< 0.00020	mg/L	1	03/29/2021 11:48 175196
SW-846 3050B, 6010B, ME	TALS 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, ME	TALS 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 Pro	fessional Services, Inc.				Wor	k Order: 21031686
Client Project: Marion Ber	m Investigation 20E0016	5B/1000			Rep	ort Date: 12-Apr-21
Lab ID: 21021686_(	105	, 1000	Client Sa	nnle ID+ B-1-2-	.∧ ft	
	005					2.20
Matrix: SOLID			Collection	on Date: 03/22/2	2021 9	9:30
Analyses	Certification	RL	Qual Result	Units	DF	Date Analyzed Batch
ASTM D3987, EPA 600 160	.1, IN SHAKE EXTRACT	400	0000		_	00/00/0004 47 54 000000
Total Dissolved Solids, SHAK		100	2080	mg/L	5	03/26/2021 17:51 R289039
ASIM D3987, STANDARD			EXTRACT	mg/l	1	03/20/2021 11:28 175151
Alkalinity, Carbonate (as Cac	O3) *	0	20	mg/L	1	03/29/2021 11:28 175151
				ilig/L		00/20/2021 11:20 110101
ASTM D3987, STANDARD	*		AC I 225	m)/	1	03/20/2021 11:41 175151
Sample was analyzed at 22C w	ith saturated Δα/ΔαCl electron	0.100	223	IIIV	I	03/23/2021 11.41 1/3131
Sulfate SHAKE	, IN SHARE ENTRACT (T	10	15	ma/l	1	03/20/2021 17·20 P280060
		10	15	ilig/L	1	03/29/2021 17:29 1209009
ASTNID3987, SW-846 9040	, IN SHAKE EXTRACT	1.00	7 07		1	03/20/2021 11:24 8280064
		1.00	1.01		I	03/29/2021 11.34 R289064
ASIM D3987, SW-846 9214	I, IN SHAKE EXTRACT	0.40	0.00		4	02/02/2024 47:22 0200047
Fluoride		0.10	0.62	mg/L	1	03/26/2021 17:22 R289047
ASTM D3987, SW-846 9251	I, IN SHAKE EXTRACT		-			
Chloride, SHAKE	×	1	2	mg/L	1	03/29/2021 17:29 R289070
STANDARD METHODS 232	20 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 254	40 G 1997, 2011					
Total Solids	*	0.1	87.3	%	1	03/26/2021 13:16 R289025
STANDARD METHODS 450	00-CL E (TOTAL) 1997, 20	)11				
Chloride	NELAP	10	44	mg/Kg	1	03/31/2021 12:52 175231
SW-846 1312, STANDARD	METHODS 2510 B 1997 I	N 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 3005	5A, 6010B, METALS IN SH	AKE EX	FRACT 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 <b>3.60</b>	mg/L	1	03/31/2021 5:39 175182
Sample result for Na exceeds 1	0 times the method blank con	tamination.	Data is reportable per	the TNI Standard.		
ASTM D3987, SW-846 3005	5A, 6020A, METALS IN SH	IAKE EX	FRACT 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		0.0150	< 0.0150	mg/L	5	04/08/2021 18:51 175183
		0.0010	< 0.0010	mg/L	5	04/08/2021 18:51 17:5183
read	NELAP	0.0010	< 0.0010	mg/L	Э	04/08/2021 18:51 1/5183

**Laboratory Results** 

http://www.teklabinc.com/

Work Order: 21031686 Report Date: 12-Apr-21

Client: Hanson Professional Services, Inc. Client Project: Marion Berm Investigation 20E0016B/1000

Laboratory

### 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-846 300	5A, 6020A, METALS IN	SHAKE EXT	RACT B	( 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 7470	OA IN SHAKE EXTRAC	Г					
Mercury, SHAKE	*	0.00020		0.00020	mg/L	1	03/29/2021 11:50 175196
SW-846 3050B, 6010B, ME	TALS 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, ME	TALS 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**

Client: Hanson Professional Services, Inc. Client Project: Marion Berm Investigation 20E0016B/10	000		Wo Rep	rk Order: 2103 port Date: 12-A	31686 Apr-21
Carrier: Paul Reeves Completed by: Marwin L. Darling T On: 25-Mar-21 Marvin L. Darling	R 2	eceived By: ME Reviewed by: On: 5-Mar-21	K <i>Eliyobeth L. 7</i> Elizabeth A. Hurley	Hur <i>lag</i>	
Pages to follow:       Chain of custody       1         Shipping container/cooler in good condition?         Type of thermal preservation?         Chain of custody present?         Chain of custody signed when relinquished and received?         Chain of custody agrees with sample labels?         Samples in proper container/bottle?         Sample containers intact?         Sufficient sample volume for indicated test?         All samples received within holding time?         Reported field parameters measured:         Container/Temp Blank temperature in compliance?	Extra pages inclu Yes V None V Yes V Yes V Yes V Yes V Yes V Yes V Yes V Yes V Yes V	Ided 1 No □ ICe ♥ No □ No □	Not Present Blue Ice NA	□ Temp °C □ Dry Ice	<b>7.0</b>
When thermal preservation is required, samples are complian 0.1°C - 6.0°C, or when samples are received on ice the same Water – at least one vial per sample has zero headspace? Water - TOX containers have zero headspace? Water - pH acceptable upon receipt? NPDES/CWA TCN interferences checked/treated in the field?	t with a tempera day as collected Yes Yes Yes Yes Yes	ture between d. No No No No No	No VOA vials No TOX containers NA NA	<b>&gt;</b> <b>&gt;</b> <b>&gt;</b>	
Any No responses m	ust be detailed	below or on the	e COC.		

# Electronic Filing: Received Clerk's Office 09/02/2021 Pg 1 of 1 Workorder # 21031686

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

*******										/											<del></del>		
Client: Hanson Profe	ssional Services Inc.				Sa	mple	es or	1:	$\square$	ICE			BL	UE I	CE		NO	ICE		<u>]e(</u>	2	'C	~
Address: 1525 S Six	th Street				Pre	ser	ved i	n:		LAB	5		FE	LD		_ <u>F</u>	OR	LAB	<u>US</u>	<u>E 0</u>	<u>ILY</u>	CI(	,5
City/State/Zip: Sprin	gfield, IL 62703				LA	B NO	DTES	S:															-
Contact: Rhon Hase	nyager	Phone: 217	7-747-9235	5																e			
Email: rhasenyage	r@hanson-inc.com	Fax: 217-7	788-2503		Cli	ent	Con	nme	ents:														
Are these samples knowr Are these samples knowr Are there any required re limits in the comment sec	n to be involved in litigation? If y n to be hazardous?	res, a surcharge v Yes / N equested analysi No	will apply: [ o s?. If yes, plo	Yes 🚺 No	Se	e at	lache	ed p	aram	eter	list.												
PROJECT NAME/N	UMBER	SAMPLE CO	LLECTOR'	S NAME	#	and	i Ty	pe (	of Co	ontai	ner	s		INC		TE /	ANA	LYS	SIS	REC	<b>}UE</b>	STE	<u> </u>
Marion Berm Investig	ation 20E0016B/1000	Rhon Hasen	yager										Sha	~									
RES ✓ Standard Other	SULTS REQUESTED 1-2 Day (100% S 3 Day (50% Surc	urcharge) harge)	BILLIN	IG INSTRUCTIONS	UNP	HNO3	NaOH	H2SO4	MeOH	NaHSO4	TSP	Other	ake Test (D396	nii (Sniids) Results									
Lab Use Only	Sample ID	Date/Time	Sampled	Matrix									37										
21031686-001	B-3a 4'-6'	3/22/2021 11	:10	Soil								1	$\checkmark$	/									
- ce 2	B-3Aa 2'-4'	3/22/2021 10	:15	Soil								1	$\checkmark$	/							Τ		
-103	B-3Aa 8'-10'	3/22/2021 10	:15	Soil			ŀ					1	$\checkmark$	/							Τ		
	B-4a 0'-2'	3/22/2021 9:3	30	Soil								1	$\checkmark$	/									
-05	B-4a 2'-4'	3/22/2021 9:3	30	Soil			:					1	$\checkmark$	/						T		Π	
				Aqueous															T		1		
				Aqueous											T				T	T	T	$\square$	
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/	Relinquished By			Date/Time		$\overline{}$	<u>ک</u>			Rece	e iye	d B	y							Dat	e/Tir	ne	
- Su	Hand age-	\	3/26	<u>12/08:10</u>	+	10	<u>1/</u>	$n_{j}$	1	4	~							3	<u> 29</u>	<u>ə -</u>	<u>2 </u>	Δ	<u> XID</u>
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<u> </u>	···· ··· ··· ···				+				0		1								<b></b>	<u></u>			
					$\mathbf{T}$																		

\*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 24<sup>th</sup> 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.

845 Parameter	Detection	Limit	Cation/Anion & Water Properties
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).





http://www.teklabinc.com/

April 22, 2021

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





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



### **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**



### **Definitions**

http://www.teklabinc.com/

Client:	Hanson Professional Services, Inc.	Work Order: 21041107	
ient 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



### **Definitions**

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc.

#### Client Project: Marion Berm Investigation 20E0016B/1000

Work Order: 21041107 Report Date: 22-Apr-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)

# **PRELIMINARY REPORT**



### **Case Narrative**

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc. Client Project: Marion Berm Investigation 20E0016B/1000

Cooler Receipt Temp: 4.8 °C

 Work Order:
 21041107

 Report Date:
 22-Apr-21

			Locations		
	Collinsville		Springfield		Kansas City
Address	5445 Horseshoe Lake Road	Address	3920 Pintail Dr	Address	8421 Nieman Road
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		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	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com
	Collinsville Air		Chicago		
Address	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.		
	Collinsville, IL 62234-7425		Downers Grove, IL 60515		
Phone	(618) 344-1004	Phone	(630) 324-6855		
Fax	(618) 344-1005	Fax			
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com		

# **PRELIMINARY REPORT**



### Accreditations

http://www.teklabinc.com/

### Client: Hanson Professional Services, Inc.

#### Client Project: Marion Berm Investigation 20E0016B/1000

## Work Order: 21041107

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**

Laboratory Results

nvironmental Laboratory

http://www.teklabinc.com/

Client: Hanson Profe	essional Services, Inc.		Work Order: 21041107								
Client Project: Marion Berm	Investigation 20E001	6B/1000				Rep	ort Date: 22-Apr-21				
Lab ID: 21041107-00	1			Client Samp	ple ID: B-SFAb	94-6ft					
Matrix: SOLID			Collection Date: 03/22/2021 8:15								
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch				
ASTM D3987, STANDARD M	ETHODS 2320 B 1997	IN SHAKE	EXTRAC	т							
Alkalinity, Bicarbonate (as CaCC	)3) *	0	Н	6	mg/L	1	04/21/2021 12:55 175985				
Alkalinity, Carbonate (as CaCO3	8) *	0	Н	0	mg/L	1	04/21/2021 12:55 175985				
Sample analysis did not meet hold	l time requirements.										
ASTM D3987, STANDARD METHODS 2580B IN SHAKE EXTRACT											
Oxidation-Reduction Potential	*	0.100		330	mV	1	04/21/2021 9:06 R290028				
Sample was analyzed at 19C with	saturated Ag/AgCl electro	de.									
ASTM D3987, SW-846 9036,	IN SHAKE EXTRACT (	TOTAL)									
Sulfate, SHAKE	*	10	Н	< 10	mg/L	1	04/20/2021 21:39 R289997				
ASTM D3987, SW-846 9040 E	B, IN SHAKE EXTRACT	٢									
pH	*	1.00	Н	6.09		1	04/21/2021 15:08 175985				
ASTM D3987, SW-846 9214,	IN SHAKE EXTRACT										
Fluoride	*	0.10	Н	0.29	mg/L	1	04/20/2021 21:20 R289987				
ASTM D3987, SW-846 9251,	IN SHAKE EXTRACT										
Chloride, SHAKE	*	1	Н	8	mg/L	1	04/20/2021 21:39 R289998				
SW-846 1312, STANDARD M	ETHODS 2510 B 1997	IN SHAKE	EXTRAC	т							
Conductivity	*	10	Н	<b>23</b> µ	mhos/cm @25C	1	04/21/2021 7:17 R290025				

# PRELIMINARY REPORT

Laboratory Results

vironmental Laboratory

http://www.teklabinc.com/

Client: Hanson Profess	sional Services, Inc					Wor	k Order: 21041107			
Client Project: Marion Berm In	nvestigation 20E00	16B/1000				Repo	ort Date: 22-Apr-21			
Lab ID: 21041107-002				Client Sam	ple 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 MET	ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT									
Alkalinity, Bicarbonate (as CaCO3	) *	0	Н	34	mg/L	1	04/21/2021 12:58 175985			
Alkalinity, Carbonate (as CaCO3)	*	0	Н	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			
Sample was analyzed at 19C with sa	aturated Ag/AgCl electro	ode.								
ASTM D3987, SW-846 9036, IN	SHAKE EXTRACT	(TOTAL)								
Sulfate, SHAKE	*	10	Н	41	mg/L	1	04/20/2021 22:08 R289997			
ASTM D3987, SW-846 9040 B,	IN SHAKE EXTRAC	Т								
рН	*	1.00	Н	7.39		1	04/21/2021 15:12 175985			
ASTM D3987, SW-846 9214, IN	SHAKE EXTRACT									
Fluoride	*	0.10	Н	0.46	mg/L	1	04/20/2021 21:23 R289987			
ASTM D3987, SW-846 9251, IN	SHAKE EXTRACT									
Chloride, SHAKE	*	1	Н	7	mg/L	1	04/20/2021 22:08 R289998			
SW-846 1312, STANDARD ME	THODS 2510 B 1997	IN SHAKE	EXTRA	СТ						
Conductivity	*	10	Н	133	µmhos/cm @25C	1	04/21/2021 7:17 R290025			

# **PRELIMINARY REPORT**

Laboratory Results

vironmental Laboratory

http://www.teklabinc.com/

Client: Hanson Profess	sional Services, Inc					Wo	rk Order: 21041107			
Client Project: Marion Berm Ir	nvestigation 20E00	16B/1000				Rej	port Date: 22-Apr-21			
Lab ID: 21041107-003				Client Sar	nple 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	Н	14	mg/L	1	04/21/2021 13:03 175985			
Alkalinity, Carbonate (as CaCO3)	*	0	Н	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			
Sample was analyzed at 19C with sa	aturated Ag/AgCl electr	ode.								
ASTM D3987, SW-846 9036, IN	SHAKE EXTRACT	(TOTAL)								
Sulfate, SHAKE	*	10	Н	< 10	mg/L	1	04/20/2021 22:24 R289997			
ASTM D3987, SW-846 9040 B,	IN SHAKE EXTRAC	т								
рН	*	1.00	Н	6.94		1	04/21/2021 15:15 175985			
ASTM D3987, SW-846 9214, IN	SHAKE EXTRACT									
Fluoride	*	0.10	Н	0.18	mg/L	1	04/20/2021 21:25 R289987			
ASTM D3987, SW-846 9251, IN	SHAKE EXTRACT									
Chloride, SHAKE	*	1	Н	5	mg/L	1	04/20/2021 22:24 R289998			
SW-846 1312, STANDARD MET	THODS 2510 B 1997	IN SHAKE	EXTRA	СТ						
Conductivity	*	10	Н	36	µmhos/cm @25C	1	04/21/2021 7:17 R290025			

# PRELIMINARY REPORT

Laboratory Results

vironmental Laboratory

http://www.teklabinc.com/

Client: Hanson Profes	sional Services, Inc					Wor	k Order: 21041107			
Client Project: Marion Berm I	nvestigation 20E00	16B/1000				Rep	ort Date: 22-Apr-21			
Lab ID: 21041107-004				Client Sam	ple ID: B-B3a 4	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 CaCO3	5) *	0	Н	22	mg/L	1	04/21/2021 13:07 175985			
Alkalinity, Carbonate (as CaCO3)	*	0	Н	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			
Sample was analyzed at 19C with s	aturated Ag/AgCl electro	ode.								
ASTM D3987, SW-846 9036, IN	SHAKE EXTRACT	(TOTAL)								
Sulfate, SHAKE	*	10	Н	< 10	mg/L	1	04/20/2021 22:40 R289997			
ASTM D3987, SW-846 9040 B,	IN SHAKE EXTRAC	т								
рН	*	1.00	Н	7.97		1	04/21/2021 15:18 175985			
ASTM D3987, SW-846 9214, IN	SHAKE EXTRACT									
Fluoride	*	0.10	Н	0.57	mg/L	1	04/20/2021 21:27 R289987			
ASTM D3987, SW-846 9251, IN	SHAKE EXTRACT									
Chloride, SHAKE	*	1	Н	< 1	mg/L	1	04/20/2021 22:40 R289998			
SW-846 1312, STANDARD ME	THODS 2510 B 1997	IN SHAKE	EXTRA	СТ						
Conductivity	*	10	Н	21	umhos/cm @25C	1	04/21/2021 7:17 R290025			

# PRELIMINARY REPORT

Laboratory Results

Environmental Laboratory

http://www.teklabinc.com/

Client: Hanson Profess	sional Services, Inc					Wor	k Order: 21041107					
Client Project: Marion Berm In	vestigation 20E00	16B/1000				Rep	Report Date: 22-Apr-21					
Lab ID: 21041107-005				Client Sam	ple ID: B-B3b	4-6ft						
Matrix: SOLID				Collection	n 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 CaCO3)	) *	0	Н	26	mg/L	1	04/21/2021 13:13 175985					
Alkalinity, Carbonate (as CaCO3)	*	0	Н	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					
Sample was analyzed at 19C with sa	aturated Ag/AgCl electro	ode.										
ASTM D3987, SW-846 9036, IN	SHAKE EXTRACT	(TOTAL)										
Sulfate, SHAKE	*	10	Н	15	mg/L	1	04/20/2021 23:09 R289997					
ASTM D3987, SW-846 9040 B,	IN SHAKE EXTRAC	т										
pH	*	1.00	Н	8.46		1	04/21/2021 15:20 175985					
ASTM D3987, SW-846 9214, IN	SHAKE EXTRACT											
Fluoride	*	0.10	Н	0.37	mg/L	1	04/20/2021 21:29 R289987					
ASTM D3987, SW-846 9251, IN	SHAKE EXTRACT											
Chloride, SHAKE	*	1	Н	7	mg/L	1	04/20/2021 23:09 R289998					
SW-846 1312, STANDARD MET	THODS 2510 B 1997	IN SHAKE	EXTRA	СТ								
Conductivity	*	10	Н	53 µ	imhos/cm @25C	1	04/21/2021 7:17 R290025					

# PRELIMINARY REPORT

Laboratory Results

ironmental Laboratory

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc. Work Order: 21041107									
Client Project: Marion Berm Ir	nvestigation 20E001	.6B/1000				Rep	oort Date: 22-Apr-21		
Lab ID: 21041107-006				Client Sar	nple 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 CaCO3)	) *	0	Н	16	mg/L	1	04/21/2021 13:18 175985		
Alkalinity, Carbonate (as CaCO3)	*	0	Н	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		
Sample was analyzed at 19C with sa	aturated Ag/AgCl electro	de.							
ASTM D3987, SW-846 9036, IN	SHAKE EXTRACT (	TOTAL)							
Sulfate, SHAKE	*	10	Н	19	mg/L	1	04/20/2021 23:25 R289997		
ASTM D3987, SW-846 9040 B,	IN SHAKE EXTRACT	Г							
рН	*	1.00	Н	8.55		1	04/21/2021 15:26 175985		
ASTM D3987, SW-846 9214, IN	SHAKE EXTRACT								
Fluoride	*	0.10	Н	0.32	mg/L	1	04/20/2021 21:36 R289987		
ASTM D3987, SW-846 9251, IN	SHAKE EXTRACT								
Chloride, SHAKE	*	1	Н	< 1	mg/L	1	04/20/2021 23:25 R289998		
SW-846 1312, STANDARD MET	THODS 2510 B 1997	IN SHAKE	EXTRA	СТ					
Conductivity	*	10	Н	107	µmhos/cm @25C	1	04/21/2021 7:17 R290025		

# **PRELIMINARY REPORT**

Elec	ctronic	Filing:	Received,	Clerk's	Office	09/02/2	2021
			,				



### **Receiving Check List**

http://www.teklabinc.com/

Creme: release in the series of the serie	Client: Hanson Professional Services, Inc.		Work Order: 21041107 Report Date: 22-Apr-21								
Completed by: Dr: 19Apr-21       May E. Henry       Reviewed by: Dr: Dr:         19Apr-21       Mary E. Kemp         Peges to follow:       Chain of custody 1       Extra pages included 1         Shipping container/cooler in good condition?       Yes V       No       Not Present   Temp °C       4.8         Type of thermal preservation?       None       Ice V       Blue Ice       Dry Ice       Ice V         Chain of custody present?       Yes V       No       Dot Present       Temp °C       4.8         Samples in proper container/bottle?       Yes V       No       Dot Present       Dry Ice       Ice V         Samples no custody agrees with sample labels?       Yes V       No       Dot Divertify       Ice V       Divertify       Ice V       Ice V       Divertify       Ice V       Divertify       Ice V       Ice V       Divertify       Ice V       Ice V       Divertify       Ice V       Divertify       Ice V       No       Ice V       Divertify       Ice V	Carrier: Paul Reeves	Rece	ived By: MEK								
Pages to follow:       Chain of custody       1       Extra pages included       1         Shipping container/cooler in good condition?       Yes       No       Not Present       Temp °C       4.8         Type of thermal preservation?       None       Ice       Blue Ice       Dry Ice       Ice         Chain of custody greesent?       Yes       No       No       Ice       Dry Ice       Ice         Chain of custody agrees with sample labels?       Yes       No       Ice       Ice <tdi< th=""><th colspan="11">Completed by: On: 19-Apr-21 Mary E. Kemp Mary E. Kemp Mary E. Kemp</th></tdi<>	Completed by: On: 19-Apr-21 Mary E. Kemp Mary E. Kemp Mary E. Kemp										
Shipping container/cooler in good condition?       Yes       No       Not Present       Temp °C       4.8         Type of thermal preservation?       None       Ice       Blue Ice       Dry Ice       Image: Container Cooler in Good Condition?         Chain of custody present?       Yes       No       Blue Ice       Dry Ice       Image: Container Cooler in Good Condition?       Yes       No         Chain of custody signed when relinquished and received?       Yes       No       Container Coustody agrees with sample labels?       Yes       No       Container Coustody agrees with sample labels?       Yes       No       Containers intact?       Yes       No       Containers intact?       Yes       No       Containers intact?       Yes       No       Containers intact?       Yes       No       Container Coustody agrees with in holding time?       Yes       No       Na       Container Coustody C	Pages to follow: Chain of custody 1	Extra pages include	d 1								
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.         Water - at least one vial per sample has zero headspace?       Yes       No       No VOA vials       ✓         Water - TOX containers have zero headspace?       Yes       No       No TOX containers       ✓         Water - pH acceptable upon receipt?       Yes       No       NA       ✓         NPDES/CWA TCN interferences checked/treated in the field?       Yes       No       NA       ✓         Any No responses must be detailed below or on the COC.       Kater - on the coc.       Kater - on the coc.       Kater - on the coc.	Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present? Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured: Sample analyses to be measured in the field and/or within 15 m These analyses include Chlorine (demand, free and/or residual) Container/Temp Blank temperature in compliance?	Yes ♥ None □ Yes ♥ Yes ♥ Yes ♥ Yes ♥ Yes ♥ Yes ■ Field □ ninutes of collection ), Carbon Dioxide, I Yes ♥	No □ Ice ♥ No □ No □ No □ No □ No □ No ♥ Lab ♥ were analyzed Dissolved Oxyg	Not Present Elue Ice Not Present I Blue Ice NA C NA gen, Ferrous Iron, pH, ar	Temp °C Dry Ice	<b>4.8</b>					
Water - at least one vial per sample has zero headspace?       Yes       No       No VOA vials       ✓         Water - TOX containers have zero headspace?       Yes       No       No TOX containers       ✓         Water - pH acceptable upon receipt?       Yes       No       NA       ✓         NPDES/CWA TCN interferences checked/treated in the field?       Yes       No       NA       ✓         Any No responses must be detailed below or on the COC.       COC       COC       COC       COC	When thermal preservation is required, samples are complian 0.1°C - 6.0°C, or when samples are received on ice the same	t with a temperature day as collected.	e between								
Water - TOX containers have zero headspace?       Yes       No       No TOX containers         Water - pH acceptable upon receipt?       Yes       No       NA         NPDES/CWA TCN interferences checked/treated in the field?       Yes       No       NA         Any No responses must be detailed below or on the COC.       Kate Containers       Kate Containers	Water – at least one vial per sample has zero headspace?	Yes 🗌	No	No VOA vials 🔽							
Water - pH acceptable upon receipt? Yes No NA   NPDES/CWA TCN interferences checked/treated in the field? Yes No NA   Any No responses must be detailed below or on the COC.	Water - TOX containers have zero headspace?	Yes 🗌	No 🗌	No TOX containers							
NPDES/CWA TCN interferences checked/treated in the field?       Yes       No       NA         Any No responses must be detailed below or on the COC.	Water - pH acceptable upon receipt?	Yes	No 🗌	NA 🔽							
Any No responses must be detailed below or on the COC.	NPDES/CWA TCN interferences checked/treated in the field?	Yes 🗌	No 🗌	NA 🔽							
	Any No responses m	ust be detailed be	low or on the	coc.							

# **PRELIMINARY REPORT**

### Electronic Filing HALN VOF, CLERTODICe 09/02/202 bf 1 Workorder # 21041107

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

Client: <u>Hanson Profe</u> Address: <u>1525 S Si</u> City/State/Zip: <u>Sprin</u> Contact: <u>Rhon Hase</u> Email: rhasenyage	essional Services Inc. xth Street ngfield, IL 62703 enyager er@hanson-inc.com	Phone: <u>217-7</u> Fax: 217-788	747-9235 8-2503		Sar Pre LAI Cli	nple serv 3 NC ent e att	es on ved i DTES Con	n: 5: nme	nts:	ICE LAB	list.		BLUE K	ж [	NO FOR I	ice Ab L	<u>식</u> ISE (	8 DNLY	°c ⊥T⊙	;5
Are these samples know Are there any required re limits in the comment sec PROJECT NAME/N	n to be hazardous?	Yes V No equested analysis?. No SAMPLE COLLI	ECTOR'S	ase provide	#	and	Ty	pe o	f Co	ntai	ners		IND			_YSI	S RE	QUE	STEL	)
Marion Berm Investig RE Standard Other	ation 20E0016B/1000 SULTS REQUESTED 1-2 Day (100% S 3 Day (50% Surc	Rhon Hasenyag urcharge) harge)	ger BILLIN	G INSTRUCTIONS	UNP	HNO3	NaOH	HJSOA	MeOH	NaHSO4	TSP	Other	Shake Test /D308							
Lab Use Only	Sample ID	Date/Time Sa	Sampled Matrix									2	9							
21041107-001 002 003 004 005 005	B-SFAb 4-6' B-SFAa 2-4' B-6b 4-6' B-B3a 4-6' B-B3b 4-6' B-3b 4-6" Relinquished By	3/22/2021 8:15 3/22/2021 8:55 3/22/2021 12:05 3/22/2021 14:15 3/22/2021 13:45 3/22/2021 10:45	5 5 5	Soil Soil Soil Soil Soil Soil Aqueous Aqueous Aqueous Aqueous Aqueous Date/Time							1 1 1 1 1 1									
Qui m	Hanger	į	9.Apr 1-19.	2021 09:15 21 1310	-	<i>ie</i> 1	ha Na		2) -Ki	2 emp	 >					4/10	19: 112	3)	10	<i>91</i> 5

\*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

merthald

### 35 IAC 845 Parameters and Major Cations and Anions

<u>845 Parameter</u>	Detection	<u>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:



**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 & Hurley

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



Client Project: Sediment Samples

### **Report Contents**

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation	on
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Work Order: 21051634 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**

http://www.teklabinc.com/

#### Client: Southern Illinois Power Cooperation

Client Project: Sediment Samples

Work Order: 21051634

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

#### **Client Project:** Sediment Samples

## Work Order: 21051634

### 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

Client Project: Sediment Samples

Cooler Receipt Temp: 25.78 °C

 Work Order:
 21051634

 Report Date:
 07-Jun-21

			Locations		
	Collinsville		Springfield		Kansas City
Address	5445 Horseshoe Lake Road	Address	3920 Pintail Dr	Address	8421 Nieman Road
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		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	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com
	Collinsville Air		Chicago		
Address	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.		
	Collinsville, IL 62234-7425		Downers Grove, IL 60515		
Phone	(618) 344-1004	Phone	(630) 324-6855		
Fax	(618) 344-1005	Fax			
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com		



### Accreditations

http://www.teklabinc.com/

#### Client: Southern Illinois Power Cooperation

### Client Project: Sediment Samples

Work Order: 2	21051634
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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	ı				Work	<b>Order:</b> 21051634
Client Project: S	Sediment Sampl	es					Repo	rt Date: 07-Jun-21
Lab ID: 2	21051634-001				Client Samp	le ID: Scrub	ber Sludo	1e
Matrix: S	SOLID				Collection	Date: 05/25	/2021 1	3:00
Ana	lyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch
ASTM D3987, E	PA 600 160.1, IN	SHAKE EXTRACT						
Total Dissolved S	Solids, SHAKE	*	20	Н	1950	mg/L	1	06/02/2021 15:21 R291754
Sample analysis d	lid not meet hold tim	e requirements.						
ASTM D3987, S	TANDARD METH	IODS 2320 B 1997 II	N SHAKE	EXTRAC	т			
Alkalinity, Bicarb	onate (as CaCO3)	*	0		15	mg/L	1	05/28/2021 11:02 R291635
Alkalinity, Carbo	nate (as CaCO3)	*	0		0	mg/L	1	05/28/2021 11:02 R291635
ASTM D3987, S	W-846 9036, IN S	SHAKE EXTRACT (T	OTAL)					
Sulfate, SHAKE		*	500		1400	mg/L	50	05/28/2021 12:50 R291641
ASTM D3987. S	W-846 9214. IN S	HAKE EXTRACT						
Fluoride	, .	*	0.10		1.37	mg/L	1	05/28/2021 14:45 R291654
ASTM D3987. S	W-846 9251. IN S	SHAKE EXTRACT						
Chloride, SHAKE	=	*	4		< 4	ma/L	1	05/28/2021 11:44 R291642
ASTM D3987, S	W-846 3005A, 60	10B, METALS IN SH	IAKE EXT	RACT B	Y 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	В	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	В	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	В	< 0.0500	mg/L	1	05/28/2021 15:55 177416
Sample result for (	Ca exceeds 10 time	s the method blank con	tamination.	Data is rep	oortable per the	TNI Standard.		
Contamination pre	esent in the MBLK fo	or Na. Sample results be	elow the rep	orting limit	are reportable	per the TNI Sta	andard.	
Mg was detected i	in the method blank	at 0.0665 mg/L. Sampl	e results m	ay be bias	ed high by deteo	ctable levels in	the method	d blank.
ASTM D3987, S	W-846 3005A, 60	20A, METALS IN SH	IAKE EXT	RACT B	Y ICPMS			
Antimony		NELAP	0.0010	В	< 0.0010	mg/L	5	05/28/2021 21:23 177417
Thallium		NELAP	0.0020	Х	0.0024	mg/L	5	06/01/2021 23:43 177417
Contamination pre	esent in the MBLK fo	or Antimony. Sample res	ults below	the reportir	ng limit are repo	rtable per the	TNI Standa	rd.
ASTM D3987, S	W-846 7470A IN	SHAKE EXTRACT						
Mercury, SHAKE		*	0.00020		< 0.00020	mg/L	1	05/28/2021 14:24 177420

**Laboratory Results** 

Client: Southern Illino	is Power Cooperati	ion				Wor	k Order: 21051634
Client Project: Sediment Sam	ples					Rep	ort Date: 07-Jun-21
Lab ID: 21051634-002				Client Samp	ole ID: Fly A	.sh	
Matrix: SOLID				Collection	Date: 05/2	5/2021 1	3.00
Analyses	Certification	RL	Oual	Result	Units	DF	Date Analyzed Batch
ASTM D3987. EPA 600 160.1. I	N SHAKE EXTRAC	г					J. J
Total Dissolved Solids, SHAKE	*	50	Н	5240	mg/L	2.5	06/03/2021 16:10 R291832
Sample analysis did not meet hold th	ime requirements.				U		
ASTM D3987, STANDARD MET	THODS 2320 B 1997	IN SHAKE	EXTRAC	т			
Alkalinity, Bicarbonate (as CaCO3	) *	0		0	mg/L	1	05/28/2021 12:35 R291635
Alkalinity, Carbonate (as CaCO3)	*	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				Ū		
Fluoride	*	0.10		3.03	ma/L	1	05/28/2021 14:52 R291654
ASTM D3087 SW-846 0251 IN	SHAKE EXTRACT			0.00		-	
Chloride SHAKE		40		199	ma/l	10	05/28/2021 12:11 R291642
ASTM D3987 SW-846 3005A	SOLOB METALS IN	SHAKE EXT	RACT B	YICP		10	
Arsenic	NELAP	0 0100	NACI D		ma/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	0.00020		< 0.0005	mg/L	1	05/28/2021 15:56 177416
Boron	NELAP	0.0200		0.626	ma/L	1	05/28/2021 15:56 177416
Cadmium	NELAP	0.0020		< 0.0020	ma/L	1	05/28/2021 15:56 177416
Calcium	NELAP	0.100	В	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	В	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	В	3.67	mg/L	1	05/28/2021 15:56 177416
Sample results for Ca and Na excee	ed 10 times the method	blank contam	ination. Da	ata is reportable	e per the TNI S	Standard.	
Mg was detected in the method blar	nk at 0.0665 mg/L. San	nple results m	ay be bias	ed high by dete	ectable levels i	n the metho	od blank.
ASTM D3987, SW-846 3005A, 6	6020A, METALS IN	SHAKE EXT	RACT B	Y ICPMS			
Antimony	NELAP	0.0010	В	< 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
Contamination present in the MBLK	for Antimony. Sample	results below	the reporti	ng limit are repo	ortable per the	TNI Standa	ard.
ASTM D3987, SW-846 7470A II	N SHAKE EXTRACT	ſ					
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	05/28/2021 14:31 177420

**Laboratory Results** 

Client: Southern Illinoi	s Power Cooperatio	n				Worl	k Order: 21051634
Client Project: Sediment Samp	oles					Repo	ort Date: 07-Jun-21
Lah ID: 21051634-003				Client Sam	le ID: Bed /	 ∆sh	
				Callestion		-/2021 1	2.00
Matrix: SOLID				Conection	Date: 05/2:	5/2021 1	.3:00
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch
ASTM D3987, EPA 600 160.1, I	N SHAKE EXTRACT						
Total Dissolved Solids, SHAKE	*	50	Н	4600	mg/L	2.5	06/03/2021 16:38 R291832
Sample analysis did not meet hold ti	me requirements.						
ASTM D3987, STANDARD MET	HODS 2320 B 1997	IN SHAKE	EXTRAC	T			
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	ma/L	1	05/28/2021 12:16 R291642
ASTM D3987 SW-846 3005A 6	010B METALSINS		RACT B	YICP	5		
Arsenic	NFLAP	0.0100		< 0.0100	ma/l	1	06/01/2021 14:33 177416
Barium	NELAP	0.0025		0.225	mg/l	1	05/28/2021 15:58 177416
Bervllium	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	В	< 0.0500	ma/L	1	05/28/2021 15:58 177416
Molvbdenum	NELAP	0.0100		0.0718	ma/L	1	05/28/2021 15:58 177416
Potassium	NELAP	0.100		0.853	ma/L	1	05/28/2021 15:58 177416
Selenium	NELAP	0.0400		< 0.0400	ma/L	1	05/28/2021 15:58 177416
Sodium	NELAP	0.0500	В	0.339	mg/L	1	05/28/2021 15:58 177416
Sample result for Ca exceeds 10 tim	es the method blank cor	ntamination.	Data is rep	portable per the	TNI Standard		
Contamination present in the MBLK	for Mg. Sample results b	pelow the rep	oorting limi	t are reportable	per the TNI S	tandard.	
Matrix spike control limits for Ca are	not applicable due to high	gh sample/s	oike ratio.				
Na was detected in the method blan	k at 0.0764 mg/L. Samp	ole results m	ay be bias	ed high by dete	ctable levels ir	the metho	d blank.
ASTM D3987, SW-846 3005A, 6	020A, METALS IN S	HAKE EXT	RACT B	Y ICPMS			
Antimony	NELAP	0.0010	В	< 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
Contamination present in the MBLK	for Antimony. Sample re	sults below	the reporti	ng limit are repo	ortable per the	TNI Standa	ard.
ASTM D3987, SW-846 7470A IN	N SHAKE EXTRACT						
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	05/28/2021 14:38 177420

**Laboratory Results** 

Client: Southern Illinoi	s Power Cooperati	on				Worl	k Order: 21051634
Client Project: Sediment Samp	oles					Repo	ort Date: 07-Jun-21
Lab ID: 21051634-004				Client Samp	le ID: Coal	-	
Matrix: SOLID				Collection	Date: 05/2	5/2021 1	3:00
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch
ASTM D3987. EPA 600 160.1. II	N SHAKE EXTRAC	Г					
Total Dissolved Solids, SHAKE	*	20	н	166	mg/L	1	06/02/2021 15:23 R291754
Sample analysis did not meet hold til	me requirements.				-		
ASTM D3987, STANDARD MET	HODS 2320 B 1997	IN SHAKE	EXTRAC	т			
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				<u>J</u>		
Chloride, SHAKE	*	4		17	ma/l	1	05/28/2021 12:40 R291642
ASTM D3987, SW-846 3005A, 6	010B. METALS IN	SHAKE EXT	RACT B	YICP	g, _		
Arsenic	NELAP	0.0100		< 0.0100	ma/l	1	06/01/2021 14:44 177416
Barium	NELAP	0.0025		0.0185	ma/L	1	05/28/2021 16:03 177416
Bervllium	NELAP	0.0005		< 0.0005	ma/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	В	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	В	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	В	10.2	mg/L	1	05/28/2021 16:03 177416
Sample results for Ca and Na exceed	d 10 times the method	blank contam	ination. Da	ata is reportable	per the TNI S	tandard.	
Mg was detected in the method blan	k at 0.0665 mg/L. San	nple results m	ay be bias	ed high by dete	ctable levels ir	n the metho	od blank.
ASTM D3987, SW-846 3005A, 6	020A, METALS IN	SHAKE EXT	RACT B	Y ICPMS			
Antimony	NELAP	0.0010	В	< 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
Contamination present in the MBLK	for Antimony. Sample	results below	the reporti	ng limit are repo	ortable per the	TNI Standa	ard.
ASTM D3987, SW-846 7470A IN	SHAKE EXTRACT	•					
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	05/28/2021 14:41 177420

57	Electro	nic Filing: Received, Clerk's Office 09/02/20	021
eklab,	Inc.	<b>Receiving Check List</b>	<u>httr</u>

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

### Client Project: Sediment Samples

Work Order: 21051634 Report Date: 07-Jun-21

Carrier: UPS	Rece	eived By: EA	н							
Completed by: Mary E. Kemp On: 27-May-21 Mary E. Kemp	Re 27-1	viewed by: On: May-21	Marin L. Marvin L. Darling	Darling I	Ż					
Pages to follow: Chain of custody 1	Extra pages include	ed 1	Not Present	Temp °C	25 78					
Type of thermal preservation?	None 🗸		Blue Ice							
Chain of custody present?	Yes 🗹		Dide loc							
Chain of custody signed when relinguished 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	$\checkmark$						
Container/Temp Blank temperature in compliance?	Yes 🖌	No 🗌								
When thermal preservation is required, samples are complia 0.1°C - 6.0°C, or when samples are received on ice the sam	nt with a temperatur e day as collected.	e between								
Water - at least one vial per sample has zero headspace?	Yes	No	No VOA vials	$\checkmark$						
Water - TOX containers have zero headspace?	Yes	No	No TOX containers	$\checkmark$						
Water - pH acceptable upon receipt?	Yes 🗌	No	NA	$\checkmark$						
NPDES/CWA TCN interferences checked/treated in the field?	Yes	No 🗌	NA							
Any No responses must be detailed below or on the COC.										

### Print PDF

### Electronic Filing: Received, Clerk's Office 09/02/2021 Pg\_of\_Workorder#\_2/05/634

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

Client: Southern Illinois Power Co	operative				6-	mni					<u>^</u>	Г	_		E 10		52				10	w	00		
Address: 11543 Lake OF Equpt	Rd					шþя	es u			4.		Ľ					لطر -			⊑ <u>∢</u>		<u>· /۵</u>	<b>ر</b> ال	7 5	) )
City/State/Zip: Marion, IL 62959					I <sup>Pr</sup>	eser	vea	in:		L	.AB	L	F	EL	כ		_[	-OR	LA	3 US	<u>E 0</u>	NLY	-	- <u>-</u>	
Contact: Jason McLaurin	Dhono: 61	8-964-2446			LAB NOTES:																				
	Phone:	0 00 + 2 + 10		<u></u>	Called Slablat to make 1-2 day TAT MER Slatta																				
Email: jmclaurin@sipower.org Fax:						ient	Co	mm	nen	ts:					4! -		1					- e -			
Are these samples known to be involved in litigation? If yes, a surcharge will apply: Yes V No Are these samples known to be hazardous? Yes V No Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section: V Yes No						e at (	618-	889	acn )-86	47.	or ar Tha	nks,	Jaso	nsun on M	cLa	ns. urin	T yo	ou n	ave	any	que	stion	s, co	onta	x
Sediment Samples	SAMPLE CO	LLECTOR'	S NA	ME	#	an	d Ty	/pe	of	Con	tain	iers	_	1	NDI		ſE /	AN/	<u>LY</u>	SIS	RE	QUE	STE	Đ	
• • • •	Jason Mclau	rin																							
Standard         1-           Other         3	QUESTED 2 Day (100% Surcharge) Day (50% Surcharge)	BILLIN	IG IN	STRUCTIONS	UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	TSP													
Lab Use Only Sar	nple ID Date/Time	Sampled		Matrix																					
alosio34-001 Scrubber S	ludge 5/25/2021	1:00PM	Soil	(SOLID) -									Г	Ι								T	T	Í	
Solution States Fly Ash	5/25/2021	1:00PM	Soil	(50LID) -			R	L	Ē	5		4	F	E		Ą	Т	FA	T.	15	Ē		$\top$		
CO3 Bed Ash	5/25/2021	1:00PM	Soil	(SOLID) 🗵									1	T									1		
COH Coal	5/25/2021	1:00PM	Soil	(SOLID)							$\top$			Τ							╈	╈	$\top$		
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Jason McLaurin	- An	5/25/2021	1 2:0	0PM			2	Z		17		14	Fw	4		_ <u>                                    </u>	<i> 0</i> {	)		5/0	27) 	121	]]	4	
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\*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

Sti,

- 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.

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



July 27, 2021

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



**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 & Hurley

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



### **Report Contents**

http://www.teklabinc.com/

Client:	Southern Illinois Power Cooperation
<b>Client Project:</b>	Sediment Control Samples

### Work Order: 21071068 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

http://www.teklabinc.com/

#### 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 aliguot 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

#### Client Project: Sediment Control Samples

### Work Order: 21071068

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

Client Project: Sediment Control Samples



 Work Order:
 21071068

 Report Date:
 27-Jul-21

			Locations		
	Collinsville		Springfield		Kansas City
Address	5445 Horseshoe Lake Road	Address	3920 Pintail Dr	Address	8421 Nieman Road
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		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	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com
	Collinsville Air		Chicago		
Address	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.		
	Collinsville, IL 62234-7425		Downers Grove, IL 60515		
Phone	(618) 344-1004	Phone	(630) 324-6855		
Fax	(618) 344-1005	Fax			
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com		



### Accreditations

http://www.teklabinc.com/

Work Order: 21071068

Report Date: 27-Jul-21

Client: Southern Illinois Power Cooperation

### Client Project: Sediment Control Samples

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 Illino	is Power Cooperatior	l				Wor	k Order: 21071068
<b>Client Project:</b>	Sediment Cont	rol Samples					Repo	ort Date: 27-Jul-21
Lab ID:	21071068-001				<b>Client Samp</b>	le ID: U4 Fly	Ash	
Matriv					Collection	Date: 07/08	2/2021 1	3.00
Watt IX.	JOLID				Conection	Date: 07/00	72021 1	.5.00
An	alyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch
ASTM D3987,	EPA 600 160.1, I	N SHAKE EXTRACT						
Total Dissolved	Solids, SHAKE	*	20	Н	3730	mg/L	1	07/20/2021 11:45 R294677
Sample analysis	did not meet hold t	ime requirements.						
ASTM D3987, 3	STANDARD ME	THODS 2320 B 1997 IN	I SHAKE	EXTRAC	СТ			
Alkalinity, Bicar	bonate (as CaCO3)	) *	0		56	mg/L	1	07/20/2021 12:05 R294621
Alkalinity, Carbo	onate (as CaCO3)	*	0		27	mg/L	1	07/20/2021 12:05 R294621
ASTM D3987, 3	SW-846 9036, IN	SHAKE EXTRACT (T	OTAL)					
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, SHAK	Έ	*	50		623	mg/L	50	07/26/2021 15:06 R294901
ASTM D3987, 3	SW-846 3005A, (	6010B, METALS IN SH		<b>FRACT B</b>	Y 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	В	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
Sample result for	Mg exceeds 10 tin	nes the method blank con	amination.	Data is re	portable per the	TNI Standard.		
Matrix spike cont	rol limits for B, Ca	and Na are not applicable	due to higl	h sample/s	spike ratio.			
ACTM DOODT	CINI DAC DODEA	COOOA METALCINICI	AVE EVI		VICDMC			

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-846 747	0A IN SHAKE EXTRA	СТ										
Mercury, SHAKE	*	0.00020	< 0.00020	mg/L	1	07/20/2021 16:17 179927						

Electronic Filing: Re	eceived, Clerk's Off	fice 09/02/2021	
Rec	eiving Check List	<u> http://</u>	www.teklabinc.com.
Client: Southern Illinois Power Cooperation		Work Ore	ler: 21071068
Client Project: Sediment Control Samples		Report D	ate: 27-Jul-21
Carrier: UPS Completed by: Mary E. Kemp 19-Jul-21 Mary E. Kemp	Received By: ME Reviewed by: On: 19-Jul-21	K Eliyabeth & Hmy Elizabeth A. Hurley	leg
Pages to follow:       Chain of custody       1         Shipping container/cooler in good condition?       Type of thermal preservation?         Type of thermal preservation?       Chain of custody present?         Chain of custody signed when relinquished and received?       Chain of custody agrees with sample labels?         Samples in proper container/bottle?       Sample containers intact?         Sufficient sample volume for indicated test?       All samples received within holding time?         Reported field parameters measured:       Container/Temp Blank temperature in compliance?         When thermal preservation is required, samples are compliant on ice the same	Extra pages included       1         Yes       ✓         None       ✓         Yes       <	Not Present Blue Ice	Temp °C <b>25.8</b> Dry Ice
Water – at least one vial per sample has zero headspace? Water - TOX containers have zero headspace? Water - pH acceptable upon receipt? NPDES/CWA TCN interferences checked/treated in the field?	Yes         No	No VOA vials ♥ No TOX containers ♥ NA ♥ NA ♥	

## Page 8 of 8

**CHAIN OF CUSTODY** 

Pg \_\_ of \_\_ Workorder # <u>21071068</u>

~ P

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

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Client: Southern Illinois Power Cooperative			Sar	nple	es or	n:		] IC	E	L	В	LUE	ICE	÷ Ų	ų Ν	o IC	Ε.	29.	8	ړ ما	TG:	5		
Address: 11543 Lake Of Egypt Rd			Pre	ser	ved i	in:		].4	B		F	ELD		-	FOF	<u>R LA</u>	B US	<u>3E O</u>	NLY					
City/State/Zip: Mario	n, IL 62959				LAI	B N	OTE	S:																
Contact: Jason McLa	urin	Phone: 618	3-964-2446		L																			
Ernail: jrnclaurin@s	ipower.org	Fax:			Cli	ent	Cor	nm	ents	:														
Are these samples known Are these samples known Are there any required rep limits in the comment sect	to be involved in litigation? If y to be hazardous?	/es, a surcharge v Yes ✔ N equested analysi No	will apply: lo s?. If yes, pl	Yes 🔽 No	Ple cor	ase itac	see t me	att: at (	ache 518-1	d foi 389-	r ana 8647	ilytic 7. Th	al in hank	struc s, Ja	tion	s. If McL	you auni	have n	e any	/ que	stion	is, pl	ease	
PROJECT NAME/NI Sediment Control San		SAMPLE CO	LLECTOR'	S NAME	#	an	d Ty	pe	of C	ont	aine	ers		IN	DIC	ATE	AN	ALY	SIS	REC	JUE	STE	D	
Counter Control Can	ipico	Jason McLau	irin																					
RES	SULTS REQUESTED	urcharge) harge)	Ircharge)		UNP	HNO3	NaOH	H2SO4	HCL	Manou4	TSP	Other						:						
Lab Use Only	Sample ID	Date/Time	Sampled	Matrix																				
21071068-001	U4 FlyAsh	7/8/2021	oopn)	Soil (SULID) 5											Ť	Τ	1			Т	T	Ī	Π	٦
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				Aqueous									1.	N	2 m 2 m			V	-	T D				
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<u> </u>	Relinquished By			Date/Time						Re	ceiv	ed E	Зy				- I		1	Dat	e/Ti	ne	<u></u>	
Jason McLaurin	Un		7/8/2021	1:00PM	7	na	w	1	her	nr	<u> </u>	UP	5)					7	19	21		(0)	<u>ر</u>	
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\*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

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.

845 Parameter	<b>Detection</b>	<u>n Limit</u>	Cation/Anion & Water Properties
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*
•Cobait	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	* not needed for soils analyses.
Total Dissolved Solids			



May 19, 2021

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



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,

Marin J. Darling I

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



## **Report Contents**

http://www.teklabinc.com/

Client:	Hanson Professional Services, Inc.
<b>Client Project:</b>	Sediment Sampling and Analysis - Marion, IL

Work Order: 21041640 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.
- 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.

Client Project: Sediment Sampling and Analysis - Marion, IL

Work Order: 21041640 Report Date: 19-May-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: Hanson Professional Services, Inc.

Client Project: Sediment Sampling and Analysis - Marion, IL

### Cooler Receipt Temp: 2.4 °C

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

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

			Locations		
	Collinsville		Springfield		Kansas City
Address	5445 Horseshoe Lake Road	Address	3920 Pintail Dr	Address	8421 Nieman Road
	Collinsville, IL 62234-7425		Springfield, IL 62711-9415		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	KKlostermann@teklabinc.com	Email	jhriley@teklabinc.com
	Collinsville Air		Chicago		
Address	5445 Horseshoe Lake Road	Address	1319 Butterfield Rd.		
	Collinsville, IL 62234-7425		Downers Grove, IL 60515		
Phone	(618) 344-1004	Phone	(630) 324-6855		
Fax	(618) 344-1005	Fax			
Email	EHurley@teklabinc.com	Email	arenner@teklabinc.com		



### Accreditations

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc.

Client Project: Sediment Sampling and Analysis - Marion, IL

### Work Order: 21041640 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** 

ek

Client: Hanson Pro Client Project: Sediment S	fessional Services, Inc	:. - Marion, IL	_			Wor Repo	k Order: 21041640 ort Date: 19-May-21
Lab ID: 21041640-001 Client Sample ID: S-3A							
Matrix: SOLID			Coll	lection I	Date: 04/27	/2021 9	9:40
Analyses	Certification	RL	Qual Res	sult	Units	DF	Date Analyzed Batch
EPA SW846 3550C, 5035A,	ASTM D2974						
Percent Moisture	*	0.1	4	49.4	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 232	0 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 254	0 G 1997, 2011						
Total Solids	*	0.1	<u>.</u>	50.6	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 450		2011		0010	,0	•	
Chloride	NELAD	2011		474	ma/Ka-day	1	04/29/2021 11:16 176342
		20		4/4	mg/ng-ury	I	U7/20/2021 11.10 170042
SW-846 9036 (TOTAL)		004				<u> </u>	
Sulfate	NELAP	391	1	200	mg/Kg-ary	2	04/30/2021 0:03 176343
SW-846 9045C							
рН (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, ME	TALS 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	В	114	mg/Kg-dry	1	05/03/2021 5:14 176384
Calcium	NELAP	9.43	3	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
Sample result for B exceeds 10	times the method blank cor	ntamination. D	ata is reportable p	per the Ti	VI Standard.		
SW-846 3050B, 6020A, ME	TALS BY ICPMS						
Antimony	NELAP	0.40	S </td <td>0.40</td> <td>mg/Kg-dry</td> <td>10</td> <td>05/04/2021 18:19 176407</td>	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
Sample result for As exceeds 10	) times the method blank co	ontamination.	Data is reportable	per the T	TNI Standard.		
Matrix spike did not recover with	nin control limits for Sb due	to matrix inter	ference.				
SW-846 7471B							
Mercury	NELAP	0.020	0.	.045	mg/Kg-dry	1	04/29/2021 14:12 176331
SEE ATTACHED FOR SUB	CONTRACTING ANALY	'SIS					
Subcontracted Analysis	*	0	See Attac	hed		1	05/04/2021 0:00 R290590

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

Client: Hanson Pro	ofessional Services, Inc	•				Wor	k Order: 21041640
Client Project: Sediment S	Sampling and Analysis -	- Marion, Il	L			Rep	ort Date: 19-May-21
Lab ID: 21041640-	002		C	lient Sam	ple ID: S-3An		
Matrix: SOLID				Collection	n Date: 04/27/	/2021 9	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 23	20 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 25	40 G 1997 2011						
Total Solids	*	0.1		34.0	%	1	04/30/2021 18:05 R290499
		2011		0.110	,,,	·	0 #00/2021 10:00 1:200 1:00
Chloride	NELAD	2011		022	ma/Ka-dn/	1	04/29/2021 11:24 176342
		25		300	ing/itg-dry	1	04/23/2021 11:24 170342
SW-846 9036 (TOTAL)		500		40.40	an n/l ( n. dur i	0	04/20/2024 0.00 470242
Sulfate	NELAP	589		1940	mg/Kg-ary	Z	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, ME	ETALS 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	В	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
Sample result for B exceeds 10	) times the method blank cor	ntamination. L	Data is reporta	ble per the	TNI Standard.		
SW-846 3050B, 6020A, ME	TALS 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
Sample result for As exceeds a	10 times the method blank co	ontamination.	Data is report	able per the	e TNI Standard.		
SW-846 7471B							
Mercury	NELAP	0.029		0.133	mg/Kg-dry	1	04/29/2021 14:14 176331
SEE ATTACHED FOR SUE	CONTRACTING ANALY	'SIS					
Subcontracted Analysis	*	0	See A	Attached		1	05/04/2021 0:00 R290590

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

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Client: Hanson Pro	ofessional Services, Inc					Wor	k Order: 21041640
Client Project: Sediment S	Sampling and Analysis	Marion, II	_			Rep	ort Date: 19-May-21
I ah ID• 21041640-	003		_	Client Sam	nle ID+ S_3n	1	
	005				$D_{-4-} 04/27$	1/2021	10.15
Matrix: SOLID				Collection	n Date: 04/2/	/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 23	20 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 25	40 G 1997, 2011						
Total Solids	*	0.1		23.2	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 45	00-CL E (TOTAL) 1997.	2011					
Chloride	NELAP	433		1930	mg/Kg-dry	10	04/29/2021 11:37 176342
SW-846 9036 (TOTAL)					007		
Sulfate	NELAP	21600		52100	ma/Ka-drv	50	04/30/2021 0:11 176343
SW 846 004EC		21000		02100	ing/itg diy	00	0 1100/2021 0.11 110010
SW-846 9045C		1.00		7.06		4	04/20/2021 15:22 D200415
	NELAP	1.00		7.90		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, ME	TALS 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	В	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
Sample result for B exceeds 10	times the method blank cor	ntamination. E	Data is repo	ortable per the	TNI Standard.		
SW-846 3050B, 6020A, ME	TALS 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
Sample result for As exceeds 1	0 times the method blank co	ontamination.	Data is rep	ortable per the	e TNI Standard.		
SW-846 7471B							
Mercury	NELAP	0.043		2.12	mg/Kg-dry	1	04/29/2021 14:16 176331
SEE ATTACHED FOR SUB	CONTRACTING ANALY	SIS					
Subcontracted Analysis	*	0	Se	e Attached		1	05/04/2021 0:00 R290590

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Client: Hanson Pro	ofessional Services, Inc				Wor	k Order: 21041640
Client Project: Sediment S	Sampling and Analysis -	Marion, IL			Rep	ort Date: 19-May-21
I ah ID• 210/16/0-(	004		Client Son	nle ID+ C_2v	•	
Matrix: SOLID			Collectio	n 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 232	20 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 254	40 G 1997, 2011					
Total Solids	*	0.1	56.4	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 45	00-CL E (TOTAL) 1997. 2	2011				
Chloride	NELAP	18	258	mg/Kg-dry	1	04/29/2021 11:40 176342
SW-846 9036 (TOTAL)						
Sulfate	NELAP	8830	23300	ma/Ka-drv	50	04/30/2021 0:14 176343
SW-846 0045C						
		1.00	7.50		1	04/20/2021 15:20 B200415
	NELAF	1.00	1.52		1	04/29/2021 13:29 12:90413
SW-846 9214		4 77			4	04/00/0004 04 04 470040
Fluoride	NELAP	1.//	30.0	mg/Kg-dry	1	04/29/2021 21:24 176349
SW-846 3050B, 6010B, ME	TALS 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 <b>89.0</b>	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
Sample result for B exceeds 10	times the method blank con	tamination. D	ata is reportable per the	e TNI Standard.		
SW-846 3050B, 6020A, ME	TALS 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
Sample result for As exceeds 1	0 times the method blank co	ntamination.	Data is reportable per th	ne TNI Standard.		
SW-846 7471B						
Mercury	NELAP	0.017	0.296	mg/Kg-dry	1	04/29/2021 14:19 176331
SEE ATTACHED FOR SUB	CONTRACTING ANALY	SIS				
Subcontracted Analysis	*	0	See Attached		1	05/04/2021 0:00 R290590

**Laboratory Results** 

Client: Hanson Pro	ofessional Services, In	с.			Wor	k Order: 21041640	
Client Project: Sediment S	Sampling and Analysis	- Marion, IL			Report Date: 19-May-21		
Lah ID: 21041640-	005		Client Sam	nle ID: S-S6x	, –		
Matrine COLID	005		Callestia	$D_{a} = \frac{1}{2} \frac{1}$		1.25	
Matrix: SOLID		DI		1 Date: 04/2/	72021 J		
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 23	20 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 25	40 G 1997, 2011						
Total Solids	*	0.1	52.7	%	1	04/30/2021 18:05 R290499	
STANDARD METHODS 45	00-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	ma/Ka-drv	1	04/29/2021 21 26 176349	
SW-846 3050B 6010B ME		1.01	0011	ing/itg diy	•	0 1120/2021 21:20 11:00 10	
Barium	NELAP	0.46	85.5	ma/Ka-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	ma/Ka-dry	1	05/04/2021 23:14 176410	
Magnesium	NELAP	4 63	3710	ma/Ka-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 ME		0.20	200		•		
Antimony		0.38	89.0	ma/Ka-dry	10	05/04/2021 19:24 176407	
Arsenic	NELAP	0.00	75 2	mg/Kg-dry	10	05/18/2021 14:29 176411	
Rervillium		0.20	1 9.3	mg/Kg-dry	10	05/07/2021 16:26 176411	
Cadmium		0.30	1.07	mg/Kg-dry	10	05/13/2021 3:49 176411	
Chromium		0.20	0.0Z 12 F	mg/Kg-dry	10	05/12/2021 10:41 176411	
Cohalt		0.00	42.0	mg/Kg-dry	10	05/12/2021 10:41 176411	
Load		0.20	11.4	mg/Kg-dry	10	05/12/2021 10:41 176411	
Lithium	IN⊑LAF *	0.20	124	mg/Kg-dry	10	05/12/2021 10:41 176411	
Molybdenum		0.30	9.0Z	mg/Kg-dry	10	05/07/2021 16:26 176/11	
Selenium		1 00	12.0	mg/Kg-dry	10	05/14/2021 13:34 176411	
Thallium		0.20	11.0	mg/Kg-dry	10	05/12/2021 10:04 176411	
SW 046 7474 D		0.20	<b>J.JZ</b>	ing/itg-ury	10	00/12/2021 10.41 1/0411	
SW-840 /4/18		0.019	0.244	ma/Ka day	1	04/20/2021 14.21 176224	
		0.010	0.344	mg/ng-uly	I	UH/23/2021 14.21 170331	
SEE ATTACHED FOR SUB		1515	0 14				
Subcontracted Analysis	^	0	See Attached		1	05/04/2021 0:00 R290590	

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Client Project: Sediment Sampling and Analysis - Marion, IL       Lab ID: 21041640-006       Client Sample ID: S-S6n         Matrix: SOLID       Collection Date: 04/27/202         Analyses       Certification       RL       Qual       Result       Units       E         EPA SW846 3550C, 5035A, ASTM D2974	Report Date: 19-May-21 21 11:45 )F Date Analyzed Batch
Lab ID: 21041640-006       Client Sample ID: S-S6n         Matrix: SOLID       Collection Date: 04/27/202         Analyses       Certification       RL       Qual       Result       Units       I         EPA SW846 3550C, 5035A, ASTM D2974       Percent Moisture       *       0.1       66.0       %         STANDARD METHODS 2320 B 1997, 2011       *       0       322       meg/Kg	21 11:45 )F Date Analyzed Batch
Matrix: SOLID       Collection Date: 04/27/202         Analyses       Certification       RL       Qual       Result       Units       I         EPA SW846 3550C, 5035A, ASTM D2974	21 11:45 )F Date Analyzed Batch
Analyses     Certification     RL     Qual     Result     Units     I       EPA SW846 3550C, 5035A, ASTM D2974     Percent Moisture     *     0.1     66.0     %       STANDARD METHODS 2320 B 1997, 2011     Alkalinity, Bicarbonate     *     0     322     meg/Kg	)F Date Analyzed Ratch
EPA SW846 3550C, 5035A, ASTM D2974           Percent Moisture         *         0.1         66.0         %           STANDARD METHODS 2320 B 1997, 2011	z zure inultzeu Durell
Percent Moisture         *         0.1         66.0         %           STANDARD METHODS 2320 B 1997, 2011	
STANDARD METHODS 2320 B 1997, 2011           Alkalinity, Bicarbonate         *         0         322         meg/Kg	1 04/30/2021 18:05 R290499
Alkalinity. Bicarbonate * 0 <b>322</b> meg/Kg	
	1 04/30/2021 11:50 R290487
Alkalinity, Carbonate * 0 <b>0</b> 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 (500-CL E (TOTAL) 1997 2011	
Chloride NELAP 291 <b>1150</b> mg/Kg-dgy	10 04/29/2021 12:23 176342
	10 04/20/2021 12:20 110042
SW-640 9030 (TOTAL)	50 04/30/2021 0:35 176343
	30 04/30/2021 0.33 170343
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 <b>90.1</b> 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 <b>162000</b> 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 <b>132</b> mg/Kg-dry	10 05/18/2021 14:38 176411
Beryllium NELAP 0.28 <b>1.72</b> 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 <b>51.5</b> 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 <b>194</b> mg/Kg-dry	10 05/12/2021 10:50 176411
Lithium * 0.28 <b>12.8</b> 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** 

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Client: Hanson P	rofessional Services, Inc				Wor	k Order: 21041640
Client Project: Sediment	Sampling and Analysis -	Marion, IL			Rep	ort Date: 19-May-21
Lab ID: 21041640	-007		Client Sam	ole ID: S-4gs		
Matrix: SOLID			Collection	Date: 04/27	/2021 1	12:40
Analyses	Certification	RL Q	ual Result	Units	DF	Date Analyzed Batch
EPA SW846 3550C, 5035	A, ASTM D2974					
Percent Moisture	*	0.1	34.6	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 2	320 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 2	540 G 1997. 2011					
Total Solids	*	0.1	65.4	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 4	500-CL E (TOTAL) 1997 2	2011				
Chloride	NELAP	15	64	mg/Ka-drv	1	04/29/2021 12:33 176342
SW-846 0036 (TOTAL)			•.			
Sulfate	ΝΕΙ ΔΡ	149	603	ma/Ka-dry	1	04/29/2021 12:33 176343
		145	005	ing/itg dry	1	04/20/2021 12:00 170040
SVV-846 9045C		4.00	0.07		4	04/00/0004 45:00 0000445
рн (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, M	ETALS 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, M	ETALS 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 SU	BCONTRACTING ANALY	SIS				
Subcontracted Analysis	*	0	See Attached		1	05/04/2021 0:00 R290590

**Laboratory Results** 

ek

Client:	Hanson Professi	ional Services, I	nc.			Wor	k Order: 21041640
Client Project:	Sediment Samp	ling and Analys	is - Marion, IL			Repo	ort Date: 19-May-21
Lab ID:	21041640-008			Client Sam	ple ID: S-4gp		
Matrix:	SOLID			Collection	n Date: 04/27	/2021 1	13:00
An	alyses	Certification	RL Q	ual Result	Units	DF	Date Analyzed Batch
EPA SW846 35	50C, 5035A, AST	M D2974					
Percent Moistur	e	*	0.1	39.5	%	1	04/30/2021 18:05 R290499
STANDARD ME	ETHODS 2320 B	1997, 2011					
Alkalinity, Bicart	oonate	*	0	209	meq/Kg	1	04/30/2021 12:28 R290487
Alkalinity, Carbo	onate	*	0	0	meq/Kg	1	04/30/2021 12:28 R290487
STANDARD M	ETHODS 2540 G	1997. 2011					
Total Solids		*	0.1	60.5	%	1	04/30/2021 18:05 R290499
STANDARD M		F (TOTAL) 100	7 2011		-		
Chloride	_111003 4300-01	NELAP	17	166	ma/Ka-dry	1	04/29/2021 12:41 176342
SW 946 0020 /			.,	100			
5446 9036 (	IOTAL)		166	242	ma/Ka day	1	04/20/2021 12:41 176242
Suilale		NELAP	100	243	mg/Kg-ury	1	04/29/2021 12:41 178343
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	S 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	S 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 ATTACHE	D FOR SUBCON	TRACTING ANA	LYSIS				
Subcontracted A	Analysis	*	0	See Attached		1	05/04/2021 0:00 R290590

**Laboratory Results** 

Client: Hanson Pro		Work Order: 21041640					
Client Project: Sediment S	ampling and Analysis -	Marion, IL		Report Date: 19-May-21			
Lab ID: 21041640-0	)09	,		Client Sam	ple ID: S-4x	-	,
Matrix: SOLID				Collection	n Date: 04/27	/2021 1	13:15
Analyses	Certification	RI	Qual	Result	Units	DF	Date Analyzed Batch
EDA SW846 2550C 5025A		KL	Quai	Ktsuit	Onits	Dr	Date Analyzeu Daten
EFA SW646 3550C, 5035A, Percent Moisture	*	0.1		54 3	0/_	1	04/30/2021 18:05 R200400
	D 0 0 4007 0044	0.1		54.5	70	1	04/30/2021 18:03 12:90499
Alkalinity Ricarbonato	х Б 1997, 2011 *	0		15	mog/Kg	1	04/20/2021 12:27 8200487
Alkalinity, Dicarbonate	*	0		15	meq/Kg	1	04/30/2021 12:37 R290487
STANDARD METHODS 25	0 0 4007 2044	0		0	meq/tg	1	04/30/2021 12:37 112:0407
Total Solids	*	0.1		45.7	0/_	1	04/30/2021 18:05 R290499
		0.1		45.7	70	I	04/30/2021 10:03 11290499
Chlorida	JU-CL E (TOTAL) 1997, 2	2011		457	ma/Ka day	1	04/20/2021 12:02 176342
	INELAP	22		437	mg/Kg-ury	1	04/29/2021 13:03 170342
SW-846 9036 (TOTAL)		010		0.47	malla dru	4	04/20/2024 42:02 476242
	INELAP	210		347	mg/Kg-ury	1	04/29/2021 13:02 170343
SW-846 9045C		4.00					
рн (1:1)	NELAP	1.00		1.13		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, ME	TALS BY ICP						
Barlum	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
Magnasium		10.0		23000	mg/Kg-dry	1	05/04/2021 19:57 176410
Botopojum		5.00		2430	mg/Kg-dry	1 5	05/04/2021 19:57 176410
Sodium		10.0		1720	mg/Kg-dry	5 1	05/06/2021 3.07 176410
		10.0		325	mg/rtg-dry	1	03/04/2021 19.37 170410
SW-846 3050B, 6020A, ME		0.27	c	0.40	ma/Ka day	10	05/06/2021 15:52 176407
Antimony		0.37	3	0.40	mg/Kg-dry	10	05/18/2021 15:04 176411
Benyllium		0.19		1 80	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	ma/Ka-drv	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
Matrix spike did not recover with	nin control limits due to matr	ix interference	э.				
SW-846 7471B							
Mercury	NELAP	0.021		0.147	mg/Kg-dry	1	04/29/2021 14:36 176331
SEE ATTACHED FOR SUB	CONTRACTING ANALY	SIS					
Subcontracted Analysis	*	0	S	ee Attached		1	05/04/2021 0:00 R290590

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

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Client: Hanson Pro		Work Order: 21041640					
Client Project: Sediment Sa	ampling and Analysis	- Marion, IL		Report Date: 19-May-21			
I ah ID∙ 21041640-0	10		Client Sam	nle ID• S-4n			
	10						
Matrix: SOLID			Collection	Date: 04/27	/2021 1	14:00	
Analyses	Certification	RL Qu	al 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 232	0 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	
<b>STANDARD METHODS 254</b>	0 G 1997, 2011						
Total Solids	*	0.1	35.8	%	1	04/30/2021 18:05 R290499	
STANDARD METHODS 450	0-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/Kq-drv	1	04/29/2021 13:10 176343	
SW-846 9045C				0 0 7			
pH (1:1)	NELAP	1.00	7.39		1	04/29/2021 15:44 R290415	
SW-846 9214					•		
Eluoride	NEL AP	2 79	34.6	ma/Ka-dry	1	04/29/2021 21:40 176349	
		2.15	54.0	ing/itg-dry		04/23/2021 21.40 170343	
SW-846 3050B, 6010B, ME		0.45	00.4	ma/Ka day	1	05/04/2021 20:01 176410	
Barron		0.40	02.4 60.7	mg/Kg-dry	1	05/04/2021 20:01 176410	
Calcium		0.00	26000	mg/Kg-dry	1	05/04/2021 20:01 176410	
Magnasium		9.09	20900	mg/Kg-dry	1	05/04/2021 20:01 176410	
Retessium		4.55	2200	mg/Kg-dry	۱ ۲	05/04/2021 20:01 176410	
Polassium		45.5	1590	mg/Kg-dry	5 1	05/04/2021 20:01 176410	
		9.09	219	ilig/itg-diy	1	03/04/2021 20:01 170410	
SW-846 3050B, 6020A, ME		0.07			40	05/00/0004 40 04 470407	
Antimony		0.37	0.39	mg/kg-ary	10		
Aisenic		0.20	109	mg/kg-ary	10		
		0.30	1.66	mg/kg-ary	10	05/07/2021 17:10 176411	
Chromium		0.20	3.07	mg/Kg-dry	10	05/15/2021 12:10 176411	
Cobalt		0.50	27.0	mg/Kg-dry	10	05/12/2021 12:19 1/0411	
		0.20	11.2	mg/Kg-dry	10	05/12/2021 12:19 1/0411	
Lead	NELAP *	0.20	51.8	mg/Kg-dry	10	05/16/2021 15:13 176411	
Mohdonum		0.30	9.17	mg/Kg-dry	10	05/07/2021 12:19 1/0411	
Selenium		1.00	1.48	mg/Kg dry	10	05/07/2021 17:10 170411	
Thallium		0.20	0.03	mg/Kg-dry	10	05/12/2021 14.12 1/0411	
		0.20	0.30	ing/itg-uly	10	00/12/2021 12.19 1/0411	
SW-840 /4/1B		0.029	0.005	malkadar	4	04/20/2021 14:20 176224	
		0.028	0.205	mg/kg-ary	1	04/29/2021 14:38 176331	
SEE ATTACHED FOR SUB	CONTRACTING ANALY	SIS					
Subcontracted Analysis	*	0	See Attached		1	05/04/2021 0:00 R290590	

**Laboratory Results** 

Client: Hanson Pro	fessional Services, Inc	2.			Wor	k Order: 21041640
Client Project: Sediment Sa	ampling and Analysis	- Marion, IL			Rep	ort Date: 19-May-21
Lab ID: 21041640-0	11		Client Sam	ple ID: S-SFA	n	
Matrix: SOLID			Collection	Date: 04/27	/2021 1	L4:40
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 232	0 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 254	0 G 1997. 2011					
Total Solids	*	0.1	31.7	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 450	0-CL F (TOTAL) 1997.	2011				
Chloride	NELAP	312	2990	ma/Ka-drv	10	04/29/2021 13:24 176342
SW-846 9036 (TOTAL)		-		3. 3. 7		
Sulfate	NELAP	15600	41400	ma/Ka-dry	50	04/30/2021 0:56 176343
		10000	+1+00	ing/itg dry	00	04/00/2021 0.00 110040
SVV-646 9043C		1.00	7 90		1	04/20/2021 15:40 8200415
	INCLAF	1.00	7.09		1	04/29/2021 15:49 12:90415
SW-846 9214		0.40				04/00/0004 04 40 470040
Fluoride		3.12	111	mg/Kg-ary	1	04/29/2021 21:42 176349
SW-846 3050B, 6010B, MET	FALS 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, MET	TALS 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 SUB	CONTRACTING ANALY	(SIS				
Subcontracted Analysis	*	0	See Attached		1	05/04/2021 0:00 R290590

**Laboratory Results** 

Client: Hanson Pro	fessional Services, Inc	2.			Wor	k Order: 21041640
Client Project: Sediment S	ampling and Analysis	- Marion, IL			Rep	ort Date: 19-May-21
Lab ID: 210/16/0-0	117	/	Client Som	ماہ آلک ۲-۲۵	v	
Lab ID, 21041040-0	112		Chefft Samj	pie ID. 5-5FA	X	
Matrix: SOLID			Collection	Date: 04/27	/2021 1	14:55
Analyses	Certification	RL Ç	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
<b>STANDARD METHODS 232</b>	20 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 254	0 G 1997, 2011					
Total Solids	*	0.1	52.7	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 450	0-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/Kq-drv	50	04/30/2021 1:02 176343
SW-846 9045C				0 0 7		
pH (1:1)	NELAP	1.00	8 84		1	04/29/2021 15:50 R290415
SW-846 0214		1.00			•	0 1120/2021 10:00 11200 110
SW-040 9214		1.90	34.0	ma/Ka-dn/	1	04/20/2021 21:44 176340
		1.50	54.0	ing/itg-dry		04/23/2021 21.44 110043
SW-846 3050B, 6010B, ME		0.50	50.4	ma/Ka dru	4	05/04/2024 20:25 176440
Boron		0.50	56.1 07.5	mg/Kg-dry	1	05/04/2021 20:35 176410
Coloium		2.00	97.5	mg/Kg-dry	1	05/04/2021 20:35 176410
Magnasium		TU.U	150000	mg/Kg-dry	1	05/04/2021 20:35 176410
Betaasium		5.00	2440	mg/Kg-dry	۱ ۲	05/04/2021 20:35 170410
Polassium		50.0	1220	mg/Kg-dry	5 1	05/06/2021 3.18 176410
		10.0	100	ilig/Kg-uly	1	05/04/2021 20:35 176410
SW-846 3050B, 6020A, ME		0.40			4.0	
Antimony	NELAP	0.40	0.68	mg/Kg-ary	10	05/04/2021 21:04 176407
Arsenic	NELAP	0.20	19.2	mg/Kg-ary	10	05/18/2021 15:30 176411
Beryllium	NELAP	0.30	1.15	mg/Kg-ary	10	05/07/2021 20:22 176411
Cadmium	NELAP	0.20	3.16	mg/Kg-ary	10	05/13/2021 7:37 176411
Chromium	NELAP	0.50	31.6	mg/Kg-ary	10	05/12/2021 12:36 176411
Cobait	NELAP	0.20	4.87	mg/Kg-ary	10	05/12/2021 12:36 176411
Lead	NELAP	0.20	38.1	mg/kg-dry	10	05/18/2021 15:30 176411
Litnium		0.30	6.18	mg/kg-dry	10	
	NELAP	0.20	7.03	mg/kg-dry	10	05/07/2021 20:22 176411
Selenium		1.00	17.9	mg/kg-dry	10	05/14/2021 14:27 176411
	NELAP	0.20	1.23	mg/ĸg-ary	10	05/12/2021 12:36 176411
SW-846 7471B		0.007			-	
Mercury	NELAP	0.037	0.968	mg/Kg-dry	2	04/29/2021 15:18 176331
SEE ATTACHED FOR SUB	CONTRACTING ANAL	(SIS				
Subcontracted Analysis	*	0	See Attached		1	05/04/2021 0:00 R290590

**Laboratory Results** 

ek

Client: Hanson Pro	ofessional Services, Inc	- Marion II				Wor	k Order: 21041640 ort Date: 19-May-21
inent Project: Seument S	sampling and Analysis	- Marion, 1L				кер	ort Date: 19-Mdy-21
Lab ID: 21041640-	013			Client Sam	ple ID: S-SFA	lgx	
Matrix: SOLID				Collection	n 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 23	20 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 25	40 G 1997. 2011						
Total Solids	*	0.1		52.4	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 45		2011		-			
Chloride	NELAP	19		806	ma/Ka-drv	1	04/29/2021 14:04 176342
						•	1,20,2021 1101 110012
SW-840 9030 (TOTAL)		274		1220	malkaday	2	04/20/2021 1:26 176242
	NELAF	574		1320	mg/Rg-ury	2	04/30/2021 1.30 170343
SW-846 9045C		4.00					
рН (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, ME	TALS 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
Matrix spike control limits for K	are not applicable due to hi	gh sample/spil	ke ratio.				
Matrix spike control limits for Ca	a and Mg are not applicable	due to high sa	ample/spi	ke ratio.			
SW-846 3050B, 6020A, ME	TALS 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
I nallium	NELAP	0.20	(	5.50	mg/Kg-dry	10	05/12/2021 12:44 176411
Matrix spike did not recover wit	nın control limits for Se due	to matrix inter	terence.				
SW-846 7471B		_					
Mercury	NELAP	0.037		0.944	mg/Kg-dry	2	04/29/2021 15:21 176331
SEE ATTACHED FOR SUB	CONTRACTING ANALY	(SIS					
Subcontracted Analysis	*	0	S	ee Attached		1	05/04/2021 0:00 R290590

**Laboratory Results** 

Client: Hanson Pro	fessional Services, Ind	C.			Wor	k Order: 21041640
Client Project: Sediment Sa	ampling and Analysis	- Marion, IL			Rep	ort Date: 19-May-21
Lah ID• 21041640-0	14	,	Client Sam	nle ID+ S-SEA	an	,
	17				ign Vaaad	
Matrix: SOLID			Collection	Date: 04/2/	/2021 1	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
<b>STANDARD METHODS 232</b>	0 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
<b>STANDARD METHODS 254</b>	0 G 1997, 2011					
Total Solids	*	0.1	46.5	%	1	04/30/2021 18:05 R290499
STANDARD METHODS 450	0-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/Kq-drv	10	04/29/2021 14:17 176343
SW-846 90450				0 0 7		
pH (1:1)	NELAP	1.00	7 64		1	04/29/2021 15:58 R290415
SW 946 0214		1.00			•	0 1/20/2021 10:00 11200 110
SVV-040 9214		2.07	00.2	ma/Ka day	1	04/20/2021 21:48 176240
		2.07	33.5	mg/ng-ury	1	04/23/2021 21.40 170343
SW-846 3050B, 6010B, ME		0.50	404	ma/Ka dru	4	05/04/2024 20:28 176440
Barran		0.50	194	mg/Kg-dry	1	05/04/2021 20:38 176410
Bololi		2.00	81.3	mg/Kg-dry	1	05/04/2021 20:38 176410
Magnasium		10.0	8320	mg/Kg-dry	1	05/04/2021 20:38 176410
Nagnesium	NELAP	5.00	2630	mg/Kg-ary	1	05/04/2021 20:38 176410
Potassium	NELAP	50.0	1300	mg/Kg-dry	5	05/06/2021 3:33 176410
Sodum		10.0	150	mg/Kg-ary	I	05/04/2021 20:38 176410
SW-846 3050B, 6020A, MET	TALS 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 SUB	CONTRACTING ANAL	(SIS				
Subcontracted Analysis	*	0	See Attached		1	05/04/2021 0:00 R290590

	Electronic Filing:	Received,	Clerk's	Office	09/02/2021
5	57				



## **Receiving Check List**

http://www.teklabinc.com/

Client: Hanson Professional Services, Inc.			Work Or	der: 21041640
Client Project: Sediment Sampling and Analysis - Mario	n, IL		Report D	ate: 19-May-21
Carrier: Tim Mathis	Rece	ived By: PRY		
Completed by: On: 28-Apr-21 Emily Pohlman	Rev 28-/	riewed by: Dn: Apr-21	Elizabeth A. Hurley	lag.
Pages to follow: Chain of custody 2	Extra pages include	d 14		
Shipping container/cooler in good condition?	Yes 🗸	No 🗌	Not Present	Temp °C 2.4
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 $0.1^{\circ}$ C - $6.0^{\circ}$ C, or when samples are received on ice the same	with a temperature day as collected.	e between		
Water – at least one vial per sample has zero headspace?	Yes 🗌	No	No VOA vials 🖌	
Water - TOX containers have zero headspace?	Yes	No	No TOX containers	
Water - pH acceptable upon receipt?	Yes	No	NA 🗹	
NPDES/CWA TCN interferences checked/treated in the field?	Yes	No 🗌	NA 🔽	
Any No responses m	ust be detailed be	low 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

# Electronic Filice Antipercontropy fice 0 and 2/2024 work order # 21041640

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

Client:	Hanson Profession	al Services, In	с.								\$	San	nple	es o	on:`	ų	CE		BLU	E ICI	E 🔟	NO I	CE		26	t °	'C	LTC	# _	>	
Address:	1525 South Sixth S	Street									ł	Pres	ser	vec	i in:	<b>1</b>	LAB		FIEL	D			F	OR L	AB	<u>USE</u>	ON	LY			
City / State	/ Zip Springfield, IL 627	03									1	Lab	No	otes	5																
Contact:	Rhon Hasenyager		_ Phone	:	(2	17) 7	788-2	450																							
E-Mail:	rhasenyager@hanson-inc.	com	_ Fax:								C	lier	at C	Con	nme	nts															
Are these sample: Are these sample: Are there any requiring the comm	Ihese samples known to be involved in litigation? If yes, a surcharge will apply       Yes       N         Ihese samples known to be hazardous?       Yes       No         Ithere any required reporting limits to be met on the requested analysis?. If yes, please provide s in the comment section.       Yes       No         Project Name/Number       Sample Collector's Name														sub Ca M	conti 1g N	racted a K I	d to S CP/M	itd. La IS: St	abs DAs	Be Cr	Co P	b Li N	lo Se	ΤI	2	D	À	Y		
Project Sediment Sampli	Name/Number	Si	ample Col	lect	tor's	s Na	ame					<u>۸</u>		RI)	X					IN		ATE.			IS R	EQU	<b>IEST</b>	ED	1.000		
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Result	s Requested	Billing Ins	tructions	#:	and	Туро	e of (	Cont	aine T	rs	ğ	nkir	~	ŝ	lec <u>i</u> i	<b>Fou</b>	Ikalir	loric	Me	Z	- HTS	Total									
Other	Day (50% Surcharge)			UNPRE	HNO3	NaOH	H2SO4	MeOH	NaHSO	OTHEF	leous	ıg Wat	Soll	udge	al Was	ndwate	nity (B/C)	te/Sulfate	ercury	etais	/Fluoride	Carbon									
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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

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## Electronic Filing Aneire CUSTOD fice 0 2/2021 Z Work order # 2(04/64)

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

Client:	Н	anson Profession	al Servi	ices, Inc									S	iam	ple	s o	n: โ	⊴Ĥo	Æ	<u> </u>	BLUE	E ICE	諁	NO IO	CE				c	LTG	#	~	
Address:	1	525 South Sixth S	Street										F	res	serv	ed	in: 🛛		AB		FIEL	D			FC	DR L	AB	USE	ONL	.Y			
City / State	/Zip S	pringfield, IL 627	03										L	.ab	Not	es																	
Contact:	Rhon Has	enyager			Phone	<b>∋</b> :	(2	17) 7	788-2	450																							
E-Mail:	rhasenyag	jer@hanson-inc.c	com		Fax:								С	lien	t Co	om	men	ts:															_
Are these sample: Are these sample: Are there any requ mits in the comm	s known to s known to uired report ent sectior	be involved in litig be hazardous? ting limits to be m nYes	gation?	lf yes, a	surcharge lo sted analys	will a is?, l	apply f yes	∕ s, ple	I Y	es prov	ide	No	To Me	otal C etais	Carbo :: Ba	on:s BC	a Mg	ntra Na I	cted KIC	to Sta P/MS	l. La S: Sb	bs As B	e Cr	Co Pt	b Li Me	o Se	TI						
Project	Name/N	umber		ୁ Sa	mple Col	llec	or'	s N	ame	2	•			N	IATI	RIX		Т				INC	ICA	TE A	٩NAI	LYS	IS RI	EQU	ESTI	ED			
Sediment Sampli IL	ng and Ana	alysis - Marion,		1.0	NA-UI	ſ						ľ					s ,	Ţ															Γ
Result	s Reque	sted	uctions	#	and	Тур	e of (	Cont	aine	rs	٨	<b>in</b>		$\infty$			Alkal	Chlori	z	-	pH/T:	Tota											
Standard [	1-2 Day (10	00% Surcharge)		0		UNE	Ŧ	Na	H2	Me	NaH	OT	Ueo:	ing V	Soil				inity (B	de/Su	ercury	<b>Aetals</b>	S/Fluo	al Cart									
Lab Lise Only	Sample	Identification	Dat	te/Time	Sampled	RES	Ū	외	S04	² Ÿ	ISO4	HER HER	8	ater		ן <b>יי</b>	aste		õ	lfate			ride	on									
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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.

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لأسريح

BottleOrder: 65198



FI	ELD	B	ORII	NE	<b>j</b> q	De	nic Filin	g: Received, Clerk's Office 0	19/02/2021 HANSON
	CLIEN Sit Locatio Projec DATE	T: So n: So n: So ct: 18 S: So Fin	outhern II ond Bern IPC Maria BE0022A tart: 3/22 ish: 3/22	llinoi n Inv on P & 20 2/202 2/202	s Po estig ower 0E00 21 21	wer Co Jation Plant 16B	ooperative	CONTRACTOR: Holcomb Foundation-Engi Rig mfg/model: CME 750X ATV Drill Drilling Method: 3¼" HSA with SPT FIELD STAFF: Driller: J Carter Helper: S Marcec	neering Co. BOREHOLE ID: B-3a Well ID: n/a Surface Elev: 478.2 ft. MSL Completion: 9.8 ft. BGS Station: 349,471.95N
Ň		R: P1	ily. Sunny	y, mi	ld, (ł	ni 40's)		Eng/Geo: R. Hasenyager	805,452.16E
er	/ Total (in)	<u>=</u>	/ 6 in ue	Content (%)	insity (Ib/ft <sup>3</sup> )	) <i>Qp</i> (tsf) Type	TOPOGRAP Quadran Townshi Section 2	HIC MAP INFORMATION: gle: Goreville p: Southern 26, Tier 10S.; Range 2E.	WATER LEVEL INFORMATION: $\overline{\Psi} = 6.00$ - during drilling $\overline{\Psi} = 3.50$ - at completion $\overline{\Psi} = $
Numbe	Recov % Rec	Type	Blows N - Val RQD	Water (	Dry De	Qu (tsf Failure	Depth ft. BGS	Lithologic Description	Borehole Elevation Remarks Detail ft. MSL
	22/24 92% 20/24 83% 24/24 100%	ss ss ss ss	1-4 3-2 N=7 2-3 4-8 N=7 9-20 18-32 N=38				2 ⊈ 4 ↓	Black (10YR2/1), moist, soft SILT with few clay and tra- sand. [FILL] Light gray (10YR7/1), moist, soft, SILT with little clay and sand. [FILL] Dark brown (7.5YR3.2), moist, hard, SILT with little clay trace sand (Bed Ash).	2e 478 trace 476 and 476 476 476 474
	13/13 100% 21/21 100%	ss ss	12-47 50/1" 30-43 27-50/3" N=70	·			8	Dark brown (7.5YR3.2), moist, medium, SILT with little o and trace sand (Bed Ash). Very dark grayish brown (10YR3/2), moist, hard, SILT w little clay and trace sand (Bed Ash).	xlay // 470

FI	ELD	) B	ORI	NĒ	<b>a</b>	OC	nic Fi	ing: Received, Clerk's Office (	9/02/202	<b>KA</b> H	
\$	CLIEN Sit Locatio Projec DATE	T: S te: P on: S ct: 18 S: S Fir R: P	outhern I ond Bern IPC Marie BE0022A tart: 3/22 hish: 3/2 tly. Sunny	llinoi n Inv on P & 20 2/202 2/202 y, mi	s Po estig ower 0E00 21 21 Id, (r	wer Co ation Plant 16B nid 40's	ooperative s)	CONTRACTOR: Holcomb Foundation Engi Rig mfg/model: CME 750X ATV Drill Drilling Method: 3¼" HSA with SPT FIELD STAFF: Driller: J Carter Helper: S Marcec Eng/Geo: R. Hasenyager	neering Co.	BOREHOLE ID: Well ID: Surface Elev: Completion: Station:	B-3Aa n/a 483.6 ft. MSL 10.0 ft. BGS 349,164.98N 805,876.84E
	SAMPLI	E	1				TOPOG	APHIC MAP INFORMATION:	WATER LEVEL	INFORMATION:	
er	. ∕ Total (in covery		/6 in lue	Content (%	ensity (Ib/f	f) <i>Qp</i> (tsf) e Type	Quac Towr Secti	rangle: Goreville ship: Southern on 26, Tier 10S.; Range 2E.	⊻ = 6.20 ⊻ = ⊻ =	) - during drilling	
Numbe	Recov % Rec	Type	Blows N - Va <b>RQD</b>	Water	Dry De	Qu (ts Failure	Depth ft. BGS	Lithologic Description	Boreho Detai	le Elevation ft. MSL	Remarks
	20/24	ss	1-2 3-2					Yellowish brown (10YR5/4), moist, soft, SILT with few clay trace sand. [FILL]	/ and		
	23/24 96%	ss	N=5 2-2 2-3 N=4				2	Black (10YR2/1), moist, soft, SILT with few clay and tra sand. [FILL]	ce Ce	482	
	24/24 100%	ss	1-1 1-1 N=2				4   ₽			478	
	24/24 100%	ss	woh-1 woh-1				8-	Black (10YR2/1), wet, soft, SILT and very fine- to fine-gra SAND with little clay. [FILL]	ined	476	
	24/24 100%	ss	woh-woh woh-woh				10	Black (10YR2/1), wet, soft, gelatenous material with trace fibers. [FILL]	root	474	
		_					10	End of Boring = 10 ft.			

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F	IELD	B	ORII	VE	<b>a</b>	OC	nic Fil	ing: Received, Clerk's Office (	9/02/2021		
v	CLIEN Sit Location Projec DATE WEATHEI	T: So n: Si ct: 18 S: St Fin R: Pt	outhern II ond Berm PC Mario BE0022A art: 3/22 ish: 3/22	linoi n Inv on P & 20 2/202 2/202 v, mi	s Po estig ower 0E00 21 21 Id, (h	wer Co ation Plant 16B ni 40's)	ooperative	CONTRACTOR: Holcomb Foundation Engi Rig mfg/model: CME 750X ATV Drill Drilling Method: 3¼" HSA with SPT FIELD STAFF: Driller: J Carter Helper: S Marcec Eng/Geo: R. Hasenyager	neering Co.	BOREHOLE ID: Well ID: Surface Elev: Completion: Station:	B-3b n/a 477.2 ft. MSL 10.0 ft. BGS 349,376.85N 805,643.54E
	SAMPLE	Ξ	٦	EST		1	TOPOGR	APHIC MAP INFORMATION:	WATER LEVEL	INFORMATION:	
er	r / Total (in) covery		/ 6 in Ilue	Content (%)	ensity (Ib/ft <sup>3</sup>	f) <i>Qp</i> (tsf) e Type	Quadi Town Sectio	rangle: Goreville ship: Southern on 26, Tier 10S.; Range 2E.	⊻ = Dry ⊻ = ⊻ =	- during drilling	
Numb	Recov % Rec	Type	Blows N - Va <b>RQD</b>	Water	Dry D	Qu (ts Failur	Depth ft. BGS	Lithologic Description	Borehole Detail	e Elevation ft. MSL	Remarks
	12/24 50% 24/24 100%	ss ss ss	1-2 4-4 N=6 2-3 3-4 N=6 2-4 5-6				2	Very dark gray (10YR3/1), moist, soft, SILT with few cla trace sand, and trace gravel. [FILL] Yellowish brown (10YR5/6), moist, soft, SILT with few clay trace sand. [FILL]	ay,	476	
	20/24 83%	ss	N=9 2-1 1-1 N=2				6	Yellowish brown (10YR5/6) with 20% gray (10YR5/1), m medium, SILT with few clay and trace sand.	pist,	472	
	17/24 71%	ss	1-1 1-2 N=2				8	Gray (10YR5/1), moist, medium, SILT with few clay and t sand.	race	468	
							10	End of Boring = 10 ft.			

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FI	ELD	) B	ORII	NE	<b>j</b> q	De	nic Fi	ling: Received, Clerk's Office 0	19/02/2021 HANSON
v	CLIEN Sit Locatio Projec DATE	T: So te: Po n: SI ct: 18 S: St Fin R: Pt	Duthern II Dond Berm PC Maria BE0022A Sart: 3/22 Sart: 3/22 Sish: 3/23	llinoi n Inv on P & 20 2/202 2/202 y, co	s Po estig ower 0E00 21 21 21 pol (li	wer Co ation Plant 16B o 40's)	ooperative	CONTRACTOR: Holcomb Foundation Engi Rig mfg/model: CME 750X ATV Drill Drilling Method: 3¼" HSA with SPT FIELD STAFF: Driller: J Carter Helper: S Marcec Eng/Geo: R. Hasenyager	BOREHOLE ID:         B-4a           Well ID:         n/a           Surface Elev:         506.4 ft. MSL           Completion:         10.0 ft. BGS           Station:         348,506.06N           804,108.29E
	SAMPLI	E	1	EST		1	TOPOGE	RAPHIC MAP INFORMATION:	WATER LEVEL INFORMATION:
r	/ Total (in) :overy		/ 6 in lue	Content (%)	ensity (Ib/ft³	f) <i>Qp</i> (tsf) e Type	Quad Towr Secti	rangle: Goreville Iship: Southern on 26, Tier 10S.; Range 2E.	$\mathbf{Y}$ = Dry - during drilling $\mathbf{Y}$ = $\mathbf{Y}$ =
Numbe	Recov % Rec	Type	Blows N - Va <b>RQD</b>	Water	Dry De	Qu (ts Failure	Depth ft. BGS	Lithologic Description	Borehole Elevation Remarks Detail ft. MSL
	19/24 79%	ss	3-2 3-5 N=5				2-	Light gray (10YR7/1), moist, loose, GRAVEL. [FILL] Black (10YR2/1), moist, soft, SILT with few clay, trace sa and trace coal fines/bottom ash. [FILL]	and,
	22/24 92%	ss	2-3 5-7 N=8				4	Yellowish brown (10YR5/6), mooist, medium CLAY with s silt and trace sand. [FILL] Yellowish brown (10YR5/6), moist, medium, weathered v fine- to fine-grained SANDSTONE. [FILL] Very dark grayish brown (10YR3/2), moist, medium, SILT few day, trace sand, and trace gravel [FILL]	some 504 very with
	12/24 50%	ss	3-3 5-7 N=8				6	Very dark gravish brown (10YR3/2) with 20% yellowish br (10YR5/6) mottles, moist, medium, SILT with few clay, tr sand, and trace gravel.	rown race
	12/24 50%	ss	2-2 4-5 N=6						
	17/24 71%	ss	1-5 6-29 N=11				8	Black (10YR2/1), moist, soft, CLAY with some silt, trace s and trace gravel. [FILL]	sand, 498
	.	$\square$					10	Yellowish brown (10YR5/8), moist, hard, very fine- to fine-grained SANDSTONE. End of Boring = 10 ft.	

FI	ELD	) B	ORII	VE	jq	De	nic Fi	ling: Received, Clerk's Office (	)9/02/20	)21	A H	
v	CLIEN Sit Locatio Projec DATE	IT: So te: Po on: SI ct: 18 (S: St Fin R: O	Duthern II Dond Berm IPC Maria BE0022A tart: 3/22 tiart: 3/22 vercast, i	llinoi n Inv on P & 20 2/202 2/202 mild,	s Po estig ower 0E00 21 21 (mic	wer Co jation <sup>-</sup> Plant 016B d 50's)	ooperative	CONTRACTOR: Holcomb Foundation Eng Rig mfg/model: CME 750X ATV Drill Drilling Method: 3¼" HSA with SPT FIELD STAFF: Driller: J Carter Helper: S Marcec Eng/Geo: R. Hasenyager	ineering Co.	BC	DREHOLE ID: Well ID: Surface Elev: Completion: Station:	B-6b n/a 467.9 ft. MSL 10.0 ft. BGS 350,464.59N 804,982.12E
	SAMPL	E	1	EST	TING		TOPOG	RAPHIC MAP INFORMATION:	WATER LE	VEL INF	ORMATION:	
er.	/ Total (in) overy		/ 6 in lue	Content (%	ensity (Ib/ft	f) <i>Qp</i> (tsf) t Type	Quad Town Sect	Irangle: Goreville Iship: Southern on 26, Tier 10S.; Range 2E.	⊻ = ⊻ = ⊻ =	9.20 - d	luring drilling	
Numbe	Recov % Rec	Type	Blows N - Va <b>RQD</b>	Water	Dry De	Qu (tsi Failure	Depth ft. BGS	Lithologic Description	Bo	orehole Detail	Elevation ft. MSL	Remarks
	21/24 88%	ss	3-3 5-5 N=8				2 -	Light gray (10YR7/1), moist, loose, GRAVEL. [FILL Yellowish brown (10YR5/6), moist, medium, SILT with fe and trace sand. [FILL]	v clay			
	21/24 88%	ss	6-8 <i>8-7</i> N=16					Pale brown (10YR6/3), moist, medium, SILT with few cla trace sand. [FILL]	y and		   464	
	23/24 96%	ss	4-5 7-8 N=12				6				  462	
	24/24 100%	ss	6-8 10-10 N=18				8-	Gray (10YR5/1), moist, medium, SILT with few clay and sand.	trace		  460	
	24/24 100%	ss	4-4 3-2 N=7				¥ 10−	Gray (10YR5/1), wet, medium, SILT with few clay and t sand. End of Boring = 10 ft.			   458	
FI	ELD	) B	ORII	NE	q	<u>00</u>	nic Fil	ing: Received, Clerk's Office 09	9/02/202	HANSON		
--	----------------	------	--	------------------------------------	---	---	--	--	--------------------------------	----------------------		
CLIENT: Southern Illinois Power Cc Site: Pond Berm Investigation Location: SIPC Marion Power Plant Project: 18E0022A & 20E0016B DATES: Start: 3/22/2021 Finish: 3/22/2021 WEATHER: Overcast, mild, (mid 50's)			wer Co jation r Plant )16B d 50's)	ooperative	CONTRACTOR: Holcomb Foundation Engine Rig mfg/model: CME 750X ATV Drill Drilling Method: 3¼" HSA with SPT FIELD STAFF: Driller: J Carter Helper: S Marcec Eng/Geo: R. Hasenyager	eering Co. BOREHO Surfac Comp	DLE ID: B-B3a Nell ID: n/a æ Elev: 502.2 ft. MSL bletion: 10.0 ft. BGS Station: 348,625.10N 803,341.94E					
Total (in) Very (in) Very 6 in 6 in a for the formation ontent (%) and the formation ontent (%) Type (tsf) 7 type (tsf) for the formation of t			f) Qp (tsf) t Type	TOPOGR Quadr Towns Sectio	APHIC MAP INFORMATION: angle: Goreville ship: Southern n 26, Tier 10S.; Range 2E.	WATER LEVEL INFORM/ ♀ = Dry - during ♀ = ♀ =	<b>ATION:</b> drilling					
Numbe	Recov % Rec	Type	Blows N - Val <b>RQD</b>	Water (	Dry De	Qu (tsf Failure	Depth ft. BGS	Lithologic Description	Borehole Eleva Detail ft. M	ation Remarks ISL		
	16/24 67%	ss	1-1 2-3 N=3				2			2		
	15/24 63%	ss	1-1 2-2 N=3				4			0		
	15/24 63%	ss	1-1 2-3 N=3				6	Yellowish brown (10YR5/6), moist, soft, CLAY with some sitrace sand and trace gravel. [FILL]	ilt, 49	8		
	20/24 83%	ss	1-1 1-1 N=2							6		
	22/24 92%	ss	1-1 2-2 N=3					End of Boring = 10 ft.		4		
1												

 $\ensuremath{\mathsf{NOTE}}(S)$  : Borehole sealed after sampling with bentonite chips and auger cuttings.

FI	ELD	) B	ORI	NĒ		De	nic Fil	ing: Received, Clerk's Office (	19/02/2021 HANSON
	CLIEN	T: So	outhern I	llinoi	s Po	wer Co	operative	CONTRACTOR: Holcomb Foundation Engi	neering Co.
	Sit	te: Po	ond Bern	n Inv	estig	gation		Rig mfg/model: CME 750X ATV Drill	BOREHOLE ID: B-B3b
	Locatio	n: SI	PC Mari	on P	owe	r Plant		Drilling Method: 31/4" HSA with SPT	Well ID: n/a
	Proje	<b>ct:</b> 18	3E0022A	& 20	0E00	)16B			Surface Elev: 490.5 ft. MSL
	DATE	S: St	art: 3/22	2/202	21			FIELD STAFF: Driller: J Carter	Completion: 6.0 ft. BGS
		Fin	i <b>sh:</b> 3/2	2/20	21			Helper: S Marcec	Station: 349,011.23N
W	EATHE	<b>R</b> : 0	vercast,	mild,	, (mie	d 50's)	-	Eng/Geo: R. Hasenyager	803,364.05E
	SAMPL	E	1	TEST	<b>FING</b>	i	TOPOGE	APHIC MAP INFORMATION:	WATER LEVEL INFORMATION:
	(in)			(%)	o/ft <sup>3</sup>	sf)	Quad	rangle: Goreville	∑ = Dry - during drilling
	∠ ta		2	ent	<u>ح</u>	p (t	Town	ship: Southern	<u> </u>
5	/ Tc		/ 6 i ue	Cont	nsit	QF	Section	on 26, Tier 10S.; Range 2E.	<u>▼</u> =
Numbe	Recov % Rec	Type	Blows N - Val RQD	Water (	Dry De	Qu (tsf Failure	Depth ft. BGS	Lithologic Description	Borehole Elevation Remarks Detail ft. MSL
	18/24 75%	ss	woh-1 2-2 N=3				2	Brownish yellow (10YR6/6), moist, soft, CLAY with some trace sand, and trace gravel. [FILL]	silt, 490
	24/24 100%	ss	2-3 5-5 N=8				4	Brownish yellow (10YR6/6), moist, medium, CLAY with s silt, trace sand, and trace gravel. [FILL]	ome 488
	24/24 100%		2-4 18-50 N=22					Light gray (10YR7/1), with 20% yellowish brown (10YR5	/// 400 //8) //8
	I		I	I	I	I	6-	End of Boring = 6 ft.	

End of Boring = 6 ft.

 $\ensuremath{\mathsf{NOTE}}(S)$  : Borehole sealed after sampling with bentonite chips and auger cuttings.

FI	ELD	B	ORII	NC	<b>j</b> q	De	nic Fi	ing: Received, Clerk's Office (	9/02/202	<b>H</b>	
CLIENT: Southern Illinois Power Coopera Site: Pond Berm Investigation Location: SIPC Marion Power Plant Project: 18E0022A & 20E0016B DATES: Start: 3/22/2021 Finish: 3/22/2021 WEATHER: Ptly. Cloudy, cool (lo 40's)				s Po estig ower DE00 21 21 21 pol (l	wer Co ation Plant 16B o 40's)	ooperative	CONTRACTOR: Holcomb Foundation Engi Rig mfg/model: CME 750X ATV Drill Drilling Method: 3¼" HSA with SPT FIELD STAFF: Driller: J Carter Helper: S Marcec Eng/Geo: R. Hasenyager	neering Co.	BOREHOLE ID: Well ID: Surface Elev: Completion: Station:	B-SFAa n/a 537.8 ft. MSL 9.9 ft. BGS 346,326.08N 803,414.80E	
;	SAMPLE	E	1	EST		1	TOPOGE	APHIC MAP INFORMATION:	WATER LEVEL	INFORMATION:	
Ŀ	/ Total (in) covery		/ 6 in lue	Content (%)	ensity (Ib/ft <sup>3</sup>	f) <i>Qp</i> (tsf) e Type	Quad Town Secti	rangle: Goreville ship: Southern on 26, Tier 10S.; Range 2E.	⊻ = Dry ⊻ = ⊻ =	- during drilling	
Numbe	Recov % Rec	Type	Blows N - Va <b>RQD</b>	Water	Dry De	Qu (ts Failure	Depth ft. BGS	Lithologic Description	Borehole Detail	e Elevation ft. MSL	Remarks
	19/24 79%	ss	2-1 2-3 N=3				2-	Gray (10YR6/1), moist, soft, very fine- to very coarse-gra SAND with trace silt and trace clay. [FILL] Yellowish brown (10YR5/6), moist, soft, SILT with few clay trace sand. {FILL]	/ and	536	
	19/24 79%	ss	2-3 3-6 N=6				4	Dary yellowish brown (10YR3/4), moist, medium, CLAY some silt and trace sand. [FILL]	with	534	
	22/24 92%	ss	13-7 N=20					Gray (10YR6/1), moist, hard, weathered, very fine- to medium-grained SANDSTONE. [FILL]			
	24/24		2-3				6	Dark yellowish brown (10YR4/4), moist, stiff, weathere SHALE. [FILL]	d	532	
	100% 23/23 100%	ss ss	2-2 5-50/5" N=7				8	Gray (10YR5/1) with 30% yellowish brown (10YR5/8) mo moist, medium, CLAY with some silt, trace sand, and tra gravel.	ttles, ace	- 530	
								Yellowish brown (10YR5/8), moist, hard, very fine- to medium-grained SANDSTONE. End of Boring = 9.9 ft.		528	

 $\ensuremath{\mathsf{NOTE}}(S)$  : Borehole sealed after sampling with bentonite chips and auger cuttings.

FI	ELD	B	ORII	VE	<b>j</b> q	OC	nic Filir	ng: Received, Clerk's Office 0	9/02/202		СЭ H/	
CLIENT: Southern Illinois Power Co Site: Pond Berm Investigation Location: SIPC Marion Power Plant Project: 18E0022A & 20E0016B DATES: Start: 3/22/2021 Finish: 3/22/2021 WEATHER: Ptly. Cloudy, cool (lo 40's)				s Po estig ower 0E00 21 21 21 pol (l	wer Co jation <sup>-</sup> Plant 016B o 40's)	ooperative	CONTRACTOR: Holcomb Foundation Engir Rig mfg/model: CME 750X ATV Drill Drilling Method: 3¼" HSA with SPT FIELD STAFF: Driller: J Carter Helper: S Marcec Eng/Geo: R. Hasenyager	neering Co.	BOI	REHOLE ID: F Well ID: r urface Elev: Completion: Station:	3-SFAb 1/a 542.6 ft. MSL 10.0 ft. BGS 345,380.51N 803,239.34E	
	SAMPL	E	1	EST	TING		TOPOGRAI	PHIC MAP INFORMATION:	WATER LEVE	EL INFO	ORMATION:	
Ŀ	/ Total (in overy		/ 6 in lue	Content (%	ensity (Ib/ft	f) Qp (tsf) s Type	Quadrar Townsh Section	<b>ngle:</b> Goreville <b>ip:</b> Southern 26, <b>Tier</b> 10S.; <b>Range</b> 2E.	⊻ = □ ⊻ = ⊻ =	)ry - du	uring drilling	
Numbe	Recov % Rec	Type	Blows N - Va <b>RQD</b>	Water (	Dry De	Qu (tst Failure	Depth ft. BGS	Lithologic Description	Boreh Deta	nole ail	Elevation ft. MSL	Remarks
	12/24 50%	ss	2-3 4-4 N=7				2	Dark yellowish brown (10YR4/4) with 20% yellowish brov (10YR5/6) mottles, moist, medium, SILT with few clay ar trace sand. [FILL]	vn nd		- 	
	19/24 79%	ss	2-5 6-10 N=11								- - - 540 - - - -	
	24/24 100%	ss	4-5 7-8 N=12				6	Yellowish brown (10YR5/6) with 10% gray (10YR6/1) mot moist, medium, SILT with few clay and trace sand. [FILI	les, _]		- - - - - - - - - - -	
	23/24 96%	ss	3-5 7-8 N=12				8	Gray (10YR5/1) with 25% yellowish brown (10YR5/6) mot moist, medium, SILT with some clay and trace sand.	iles,		- 	
	22/24 92%	ss	2-4 6-7 N=10					Gray (10YR5/1), moist, medium, SILT with some clay ar trace sand.	nd		- 	
	.						<sub>10</sub> <u></u> ∃	Gray (10YR5/1), moist, medium, SILT with some clay ar trace sand.		2111-	-	
								End of Borning – To It.				

 $\ensuremath{\mathsf{NOTE}}(S)$  : Borehole sealed after sampling with bentonite chips and auger cuttings.

1



# Boring B3a





# Boring B3b





# Boring B3Aa





# Boring B4a



Boring B4a 0-2' photograph missing



# HANSON

# Boring S6b



Boring S6b 2-4' photograph missing







# HANSON

# 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.

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

## Table 1. Sample Identifications

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.

350 Hochberg Road, Monroeville PA, 15146 | P 724.325.1776 F 724.733.1799

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%

Table 2.	Results o	f PLM	Analysis	of Granu	ar Samples
----------	-----------	-------	----------	----------	------------

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							

## Table 1. Sample Identifications

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.

350 Hochberg Road, Monroeville PA, 15146 | P 724.325.1776 F 724.733.1799

## WWW.RJLG.COM

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

Dark Brown Sediment Dark Grey Sediment **Black Sediment Grey Sediment** Comments Fly Ash Determination by PLM Polarized Light Microscopy (PLM) Laboratory Report Components Area % Fly Non-Fly Ash AOH1061659-0 Misc. Silicates Misc. Silicates Misc. Silicates Misc. Silicates 04/01/2021 Carbonate 04/19/2021 Opaques Opaques Opaques Opaques Quartz Quartz Quartz Quartz Mineral Identification Mica Coal Coal Clay Clay Sample Received Date: Ash 11% Analytical Method: 23% %06 91% Purchase Order: Customer COC: RJLG Project: Report Date: 03/22/2021 03/22/2021 03/22/2021 03/22/2021 Collected Date 04/19/2021 04/19/2021 04/19/2021 04/19/2021 Analyzed Date Main: 724-387-1847 Fax: 724-733-1799 10535710 10535708 10535709 RJLG ID 10535707 RIG BJ LeeGroup, Inc. Email: kwagner@rjlg.com Monroeville, PA 15146 **350 Hochberg Road** Keith Wagner Sample # : B-3Aa 8'-10' Customer B-3Aa 2'-4' B-4a 0'-2' B-3a 4'-6'

RJ Lee Group, IncElectronic Filing: Received, Clerk's Office 09/02/2021 Project Number: AOH1061659 Page 4 of 6

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Page 1 of

350 Hochberg Road, Monroeville, PA 15146 | Phone: (724) 325-1776 | Fax: (724) 733-1799

AOH1061659-0

WWW.RJLG.COM

Comments	Very Pale Brown Sediment	Dark Grey Sediment
y Non-Fly Ash Components	Carbonate Clay Feldspar Mica Misc. Silicates Opaques Quartz Coal	NA
Area % Fl Ash	7%	15%
Date Collected	03/22/2021	03/22/2021
Date Analyzed	04/19/2021	04/19/2021
RILGID	10535711	10535712
Customer Sample # :	B-4a 2'-4'	QC_B-4a 0'-2'

m

Page 2 of

AOH1061659-0

**Disclaimer Notes** 

Samples will be returned to client immediately upon the release of final report.

• These results are submitted pursuant to RI 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.</li>

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.

Opaque minerals are distinguished from opaque bottom ash based on morphology of fracture. Opaques - Opaque is a generic term for a particle that does not transmit light.

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.

Silicate - isotropic and anisotropic silicates, with low to high relief, identification unsure and beyond the scope of the method to identify Miscellaneous

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.

AOH1061659-0

350 Hochberg Road, Monroeville, PA 15146 | Phone: (724) 325-1776 | Fax: (724) 733-1799

m Page 3 of



June 25, 2021

Amy Antoniolli, 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. Antoniolli,

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

350 Hochberg Road, Monroeville PA, 15146 | P 724.325.1776 F 724.733.1799

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 Antoniolli, 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. Antoniolli,

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 PLIVI 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			

## Table 2 Desults of DIAA Analysis of Cremular Commu

\*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

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## WWW.RJLG.COM

Attachment E

# Analytical Results for Pond B-3 Sediment Samples Collected in 2017

MARION STATION - POND B-3 SOIL SAMPLE EXTRACTION ANALYSIS

		Part 620 –	Part 620 –									
		Groundwater	Groundwater			Pond B-3	Pond B-3 – Group 2 (c)					
		Quality Class I	Quality Class II									
		Potable	General									
		Resource	Resource	West Bank	East Bank	South End	Middle	Sample 1	Sample 4	Sample 3	Sample 4	Sample 5
Parameter	Units	Groundwater (a)	Groundwater (b)	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
рН	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. <u>https://pcb.illinois.gov/documents/dsweb/Get/Document-33425/</u>

(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

## Client: Southern Illinois Power Cooperation

http://www.teklabinc.com/

Work Order: 17091066 Report Date: 22-Sep-17

## Client Project: Modified Leachate Testing

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 )

# - Unknown hydrocarbon

#### Qualifiers

B - Analyte detected in associated Method Blank

- E Value above quantitation range
- I Associated internal standard was outside method criteria
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside recovery limits
- X Value exceeds Maximum Contaminant Level

- H Holding times exceeded M - Manual Integration used to
- M Manual Integration used to determine area response
- R RPD outside accepted recovery limits
- T TIC(Tentatively identified compound)



Laboratory Results

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

## Work Order: 17091066 Report Date: 22-Sep-17

Client Project: Modified Leachate Testing Lab ID: 17091066-001

## Matrix: SOLID

Client Sample ID: West Bank

Matrix: SOLID				Collection	n Date: 09/	18/2017	0:00	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 300	5A, 6010B, METALS IN	SHAKE EXT	RACTB	YICP	<u></u>			
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-846 300	5A, 6020A, METALS IN	SHAKE EXT	RACT 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 7470	A IN SHAKE EXTRACT							
Mercury, SHAKE		0.00020		< 0.00020	mg/L	1	09/21/2017 14.15	134356



Laboratory Results

http://www.teklabinc.com/

Work Order: 17091066

Report Date: 22-Sep-17

## Client: Southern Illinois Power Cooperation

Client Project: Modified Leachate Testing Lab ID: 17091066-002

## Client Sample ID: East Bank

Matrix: SOLID		_		Collection	n Date: 09/	18/2017	0:00	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 300	5A, 6010B, METALS IN	SHAKE EXT	RACT B	Y ICP		a (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (19		
Barium	NELAP	0.0025		0.0094	mg/L	1	09/21/2017 11:02	134350
Beryllium	NELAP	0.0005		< 0.0005	ma/L	1	09/21/2017 11:02	134350
Boron	NELAP	0.0200		0.0538	ma/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	ma/L	1	09/21/2017 11:02	134350
Cobalt	NELAP	0.0050		< 0.0050	ma/l	1	09/21/2017 11:02	134350
Copper	NELAP	0.0050		< 0.0050	ma/L	1	09/21/2017 11:02	134350
Iron	NELAP	0.0200		0.0394	ma/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	ma/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	ma/L	1	09/21/2017 11:02	134350
ASTM D3987, SW-846 3005	A, 6020A, METALS IN	SHAKE EXT	RACT B	(ICPMS		•		
Antimony	NELAP	0.0010		< 0.0010	ma/l	5	09/21/2017 11:27	124251
Arsenic	NELAP	0.0010		0.0088	mg/l	5	09/21/2017 11:37	124251
Lead	NELAP	0.0010		< 0.0010	ma/l	5	09/21/2017 11:37	134351
Selenium	NELAP	0.0010		0.0079	mg/L	5	09/21/2017 11:37	124251
Thallium	NELAP	0.0010		< 0.0010	ma/l	5	09/21/2017 11:37	134351
ASTM D3987, SW-846 7470	A IN SHAKE EXTRACT	7						104001
Mercury, SHAKE		0.00020		< 0.00020	ma/l	1	09/21/2017 14.23	134356



Laboratory Results

http://www.teklabinc.com/

Work Order: 17091066

Client: Southern Illinois Power Cooperation

Client Project: Modified Leachate Testing Lab ID: 17091066-003

## Report Date: 22-Sep-17 Client Sample ID: South End

Matrix:	SOLID
And the second se	

-			
Collection	Date:	09/18/2017	0:00

Analyses	Certification	RL	Qual	Result	Units	DE	Data Analyzad	Detab
ASTM D3987, SW-846 300	5A, 6010B, METALS IN	SHAKE EXT	RACTR	VICP			Date Analyzeu	Datch
Barium	NELAP	0.0025		0.0000		,		
Beryllium	NELAP	0.0005		0.0096	ing/L	1	09/21/2017 11:06	134350
Boron	NELAP	0.0200		< 0.0005	mg/L	1	09/21/2017 11:06	134350
Cadmium	NELAP	0.0200		0.0202	mg/L,	1	09/21/2017 11:06	134350
Chromium	NELAP	0.0020		< 0.0020	mg/L	1	09/21/2017 11:06	134350
Cobalt		0.0050		< 0.0050	mg/L	1	09/21/2017 11:06	134350
Copper		0.0050		< 0.0050	mg/L	1	09/21/2017 11:06	134350
Iron		0.0050		< 0.0050	mg/L	1	09/21/2017 11:06	134350
Manganoso	NELAP	0.0200		1.38	mg/L	1	09/21/2017 11:06	134350
Nickol	NELAP	0.0030		0.0128	mg/L	1	09/21/2017 11:06	134350
Silver	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
	NELAP	0.0100		< 0.0100	mg/L	1	09/21/2017 11:06	134350
ASTM D3987, SW-846 3005	A, 6020A, METALS IN S	SHAKE EXTR	RACT BY	( ICPMS				101000
Antimony	NELAP	0.0010		< 0.0010	ma/l	5	00/21/2017 11:45	104054
Arsenic	NELAP	0.0010		0.0031	ma/l	5	00/21/2017 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	J	09/21/2017 11:45	134351
Thallium	NELAP	0.0010		< 0.0033	mg/L	5 5	09/21/2017 11:45	134351
ASTM D3987, SW-846 7470	A IN SHAKE EYTPACT	0.0010		< 0.00 TO	iiig/L	<u>э</u>	09/21/2017 11:45	134351
Mercury SHAKE	A TO OTANE ENTRAUT	0.00000						
		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 Report Date: 22-Sep-17

Client Project: Modified Leachate Testing 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 3	005A, 6010B, METALS IN	SHAKE EXT	RACTE	IV ICP				
Barium	NELAP	0.0025		< 0.0025	ma/l	1	00/21/2017 11:20	10/050
Beryllium	NELAP	0.0005		< 0.00015	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		< 0.00200	mg/L	1	09/21/2017 11:30	134350
Chromium	NELAP	0.0050		< 0.0020	mg/L	1	09/21/2017 11:30	134350
Cobalt	NELAP	0.0050		< 0.0000	mg/L	1	09/21/2017 11:30	134350
Copper	NELAP	0.0050			mg/L	1	09/21/2017 11:30	134350
Iron	NELAP	0.0200		~ 0.0000	mg/L	1	09/21/2017 11:30	134350
Manganese	NELAP	0.0200		0.0303	nig/L	1	09/21/2017 11:30	134350
Nickel	NELAP	0.0050		< 0.0030	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	NELAR	0.0050		< 0.0050	mg/L	1	09/21/2017 11:30	134350
ASTNO D2027 ENV 04C 20		0.0100		< 0.0100	mg/L	1	09/21/2017 11:30	134350
ASTIN D3987, SW-846 30	005A, 6020A, METALS IN 5	SHAKE EXT	RACT B	Y ICPINS				
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 74	70A IN SHAKE EXTRACT							
Mercury, SHAKE		0.00020		< 0.00020	ma/l	1	09/21/2017 14:20	124256
							00/21/2017 14.20	104000

Electronic Filing: Re	ceived, C	Clerk's O	ffice 09/02/2021	
Contraction Re	ceiving CI	1eck List	http:	//www.teklabinc.com/
Client: Southern Illinois Power Cooperation Client Project: Modified Leachate Testing	Work Order: 17091066 Report Date: 22-Sep-17			
Carrier: UPS Completed by: On: 19-Sep-17 Amber M. Dilallo	,	Received By: AN Reviewed by: On: 19-Sep-17	1D Éliyabeth A. Hur Elizabeth A. Hurley	ley
Pages to follow: Chain of custody 1 Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present? Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact?	Extra pages incl Yes 🖌 None 🖌 Yes 🗭 Yes 🖌 Yes ⊄ Yes 🖉 Yes 🖉	uded 1 No 1 ice 1 No 1 No 1 No 1 No 1 No 1 No 1	Not Present	Temp °C N/A Dry Ice
All samples received within holding time? All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance? When thermal preservation is required, samples are complian 0.1°C - 6.0°C, or when samples are received on ice the same	Yes ♥ Yes ♥ Field □ Yes ♥ t with a temperat day as collected	No    Lab    No    <i>Ture between</i>	NA 🗹	
Water – at least one vial per sample has zero headspace? Water - TOX containers have zero headspace? Water - pH acceptable upon receipt? NPDES/CWA TCN interferences checked/treated in the field?	Yes Yes Yes Yes	No No No	No VOA vials 🖌 No TOX containers 🗹 NA 🗹 NA 🗹	
Any No responses m	ust be detailed t	pelow or on the		

South End is labeled as South Bank. Jason McLaurin was notified of this error via work order summary. AMD 9/19/17
E	Electronic Filing	j: Receiv	ed, C	Clerk's O	ffice 09	/02/20	021		
Laboratory Results									
Client: Southern	Illinois Power Coopera	tion				181	ovit ()	700	
Client Project Lenghots Test								/89	
cheminojeci. Leachale	rest					Re	eport Date: 09-Aug	g-17	
Lab ID: 17071789-	-001			Client Sam	ple ID: Sar	nple 1			
Matrix: SOLID				Collection	n Date: 07/	28/2017	0:00		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Ratch	
ASTM D3987, SW-846 300	5A, 6010B, METALS IN	SHAKE EXT	RACTE	BY ICP			Date I shary Zeu	Datth	
Barium	NELAP	0.0025		0.0378	ma/L	1	08/02/2017 20.22	130760	
Beryllium	NELAP	0.0005		< 0.0005	ma/L	1	08/02/2017 20:22	132760	
Boron	NELAP	0.0200		0.238	ma/L	1	08/02/2017 20:22	132760	
Cadmium	NELAP	0.0020		< 0.0020	mg/l	1	08/02/2017 20:22	132760	
Chromium	NELAP	0.0050		< 0.0050	mg/l	1	08/02/2017 20:22	132760	
Cobalt	NELAP	0.0050		< 0.0050	ma/l	1	08/02/2017 20:22	132760	
Copper	NELAP	0.0050	В	< 0.0050	ma/L	1	08/02/2017 20:22	132760	
Iron	NELAP	0.0200		< 0.0200	ma/L	1	08/02/2017 20:22	132760	
Manganese	NELAP	0.0030		< 0.0030	ma/l	1	08/02/2017 20:22	132760	
Nickel	NELAP	0.0050		< 0.0050	ma/l	1	08/02/2017 20:22	132760	
Silver	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:22	132760	
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	08/02/2017 20:22	132760	
Contamination present in MBLK	for Cu. Sample results bel	ow the RL are r	eportable	ə per 2009 TNI	Standard (Vo	ume1 Mo	dule 4_section 1.7.4.1	152705	
ASTM D3987, SW-846 300	5A, 6020A, METALS IN	SHAKE EXTR	RACTB	YICPMS		41101, 110	auto 1, Beetion 1.1.4.1,		
Antimony	NELAP	0.0010		0.0030	ma/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	ma/L	5	08/04/2017 7:30	132770	
Selenium	NELAP	0.0010		0.0123	ma/L	5	08/04/2017 7:30	132770	
Thallium	NELAP	0.0010		< 0.0010	ma/L	5	08/04/2017 7:30	132770	
ASTM D3987, SW-846 7470	A IN SHAKE EXTRACT	-						102110	
Mercury, SHAKE		0.00020		< 0.00020	ma/L	1	08/02/2017 12:38	132771	
						-	20,00,201, 12.00		



Laboratory Results

http://www.teklabinc.com/

Work Order: 17071789

Client: Southern Illinois Power Cooperation

### Client Project: Leachate Test Lab ID: 17071789-004

### Report Date: 09-Aug-17 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-84	6 3005A, 6010B, METALS IN S	HAKE EXT	RACTB	YICP				Daten
Barium	NELAP	0.0025		< 0.0025	ma/l	1	08/02/2017 20.32	199760
Beryllium	NELAP	0.0005		< 0.0005	ma/l	1	08/02/2017 20:33	132709
Boron	NELAP	0.0200		< 0.0200	mg/l	1	08/02/2017 20:33	102709
Cadmium	NELAP	0.0020		< 0.0020	ma/l	1	08/02/2017 20:33	132709
Chromium	NELAP	0.0050		< 0.0050	mg/l	1	08/02/2017 20:33	132709
Cobalt	NELAP	0.0050		< 0.0050	mg/l	1	08/02/2017 20:33	132709
Copper	NELAP	0.0050		< 0.0050	mg/l	1	08/07/2017 13:33	122020
Iron	NELAP	0.0200		0.0252	ma/l	1	08/02/2017 20:33	132350
Manganese	NELAP	0.0030		0.0095	ma/l	1	08/02/2017 20:33	132760
Nickel	NELAP	0.0050		< 0.0050	ma/L	1	08/02/2017 20:33	132760
Silver	NELAP	0.0050		< 0.0050	mg/L	1	08/02/2017 20:33	132760
Zinc	NELAP	0.0100		0.0134	mg/L	1	08/02/2017 20:33	132769
ASTM D3987, SW-840	3 3005A, 6020A, METALS IN SH	AKE EXT	RACT BY	( ICPMS		· · · · · · · · · · · · · · · · · · ·		102100
Antimony	NELAP	0.0010		< 0.0010	ma/l	5	08/04/2017 7:55	122770
Arsenic	NELAP	0.0010		< 0.0010	mg/l	5	08/07/2017 22:06	132770
Lead	NELAP	0.0010		< 0.0010	mg/L	5	08/04/2017 7:55	122770
Selenium	NELAP	0.0010		< 0.0010	mg/l	5	08/04/2017 7:55	122770
Thallium	NELAP	0.0010		< 0.0010	mg/l	5	08/04/2017 7:55	132770
ASTM D3987, SW-846	7470A IN SHAKE EXTRACT							134110
Mercury, SHAKE		0.00020		< 0.00020	ma/l	1	08/02/2017 12:57	400774
					ing/L	L L	00/02/2017 12:57	132//1

( s -	Environmental Laboratory

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 pН 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 5 mg/L 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 pН 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 03/16/2017 18:58 1 128169 Manganese NELAP 0.0030 < 0.0030 mg/L 03/16/2017 18:58 1 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



	MC aboratory	Labora	atory R	lesults			http://www.tekla	abinc.com/
Client: Southern I	llinois Power Cooperat	tion				NA/	nel Ordon 17020	ол <i>и</i>
Client Project. Modified L	, anchata Taating					ŶŶŸ	JIK OIGEL: 17030	024
	cachate resting					Re	port Date: 21-Ma	r-17
Lab ID: 1/030824-	005		0	Client Sam	ple ID: San	nple #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	5, IN SHAKE EXTRACT	(TOTAL)					<u></u>	
Sulfate, SHAKE		100		100	mg/L	10	03/17/2017 19:17	R230557
ASTM D3987, SW-846 9040	B, IN SHAKE EXTRAC	ЭТ		·······				
рН		1.00		7.64		1	03/16/2017 23:08	128139
ASTM D3987, SW-846 3005	SA, 6010B, METALS IN	SHAKE EXT	RACTBY	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 3005	A, 6020A, METALS IN S	SHAKE EXTR	RACT BY I	CPMS				
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 7470.	A IN SHAKE EXTRACT							
Mercury, SHAKE		0.00020	<	0.00020	mg/L	1	03/17/2017 10:20	128173



### Laboratory Results

	al Laboratory						http://www.tekla	binc.com/
Client: Southern	n Illinois Power Coopera	ation				W	ork Order: 12100	)884
Client Project: Leachate	e and Trace Element Te	stina				झ	anort Datas 25 Oc	* 10
Lab ID: 1210088	4-002			CH		 ■	-	JI-12
200 121 1210000	4 002			Chent Sar	nple ID: Poi	nd A-1 #	2	
Matrix: SOLID	an a			Collectio	on Date: 10/	11/2012	0:00	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, SW-846 90	36, IN SHAKE EXTRACT	(TOTAL)	engestenentger, e			1. Tahana ay 1	and the second	
Sulfate, SHAKE		10		20	mg/L	1	10/23/2012 14:30	R169686
ASTM D3987, SW-846 90	40 B, IN SHAKE EXTRAC	СТ						
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 30	05A, 6010B, METALS IN	SHAKE EXT	RACT B	/ 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 30	20A, METALS IN SHAKE	EXTRACT B	Y 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, M	ETALS BY ICP		12					
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.Date Due07/03/2017Jason McLaurinDate Received06/22/2017

#### Quarterly Well Sampling

-14	

Sample: 08 Sampled By	Well S-6 David Richardson					···· ·		Sampled	06/22/2017	7@ 12:04
Sulfate			51 mg/L	5	EPA 300.0	2.5		06/29/20	17 20:42	LJC
Boron			<0.50 mg/L	1	EPA 200.7	0.50		06/26/20	17 22:18	EML
Cadmium		IJ	<0.002 mg/L	1	EPA 200.7	0.010 0.0	002	0.0015 06/26/20	17 22:18	EML
Iron			10 mg/L	1	EPA 200.7	0.010		06/26/201	17 22:18	EML
·										

Quantier Detinitions

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CERTIFICATE OF ANALYSIS

7031434

Southern Illinois Power Coop.Date Due04/04/2017Leonard HopkinsDate Received03/24/2017

#### Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
							÷ \					
Consular 00												
Sample: 08 Sampled By	VVeII 5-6 David Richardson									Sam	pled 03/23/20	)17@ 11:51
Sulfate			54 mg/L	5		I	EPA 300.0	2.5			03/29/2017 18:11	LJC
Boron			<0.50 mg/L	1		ł	EPA 200.7	0.50			03/28/2017 15:31	EML
Cadmium		UJ	<0.002 mg/L	1		8	EPA 200.7	0.010	0.002 0	.00020	03/28/2017 15:31	EML
Iron			2.7 mg/L	1		ł	ÉPA 200,7	0.010			03/28/2017 15:31	EML

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**CERTIFICATE OF ANALYSIS** 

#### 6121231

Southern Illinois Power Coop		
Leonard Honkins	Date Due	12/28/2016
Leonard hopking	Date Received	12/16/2016

### Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF N	lin Max	Method	Rpt Limit	Cus MDL Limit	Analysis Date	Tech
										,
	**									
						ί,			Ş*	
								. *		
Sample: 08 Well	S-6							Sa	ampled 12/16/2	016@ 12:39
Sampled By David F	Richardson									
Sunate Bassa			44 mg/L	20		EPA 300.0	10		12/22/2016 17:3	2 LJC
			<0.50 mg/L	1		EPA 200.7	0.50		12/21/2016 19:4	6 JGF
Cadmium		UJ	<0.002 mg/L	1	I	EPA 200,7	0.010	0.002 0.0002	0 12/21/2016 19:40	3 JGF
Iron			34 mg/L	1	l	EPA 200.7	0.010		12/21/2016 19:4	3 JGF

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CERTIFICATE OF ANALYSIS

#### 6091197

Southern Illinois Power Coop. Leonard Hopkins

\$

Date Due Date Received

10/04/2016 09/23/2016

Quarterly Well Sampling 2014 Thru 2016

Analysis	000 0	lualifier	Result Units	DF	Min	Мах	Method		Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
							7		,				
Sample 09 Mall C	6	···	as trini querto i que la						به بد فرید				
Sampled By David Rich	nardson							n 1997 - San			San	pled 09/20/20	15© 11:15
Sulfate		·	47 mg/L	10		·	EPA 300.0	a na 1957 ang ang taong taong sa	5.0			09/26/2016 22:43	LJC
Beron		14 <sub>8</sub>	<0,50 mg/l.	1		ł	EPA 200.7		0.50			09/27/2016 12:03	EML
Cadmium		J1 0	.0039 mg/L	1		ŧ	EPA 200.7	C	0.010	0.002	0.00020	09/27/2016 15:45	EML
tran			86 mg/L	10		E	EPA 200,7		0.10			09/27/2016 17:28	ÉML

#### 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.

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Southern Illinois Power Coop

2/10/2017

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

Southern Illinois Power Coop

### Falling Head Slug Test

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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 Adjusted Time Drawdown Head Head Ratio (Seconds) (Seconds) (feet) (feet) 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 g 1. -3 7 53 1.33 0.7548 10 1.1 -2.9 7.736 1.536 0.8717 11 1.2 -2.8 1.736 7.936 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

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34	4.1	1.e-001	7 542	1 2 4 2	0 7040
35	4.2	0.2	7.542	1.342	0.7616
36	4.4	0.4	7.509	1.309	0.7429
37	4.5	0.4	7.535	1.335	0.7577
38	4.6	0.5	7.579	1.379	0.7826
30	4.0	0.6	7.603	1.403	0.7963
10	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	0.7500
45	5,5	1.5	7 57	1.00	0.7715
46	5.6	1.6	7.56	1.07	0.7775
47	5.7	1.0	7.50	1.30	0.7719
48	59	1.7	7.542	1.342	0.7616
49	6	1.5	7.53	1.33	0.7548
50	0. 6 10	2.	7.532	1.332	0.756
51	0.12	2.12	7.539	1.339	0.7599
50	0.24	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	0.7630
59	7.25	3.25	7 546	1 346	0.7039
60	7.37	3.37	7.544	1.040	0.7039
61	7.5	3.5	7.542	1.344	0.7628
62	7.62	3.62	7.542	1.342	0.7616
63	7.75	2.02	7.539	1.339	0.7599
64	7.70	0.70	7.539	1.339	0.7599
65	7.07	3.07	7.542	1.342	0.7616
66	0.40	4.	7.544	1.344	0.7628
67	0.12	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	0.7500
78	9.63	5.63	7.539	1 330	0.7599
79	9.75	5.75	7.530	1 2 2 0	0.7599
80	9.88	5.88	7.539	1.008	0.7599
81	10	5.00	7.009	1.339	0.7599
80 80	10.12	0.	7.007	1.337	0.7588
02	10.15	0.13	7.537	1.337	0.7588
03	10,25	6.25	7.537	1.337	0.7588
04 85	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
120	19.9	15.9	7.514	1.314	0.7457
120.	20.9	16.9	7.514	1.314	0.7457
127	21.9	17.9	7.511	1.311	0.744
120	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
137	20.9	21.9	7.504	1,304	0.7401
133	20.9	22.9	7.504	1.304	0.7401
134	28.9	23.9	7.502	1.302	0.7389
135	20,9	25.9	7.0	1.3	0.7378
136	20.0	20.9	7.497	1.297	0.7361
137	31 9	20.9	7.497	1.297	0.7361
138	32.9	27.9	7,490	1.295	0.735
139	33.0	20.9	7.493	1.293	0.7338
140	34 Q	29.9	7.49	1.29	0.7321
14.1	35.9	31.0	7,49	1.29	0.7321
142	36.9	32.0	7,400	1.288	0.731
143	37.9	330	7 183	1.200	0.7299
144	38.9	34.9	7 / 22	1.200	0.7281
145	39.9	35.0	7 / 21	1.200	0.7281
146	<u>40</u> 9	36.9	7.470	1.201	0.727
147	41.9	37.9	7470	1.210	0.7259
		01.0	1.710	1.219	0.7209

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148	42.9	38,9	7 476	1 276	0 7242
149	43.9	39.9	7 474	1.270	0.7242
150	44.9	40,9	7 474	1.274	0.723
151	45.9	41.9	7 472	1.274	0.723
152	46.9	42.9	7 469	1.272	0.7219
153	47.9	43.9	7.469	1 269	0.7202
154	48.9	44.9	7.467	1 267	0.7202
155	49.9	45.9	7.465	1 265	0.7170
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	1.262	0.7162
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	<b>1</b> .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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704.9	700.9	6 792	0 502	0.226
734.9	730.9	6 775	0.532	0.330
764,9	760.9	6 757	0.573	0.3203
794.9	790.9	6 742	0.542	0.3101
824.9	820.9	6 728	0.528	0.3070
854.9	850.9	6 714	0.520	0.2997
884.9	880.9	6 698	0.498	0.2317
914.9	910.9	6.686	0.486	0.2020
944.9	940.9	6.672	0.472	0.2730
974.9	970.9	6.66	0.46	0.2079
1005	1001	6 649	0.449	0.2011
1035	1031	6.637	0.437	0.2040
1065	1061	6 623	0.423	0.2401
1095	1091	6.611	0.411	0.233
1125	1121	6 599	0.399	0.2000
1155	1151	6.59	0.39	0.2207
1185	1181	6.578	0.378	0.2215
1215	1211	6.569	0.369	0.2140
1245	1241	6.56	0.36	0.2004
1275	1271	6.55	0.35	0 1986
1305	1301	6.541	0.341	0 1935
1335	1331	6.532	0.332	0 1884
1365	1361	6.525	0.325	0 1844
1395	1391	6,515	0.315	0 1788
1425	1421	6.508	0.308	0.1748
1455	1451	6.499	0.299	0.1697
1485	1481	6.492	0.292	0.1657
1515	1511	6.485	0.285	0,1617
1545	1541	6.48	0.28	0.1589
1575	1571	6,473	0.273	0.1549
1605	1601	6.466	0.266	0.151
1635	<b>1</b> 631	6.459	0.259	0.147
1665	1661	6.454	0.254	0.1442
1695	1691	6.45	0.25	0.1419
1725	1721	6.445	0.245	0.139
1755	1751	6.44	0.24	0.1362
	704.9 734.9 764.9 794.9 824.9 854.9 914.9 944.9 974.9 1005 1035 1065 1095 1125 1125 1125 1245 1245 1245 1305 1335 1365 1395 1425 1425 1455 1455 1455 1515 1545 1515 1545 1575 1605 1635 1605 1635 1695 172	704.9 $700.9$ $734.9$ $730.9$ $764.9$ $760.9$ $794.9$ $790.9$ $824.9$ $820.9$ $854.9$ $850.9$ $884.9$ $880.9$ $914.9$ $910.9$ $944.9$ $940.9$ $974.9$ $970.9$ $1005$ $1001$ $1035$ $1031$ $1065$ $1061$ $1095$ $1091$ $1125$ $1121$ $1155$ $1151$ $1185$ $1181$ $1215$ $1241$ $1275$ $1271$ $1305$ $1301$ $1335$ $1331$ $1365$ $1361$ $1395$ $1391$ $1425$ $1421$ $1455$ $1541$ $1515$ $1571$ $1605$ $1601$ $1635$ $1631$ $1665$ $1661$ $1695$ $1691$ $1725$ $1721$ $1755$ $1751$	704.9 $700.9$ $6.792$ $734.9$ $730.9$ $6.775$ $764.9$ $760.9$ $6.757$ $794.9$ $790.9$ $6.742$ $824.9$ $820.9$ $6.728$ $854.9$ $850.9$ $6.714$ $884.9$ $880.9$ $6.698$ $914.9$ $910.9$ $6.672$ $974.9$ $970.9$ $6.666$ $1005$ $1001$ $6.649$ $1035$ $1031$ $6.637$ $1065$ $1061$ $6.623$ $1095$ $1091$ $6.611$ $1125$ $1121$ $6.599$ $1155$ $1151$ $6.59$ $1185$ $1181$ $6.578$ $1215$ $1241$ $6.56$ $1275$ $1271$ $6.55$ $1305$ $1301$ $6.541$ $1335$ $1331$ $6.532$ $1365$ $1361$ $6.525$ $1395$ $1391$ $6.515$ $1425$ $1421$ $6.608$ $1455$ $1451$ $6.499$ $1485$ $1481$ $6.492$ $1515$ $1511$ $6.485$ $1545$ $1541$ $6.473$ $1605$ $1601$ $6.454$ $1655$ $1661$ $6.454$ $1695$ $1691$ $6.45$ $1725$ $1721$ $6.445$	704.9 $700.9$ $6.792$ $0.592$ $734.9$ $730.9$ $6.775$ $0.575$ $764.9$ $760.9$ $6.757$ $0.557$ $794.9$ $790.9$ $6.742$ $0.542$ $824.9$ $820.9$ $6.728$ $0.528$ $854.9$ $850.9$ $6.714$ $0.514$ $884.9$ $880.9$ $6.698$ $0.498$ $914.9$ $910.9$ $6.686$ $0.446$ $944.9$ $940.9$ $6.672$ $0.472$ $974.9$ $970.9$ $6.66$ $0.46$ $1005$ $1001$ $6.649$ $0.449$ $1035$ $1031$ $6.637$ $0.437$ $1065$ $1061$ $6.611$ $0.411$ $1125$ $1121$ $6.599$ $0.399$ $1155$ $1151$ $6.59$ $0.39$ $1185$ $1181$ $6.578$ $0.378$ $1215$ $1211$ $6.569$ $0.369$ $1245$ $1241$ $6.56$ $0.36$ $1275$ $1271$ $6.55$ $0.325$ $1305$ $1301$ $6.541$ $0.341$ $1335$ $1331$ $6.532$ $0.325$ $1395$ $1391$ $6.515$ $0.315$ $1425$ $1421$ $6.499$ $0.299$ $1485$ $1481$ $6.492$ $0.292$ $1515$ $1511$ $6.448$ $0.28$ $1575$ $1571$ $6.473$ $0.273$ $1605$ $1661$ $6.455$ $0.255$ $1655$ $1661$ $6.455$ $0.255$ $1665$ $1661$ <td< td=""></td<>

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

### MARION STATION GROUNDWATER MONITORING WELL ANALYSIS SULFATE CONCENTRATION DATA

\*Results Expressed in mg/l

r				BACKGROUN	D WELLS			1		
DATE	PARAMETER	C1	C2	C3	\$1	\$2	\$3	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	554	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	220	270	120	23	71	2.2	34	210	60
2/25/2014	Sulfate	320	380	140	28	160	2.5	49	210	64
12/4/2014	Sulfate	268	338	140	26	77	22	43	210	71
0/12/2013	Sulfate	200	222	155	20	100	10	41	170	71
5/15/2015 6/17/2012	Sulfate	275	227	104	20	100	10	43	226	71
0/1//2013	Sulfate	205	210	194	20	41	<10	39	220	03
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	22	176	48
10/9/2002	Sulfate	167		- R	20	50	-0	30	128	43
8/30/2001	Sulfate	212		24	30	137	-0	42	183	71
5/25/2001	Sulfate	108	12	27	16	105	<8	22	140	62
3/13/2001	Sulfate	204	13 /11	2, ~R	35	340	<8	43	207	75
5/15/2001	Sundle	204	41	~0		540	-0		201	
San	nple event counts:	63	46	77	76	78	55	79	80	80

Note: \* = possible data error



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	-			1	Well S-1
LOG OF BO	RIN	IG _ T	r		
UNCONFINED COMPRESSIVE STRENGTH, TONS/FT*	OCPTH IN FRET	EAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL SURFACE ELEVATION
	5 10 15 20		au		Gray Sandstone End of Boring @ -251
GROUND WATER DATA		l		L.	withing A 161 man completion
Ground water encountered @ -1 PROJECT SIPC Wells Williamson County, Illinois	.3'	du	<u>1nç</u>	<u>i</u> di	глина; е -14° ироп сотристоп. Бате ог волика 9-20-93
CLAERT Southern Illinois Power Co-Op Marion, Illinois	pera	ativ	/e	<del></del>	раолест ко. Н~93196

Well S-1

Bite #:		County WilliamSon		<u>I</u>
Site Neme: SouthernIII	inois Power Co-Op		.lng	Lasting
Driffing Contractor: Holcomb	Foundation Engine	ering Co., Inc., p	its Drilled Start:	9/20/93
J. Carter	<b>A</b>	T. Halcomb	ficia Com	9/20/93
Ho	Tow Stem Augers			None
Drilling Method:		Orlillag	Fluids (lype):	
Annular Space Details		•	Elevetions -	.01 ft.
Type of Surface Sent:QUic	krete		7 3	MSL Top of Riser Pipe
Type of Annular Scalant:Co	ment/Bentonite	- $        -$		ft. Cealing Blickup
Amount of coment: 4 of bags		4		MEL Ground Surface
Amount of buntonities a of he	a I the per bas	9.		IL 189 of Reading Schedul
Anne of Managements Barris and	sullar Grapular			
aype of Bertonite Sell (Branuler,	reifer: <u>Grundial</u>			
Amount of bentanits: # of Bass	İbs. per baş	_50		
Type of Sand Pack: Sj	ica Sand	<b>「</b>	7	
	orado Silica			
Saures of Sand:		100		•
Amount of Band: # of bags	J lbs. per bag		1	
Well Construction Materia	ls .			
·			ł	•
				•
			_	•
		<u>3</u> .6		
tiser coupling joint SS3(	4		Į.	
ther size below w.t. SS30	╉╏╴╴╴╎╴┈┉┉┧			
creen SS30	┇┨╼╼╾┤╼╼╼╴┠			•
supling joint screen to river SS30			I	
ratectiva cading				
· · · · · · · · · · · · · · · · · · ·	•	_	-2	The of Sect
easurements	to .01 ft. (where opplicable		derrifer museumet fft-	reā 25 15401
er pipe length	16		<u>_11</u> a	Telal Best Intervol
tective coolna length	<u> </u>		<u>-13</u> h	Tep of Band
een length	• 9_8			
lana of screen to end cop	0,1		<u>-15</u> A.1	Rop of Servan
of screen to first jeint	0.1			
il length of casing	<b>a</b>		<u>10</u> ft.1	fotol Screen Interval
en alot eize	0.010#			
spenings in screen				
neter of borehole (In)	8		-25	octors of Servers
riser pipe (in)	2	1	<u>25</u> n. #	eitem of Borobolo
T Unloomh				
ited by: to not coald	Surveyed by	* * <del>**********************************</del>	IIL registration	0
	. :			

Well S-3 . · 3 LOG OF BORING UNCONFINED COMPRESSIVE STRENGTH, TONS/FT 5 1 SAMPLE DISTANCE LIQUID PLASTIC WATER DESCRIPTION OF MATERIAL LIMIT % DEPTH IN PCET **CONTENT %** SAMPLE L捌IT% SAMPLE NO. --Δ· ·n— -STANDARD "N" PENETRATION, BLOWSIFT TYPE SURFACE ELEVATION 20 40 50 60 18 3" Topsoll ┿┛┥┥┙╸╸╸╸╸ Brown Silty CLAY (CL) <del>┥┥┥╡╪╪╡╡╪┇╶╶╶╶╶╶╶╶╶╶╶╶╶╶╶╶</del> 5 Brown Silty CLAY (CL) w/Sand 10 1[au Gray Silty CLAY (CL) w/Sand 15 20 ╈<mark>╴╪╪╪╪╪╪╪╪╪╪╪╪╪╪╪╪╪╪╴</mark> 25 End of Boring @ -25' ------GROUND WATER DATA Ground water encountered @ -18' during drilling; @ -25' upon completion. OATE OF BORING PROJECT SIPC Wells 9-20-93 Williamson County, Illinois PROJECT NO. Southern Illinois Power Co-Operative CLIENT H-93196 Marion, Illinois

117 11 0 -

Well S-3

Site *:       Southernillit         Site Name:       Southernillit         Drilling Contractor:       Holcomb         Drilling Contractor:       Holcomb         Drilling Method:       Hol         Drilling Method:       Hol         Annular Space Details       Type of Surface Scal:       Quic.         Type of Surface Scal:       Quic.         Type of Surface Scal:       Center         Amount of cament: # of bags.       Amount of bentonite: # of bags.         Type of Bentonite Scal (Granular, to       Sill         Amount of bentonity:       # of Bags.         Type of Sand Pack:       Sill         Bource of Sand:       Col         Amount of Sand:       # of bags.         Well Construction Material       Sand: # of bags.	County	id Coordinate: Northing <u>CO INC.</u> Data Drilled 3 <u>T. Holcomb</u> Drilling Fields Stype <u>3</u> <u>3</u> <u>3</u> <u>4</u> <u>5</u> <u>7</u> <u>7</u> <u>8</u> <u>8</u> <u>8</u> <u>8</u> <u>9</u> <u>9</u> <u>9</u> <u>9</u> <u>9</u> <u>9</u> <u>9</u> <u>9</u>	Well 5 Eesting Itart:9/20/93 Date Completed:9/20/93 Date Completed:9/20/93 IsNONE IsNONE IsNBL Top of Protuctive Cooling SABL Top of Protuctive Cooling SABL Top of Protuctive Cooling IsNBL Top of Protuctive Cooling Is
Site Name: Southern11111 Drilling Contractor: Holcomb Driller: J. Carter Drilling Method: Hol Annular Space Details Type of Surface Seal: Quic Type of Surface Seal: Quic Type of Annular Sealant: Cer Amount of coment: # of bags Amount of bentonite: # of bags Type of Bentonite Seal (Granular, f Amount of bentonite: # of bags Type of Sand Pack: Sil Source of Sand: # of bags Amount of Sand: # of bags	Inois Power Co-Op G Foundation Engineering Geologist: low Stem Augers krete ment/Bentonite 2 ibs. per bag 94 s _1 ibs. per bag 9 Pellet?:Granular  ica Sand lorado Silica  3 ibs. per bag 100	id Coordinate: Northing <u>COINC.</u> Data Drilled S <u>T. Holcomb</u> Drilling Fields (type) <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>	Easting
Drilling Contractor: Holcomb Driller: J. Carter Hol Drilling Method: Hol Annular Space Details Type of Surface Seal: Quic Type of Surface Seal: Quic Type of Annular Sealant: Cen Annount of coment: # of bags Annount of bentonite: # of bags Type of Bentonite Seal (Granular, 1) Annount of bentonite: # of Bags Type of Send Pack: Sil Source of Send: Col Annount of Sand: # of bags	Foundation Engineering         Ocologist:         low Stem Augers         low Stem Augers         krete         ment/Bentonite         2       Ibs. per bag         1       Ibs. per bag         9         Pellet>:       Granular         1       Ibs. per bag         1       Ibs. per bag	CO., INC. Data Deilled 5 T. Holcomb Deilling Fields fitypel	Itart:9/20/93 Date Completed:9/20/93 Date Completed:
Driller:	Geologist: low Stem Augers krete ment/Bentonite 2ibs. per bag _94 sibs. per bag _94 sibs. per bag _9 Pellet):Granular ibs. per bag _50 ica Sand lorado Silica ibs. per bag _100	T. Holcomb	Bate Completed:       9/20/93         I:       None         rations01 ft.       MBL Top of Protective Cooling
Driller:Hol Drilling Method:Hol Annular Space Details Type of Surface Seal:Quic Type of Annular Sealant:Car Annount of coment: # of bags Annount of bentonite: # of bags Annount of bentonite: # of Bags Type of Send Pack:Sil Source of Send:Col Annount of Sand: # of bags	Geologist: low Stem Augers krete ment/Bentonite 2ibs. per bag _94 sibs. per bag _94 sibs. per bag _9 Pellet):Granular ibs. per bag _50 lica Sand orado Silica ibs. per bag _100	Drilling Fleide Itypal	None None None Nations01 ft. MSL Top of Protective Ceeling MSL Top of Riser Pipe tt. Casing Stichup MSL. Ground Surface ft. Top of annular scalant
Orilling Method:       Hold         Annular Space Details         Type of Surface Scal:       Quic         Type of Surface Scal:       Quic         Type of Surface Scal:       Quic         Amount of coment:       of bags         Amount of bentonite:       of bags         Type of Bentonite Scal (Granular, I)         Amount of bentonite:       of Bags         Type of Scal Pack:       Sill         Bource of Scad:       of bags         Amount of Scad:       of bags         Well Construction Material	krete ment/Bentonite 2ibs. per bag94 sibs. per bag94 sibs. per bag94 feiler::Granular ibs. per bag50 ica Sand orado Silica ibs. per bag100		rations01 ft. 
Annular Space Details Type of Surface Seal:Quic. Type of Annular Sealant:Cer Amount of cumant: # of bags. Amount of bentonite: # of bags Type of Bentonite Seal (Granular, 1) Amount of bentonite: # of Bagb Type of Sand Pack:Sil Bource of Sand:Coil Amount of Sand: # of bags Well Construction Material	krete ment/Bentonite 2ibs. per bag94 ssibs. per bag9 Pellet):Granular  ibs. per bag50 lica Sand  lorado Silica  3ibs. per bag100		rations01 ft. MBL Top of Protective Cooing MBL Top of Ricer Pipe ft. Casing Stichup MBL, Ground Surface MBL, Ground Surface ft. Top of annular scalant
Annular Space Details Type of Surface Seal:Quic Type of Annular Sealant:Cer Amount of cament: = of bage . Amount of bentonite: = of bage Amount of bentonite: = of Bage Type of Send Pack:Col Bource of Send:Col Amount of Sand: = of bags	krete ment/Bentonite 2is. per bag _94 sisis. per bag _9 Petles::Granular is. per bag _50 ica Sand orado Silica is. per bag _100		MBL Top of Protective Cooling MBL Top of Riser Pipe MBL Casing Bilthup MBL, Ground Surface MBL, Ground Surface ft. Top of annular scalant
Type of Surface Seal:Quic. Type of Annular Sealant:Quic. Amount of coment: # of bags. Amount of bentonite: # of bags Type of Bentonite Seal (Granular, 1) Amount of bentonite: # of Bags Type of Sand Pack:Sill Source of Sand:Col Amount of Sand: # of bags Well Construction Material	krete ment/Bentonite 2ibs. per bag94 ssibs. per bag9 Pellet):Granular ibs. per bag50 lica Sand lorado Silica ibs. per bag100		MEL Top of Alset Pipe (t. Casiag Stichup MBI, Ground Surface MBI, Ground Surface ft. Top of annular scalant
Type of Annular Sealant: Amount of comant: # of bags. Amount of comant: # of bags Type of Benionite Seal (Granular, i Amount of benionite: # of Bags Type of Sand Pack:S11 Bource of Sand:C01 Amount of Sand: # of bags Well Construction Material	ment/Bentonite 2 ibs. per bag 94 s 1 ibs. per bag 9 Petler: <u>Granular</u> <u>1</u> ibs. per bag 50 ica Sand orado Silica <u>3</u> ibs. per bag 100		MBL Ground Surface 
Amount of coment: # of bags	2  bs. per bag 94 1  bs. per bag 9 Petlet: <u>Granular</u> <u>1</u>  bs. per bag 50 1 ica Sand 0 rado Silica <u>3</u>  bs. per bag 100 16		HBL, Ground Surface ft. Top of annular oralant
Amount of coment: • of page. Amount of bentonite: • of bag Type of Bentonite Seat (Granular, 1 Amount of bentonite: • of Bage Type of Send Pack: Sil Source of Send: Amount of Sand: • of bage Well Construction Material	ica Sand 3 ibs. per bag 1 ibs. per bag 1 ibs. per bag 1 ca Sand 1 orado Silica 3 ibs. per bag 100		ft. Top of annular gratant
Amount of bentonite: 4 of bag Type of Bentonite Seal (Granular, 1 Amount of bentonite: 4 of Bags Type of Sand Pack:	Petloz): <u>Granu]ar</u> <u>1</u> Ibs. pet bag <u>50</u> <u>1 ica Sand</u> <u>0 rado Silica</u> <u>3</u> Ibs. per bag <u>100</u>		
Type of Bentonite Seal (Granular, i Amount of bentonite: 4 of Bage Type of Sand Pack: Sil Source of Sand: Col Amount of Sand: 4 of bage Well Construction Material	Petlez: <u>Granular</u> <u>1</u> Ibs. pet bag <u>50</u> ica Sand orado Silica <u>3</u> Ibs. per bag <u>100</u>		·
Amount of bentonity: < ef Begs Type of Sand Pack:	<u>I</u> Ibs. per bag <u>50</u> lica Sand lorado Silica <u>3</u> Ibs. per bag <u>100</u>		
Amount of bentonity: 4 of Bags Type of Sand Pack: Sil Source of Sand: Col Amount of Sand: 4 of bags Well Construction Material	<u>ica Sand</u> orado Silica <u>3</u> Ibs. per bag <u>100</u>		
Type of Sand Pack:	ica Sand orado Silica <u>3</u> Ibs. per bag <u>100</u>		
Source of Sand: Col Amount of Sand: 4 of bage Well Construction Materia	orado Silica <u>3</u> Ibs. per bag <u>100</u>	-	•
Source of Sand: Amount of Sand: # of bags Well Construction Material	<u>3</u> 160, per bag <u>100</u>		
Amount of Sand: 4 of bags Well Construction Material	3 16s, per bagUU	-	
Well Construction Materia	la .		
AAAH COURCENCERCE MINICEED	3.000 -		
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	a a a a		•
			· - ' ·
22	<u> </u>		
Riser coupling joint SS30	)4		
Riser pipe above w.L. \$\$30	4		
Riese pipe belew w.t. SS30	4		•
Screen SSSC	*		
seeping wint screek to had \$230	<u></u>		
Protoctive casing			
Ø E _	* 	-2	
leosuremento	to .01 fl. (where applicable)		
lear nine langth ** 1	7 C		(1. Total Seel Interval
	• A D		
item inagina to and east	<u>y,o</u> (),1		ft. Twp of Bereen
es of screen to first laist	<u>0.1</u>		
tel length of casins			to Total Repain Interval
tren slot size	0.010"		. 20. Båritt værnals sitteri ant
foconing in a real former		ke:	
meter of herebyie tint	8	······································	
of riser nise lint	2	-25	ft. Battom of Barekala



F	Electror	nic Filii	na: Re	ceived	l. Clerk	's C	)ffice (	09/02	/2021
-		•			i, cicin			Well	S-4
		l Protect	ian Ader	ACY.	·····		Well (	Comple	tion Report
Illipole Envir	.020senta	I F I OVECC			liamson		ພ.		1
Site			Co	unty					the set of the set
Site Name: Southern	1111101	s Power	<u>uo-up</u>	Grid Co	ordinate: No	rthing			G/21/93
Drilling Contractor: Hold	comb Fou	ndation	Enginee	ring Co,	<u>, Inc.</u>	Date I	Drilled Star	rt:	0/21/93
J. Cart	er		ieologist:	Τ.	Holcomi	b	I	Date Cemj	(aled:
Driller:	Hollow	Stem Au	igers		Dr/Illi	ng Flai	ide ltypelt.		None
Drilling Method:							<del></del>		
Annular Space Deta	ille Outekre	to			, Tr		Eleva	tions	01 ft. MBL Top of Protective Cash MSL Top of Riser Pipe
type of Surface Seal:	Coment	-/Rentor	hite			┍╌┟╌└┈			ft. Cering Stickup
Type of Annular Sealant: Amount of cement: # (	t bage	lba. j	per bag _9	- 4 -			<u>} -2</u>		MSL Ground Surface (t. Top of annular scalant
Amount of bentonite:	e of bags	L	per beg	- D					
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She Name: Souther	nIIIino	ts Power	r Co-Op	Grid C	sordinate: Northi	ng		Esning	· · ·
Drilling Contractor: Ho	Icomb For	undatio	n Engine	<u>eríng Co</u>	IRC. Del	is Drilled S	ltort:	9/20/	93
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E	lectronic Filir	g: Received,	Clerk's Of	fice 09/02	2/2021
		-		Well S-	6
				Wolf Com	Disting trainer
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		County	(Tanison	Well #	
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Drilling Contractor: north	Callo realiaceres	T.	Holcomb	Date C	emplated:9/20/93
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## Electronic Filing: Received, Clerk's Office 09/02/2021 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

1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -





Holcomb Foundation Engineering Company	Monitoring Well Completion Report
Site # H-10037 County Williamson	Well # S2
Site Name Southern Illinois Power Cooperative Grid Coordina	te NorthingEasting
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	+3.0 MSL Top of Riser Pipe
Annular Space Details	
Type of Surface Seal: Concrete	0.0 MSL Ground Surface
Type of Annular Sealant: Bentonite Chips	ft. Concrete Seal
Amount of Cement: # of bags lbs_ par bag	-1.0 ft. Top of Bentonite
Amount of benchule, with bags hos, per bag	
Amount of Bentonite: # of bags 5 like per bag 50	
Type of Sand Pack: FillerSil #1 10-20	
Source of Sand: FilterSil Junction City, GA	
Stainless Steel Specify Type FVC Specify Type Other Specify Type	13ft. Bentonite Seal
iser coupling joint Sch 40	
iser pipe below wt Sch 40	
Screen Sch 40	
oupling joint screen to riser Sch 40 rotective Casing 5 ft	
feasurements to .1 ft. (where applicable)	14.0 (th Tap of Sand
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reen length 9.8'	
Attom of screen to end cap 0.1'	
tal length of casing	10.0 ft. Total Screen Interval
reen slot size	
of openings in screen	
ameter of borehole (in) 8.0"	
	26.0 ft. Bottom of Screen -27.5 ft. Bottom of Borehole
Surveyed by: T Holcomb Surveyed by:	Ill. registration #
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# **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.



Cito # 11400	27	<u> </u>	unter lookeen		147-11 44	C1
Site # H-100	37	Co	unty Jackson		weii #	
Site Name South	ern Illinois Po	wer Cooperati	ive	Grid Coordinate Nor	thing	Easting
Drilling Contracto	r Holcomb F	oundation Eng	gineering		Date Drilled Start:	2/16/2010
Driller Dan R	Russell (	Geologist <u>Tim</u>	Holcomb		Date Completed:	2/16/2010
Drilling Method	Hollow Stem	Augers				
Annular Space Detail	5				+3.0 MSL Top of R	liser Pipe
Type of Surface Seal:	<u>-</u>	Concrete			0.0 MSL Ground	Surface
Type of Annular Seala	int: E	Bentonite Chips			ft. Concrete S	eal
Amount of Cement:	# of bags	lbs. p	er bag		10 ft Top of Bop	kanila
Amount of bentonite	: # of bags	lbs. p	er bag		-1.0 n. 10p of ben	(OILITE
Type of Bentonite Seal	l (Granular, Pelle	t): <u>G</u> ran	ular Chips			
Amount of Bentonite:	# of bags	1 lbs, p	per bag 50			
Type of Sand Pack:	FilterSil #1 10	-20				
			way bag 50			
Amount of Sand: # of Well Construction Ma	f bags	410s. p	er bag			
Amount of Sand: # of Well Construction Ma	f bags	Ibs. p			ft. Bentonite S	Seal
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Holcomb Foundation Engineering Company	Monitoring Well Completion Report
Site # H-10037 County Williamson	Well #C2
Site Name Southern Illinois Power Cooperative	Grid Coordinate NorthingEasting
Drilling Contractor Holcomb Foundation Engineering	Date Drilled Start: 2/16/2010
Driller Dan Russell Geologist Tim Holcomb	Date Completed: 2/16/2010
Annular Space Details	+3.0 MSL Top of Riser Pipe
Type of Surface Seal: Concrete	0.0 MSL Ground Surface
Type of Annular Sealant: Bentonite Chips	ft. Concrete Seal
Amount of Cement: # of bags lbs. per bag	0.5ft. Top of Bentonite
Amount of bentonite: # of bagslbs. per bag	
Type of Bentonite Seal (Granular, Pellet): Granular Chips	
Amount of Bentorite: # of bags 1 lbs. per bag 50	
Type of Sand Pack: FilterSil #1 10-20	
Source of Sand: FilterSil Junction City, GA	
,,,	
Well Construction Materials	0.5 ft. Bentonite Seal
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eel ectify 1 ectify 1 her fr	
Riser coupling joint Sch 40	
Riser pipe above wt Sch 40	
Kiser pipe below w? Sch 40	
Coupling joint screen to riser Sch 40	
Protective Casing	
Measurements to .1 ft. (where applicable)	10 th Top of Sand
Riser pipe length 5'	-2.0 ft. Top of Screen
Protective casing length	
creen length 9.8'	
lottom of screen to end cap 0,1'	
op of screen to first joint 0.1'	
otal length of casing	10.0 ft, Total Screen Interval
creen slot size 0.010"	
of openings in screen	
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D of riser pipe (in) 2.0*	
	12.0 ft. Bottom of Screen -12.0 ft. Bottom of Borehole
	<u>La de la de la de la de</u>
₩.\$	
Completed by: T. Holcomb Surveyed by:	IIL 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:

<u>1344247</u> (in place cubic yards)

2. Remaining capacity in existing units at the facility:

e 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 Statues 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.

Rockford + 430.2 N - Main St., Rockford, H. 61103 + (815) 987 2760 Elgin + 595 S - State, Elgin, H. 60123 + (847) 608-3131 Bureau of Land – Peoria + 7620 N, University St., Peoria, H. 61614 + (309) 693-5462 Collinsville + 2009 Mall Street, Collinsville, H. 62234 + (618) 346-5120 Des Plaines > 951137 Harrison St., Des Plaines, IL 60046 + (847) 294-4000 Peoria e 541539 University St., Peoria, IL 61614 + (309) 693-5463 Champaigh e 2233 S. First St., Champaign, IL 61820 + (217) 278-5800 Marion e 230337 St., Suite 716, Marion, IL 62959 + (618) 993-7200

ENVIRONMENTAL TESTING LABORATORY

March 29, 2010

Jason McLaurin Southern Illinois Power Cooperation 11543 Lake of Egypt Road Marion, IL 62959 TEL: (618) 964-1448 FAX: 5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

> TEL: 618-344-1004 FAX: 618-344-1005



NELAP Accredited #100226

**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,

Shelly A Hennessy

Shelly A. Hennessy Project Manager (618)344-1004 ex 36

# TEKLAB, INC.

1 -

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### **CASE NARRATIVE**

Cooler Receipt Temp: 14.4 °C

State accreditations:

LabOrder: 10030917 Report Date: 29-Mar-10

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

An employee of Teklab, Inc. collected the sample(s).

Project: Agreement #10-5007

Client: Southern Illinois Power Cooperation

	Qualifiers	
DF - Dilution Factor RL - Reporting Limit	<ul> <li>B - Analyte detected in the associated Method Blank</li> <li>J - Analyte detected below reporting limits</li> </ul>	C - Client requested RL below PQL D - Diluted out of sample
Surr - Surrogate Standard added by lab	<ul> <li>R - RPD outside accepted recovery limits</li> <li>S - Spike Recovery outside accepted recovery limits</li> <li>X - Value aworde Maximum Contentioned Lowel</li> </ul>	<ul> <li>E - Value above quantitation range</li> <li>H - Holding time exceeded</li> </ul>
Q - QC criteria failed or noncompliant CCV NELAP - IL ELAP and NELAP Accredited Field c	# - Unknown hydrocarbon f Testing IDPH - IL Dept. of Public Health	MI - Matrix interference DNI - Did not ignite

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illing	Client: Southern Illinois Power Cooperation			Client Project: Agreement #10-5007						
WorkOrder: 10030917	WorkOrder: 10030917			Client Sample ID: C1						
Lab ID: 10030917-001				Collection	Date: 3/2	24/2010	9:00:00 AM			
Report Date: 29-Mar-10		Matrix: GROUNDWATER								
Analyses	Certification	n RL	Qual	Result	Units	DF	Date Analyzed An	alyst		
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)									
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		
lron	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

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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	n RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
<u>SW-846 3005A, 6010B</u>	METALS BY ICP (TOTAL)							
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
SW-846 9036 (TOTAL Sulfate	) NELAP	50		168	mg/L	1	3/25/2010 3:23:00 PM	DLW

Sample Narrative

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: S	Southern Illinois Power Cooperation			Client Project: Agreement #10-5007						
WorkOrder: 1(	Order: 10030917			Client Sample ID: S5						
Lab ID: 10030917-003				Collection	Date: 3/2	24/2010	9:37:00 AM			
Report Date: 29-Mar-10				Matrix: GROUNDWATER						
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst		
SW-846 3005A, 6010B,	METALS BY ICP (TOTAL)									
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		
SW-846 9036 (TOTAL)										
Sulfate	NELAP	50		190	mg/L	1	3/25/2010 3:23:00 PM	DLW		

Sample Narrative

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illing	Client: Southern Illinois Power Cooperation				Client Project: Agreement #10-5007						
WorkOrder: 10030917				Client Samp	ole ID: C3	1					
Lab ID: 10030917-004		Collection	Date: 3/2	24/2010	9:52:00 AM						
Report Date: 29-Mar-10		Matrix: GROUNDWATER									
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	alyst			
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)										
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			
SW-846 9036 (TOTAL)											
Sulfate	NELAP	50		91	mg/L	1	3/25/2010 3:23:00 PM	DLW			

Sample Narrative

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SW-846 3005A, 6010B, Metals by ICP (Total)

Fe - Sample concentration was greater than 5 times the spike concentration.

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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	ı RL	Qual	Result	Units	DF	Date Analyzed An	alyst
<u>SW-846 3005A, 6010B, METAL</u>	<u>S 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
íron	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

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illino	Client: Southern Illinois Power Cooperation			Client Project: Agreement #10-5007						
WorkOrder: 10030917	WorkOrder: 10030917			Client Sample ID: S1						
Lab ID: 10030917-006				Collection	Date: 3/2	24/2010	10:29:00 AM			
Report Date: 29-Mar-10		Matrix: GROUNDWATER								
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	alyst		
SW-846 3005A, 6010B, METALS BY 1	CP (TOTAL)	· ·								
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

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illing	Client: Southern Illinois Power Cooperation			Client Project: Agreement #10-5007						
WorkOrder: 10030917				Client Samp	le ID: S2					
Lab ID: 10030917-007	Collection	Date: 3/2	24/2010	10:54:00 AM						
Report Date: 29-Mar-10		Matrix: GROUNDWATER								
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	alyst		
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)									
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

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

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	n RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)							
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
SW-846 9036 (TOTAL)								
Sulfate	NELAP	5		11	mg/L	1	3/26/2010 11:58:00 AM	I DLW

#### LABORATORY RESULTS

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illing	t: Southern Illinois Power Cooperation			Client Project: Agreement #10-5007						
WorkOrder: 10030917	10030917			Client Sample ID: S4						
Lab ID: 10030917-009	Lab ID: 10030917-009					24/2010	11:29:00 AM			
Report Date: 29-Mar-10 Matrix: GROUNDWATER						/ATER				
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Ar	alyst		
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)									
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		

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NVIRONMENTAL TESTING LABORATORY			TEL: 618-344- FAX: 618-344-	1004 1005
Client: Southern Illinois Power Coope Project: Agreement #10-5007 Lab Order: 10030917 Report Date: 29-Mar-10	eration		RECEIVING CHECK I	LIST
Carrier: Jacob Grimes		Received Bys. D	B	
Completed by: On: 24-Mar-10 Dawn Brantley	:	Reviewed by: On: 24-Mar-10	Elizabeth L. Hurley Elizabeth A. Hurley	
Pages to follow: Chain of custody 1 Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present? Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance? When thermal preservation is required, samples are complianted	Extra pages incl Yes V None Yes V Yes V Yes V Yes V Yes V Yes V Yes V Field Yes V Yes V	uded 0 No 1 No 1 No 1 No 1 No 1 No 1 No 1 No 1	Not Present ☐ Temp Blue Ice ☐ Dry Ice	°C 14.4
0.1°C - 6.0°C, or when samples are received on ice the same	day as collected	No		
Water - TOX containers have zero headspace?				
Water - pH acceptable upon receipt?	Yes 🗹			
Any No responses mu	ust be detailed b	elow or on the	COC.	



# TEKLAB, INC.

ENVIRONMENTAL TESTING LABORATORY

June 17, 2010

Jason McLaurin Southern Illinois Power Cooperation 11543 Lake of Egypt Road Marion, IL 62959 TEL: (618) 964-1448 FAX: 5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

> TEL: 618-344-1004 FAX: 618-344-1005



NELAP Accredited #100226

**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,

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	<b>DNI</b> - Did not ignite							
NELAP - IL ELAP and NELAP Accredited Field of	of Testing IDPH - IL Dept. of Public Health	-							

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: 10060511	WorkOrder: 10060511				le ID: C1						
Lab ID: 10060511-001 Report Date: 17-Jun-10				Collection	Date: 6/1	0/2010	9:00:00 AM				
				Μ	atrix: GF	OUNDW	/ATER				
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst			
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)										
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			

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern I	Client: Southern Illinois Power Cooperation					Client Project: Agreement #10-5007					
WorkOrder: 10060511	WorkOrder: 10060511										
Lab ID: 10060511-	Lab ID: 10060511-002					10/2010	9:17:00 AM				
Report Date: 17-Jun-10	Matrix: GROUNDWATER										
Analyses	Certification	n RL	Qual	Result	Units	DF	Date Analyzed A	nalyst			
SW-846 3005A, 6010B, METALS	BY ICP (TOTAL)										
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			
SW-846 9036 (TOTAL)											
Sulfate	NELAP	50		156	mg/L	1	6/15/2010 1:06:00 PM	DLW			

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southerr		Client Project: Agreement #10-5007							
WorkOrder: 1006051		Client Sample ID: C3							
Lab ID: 10060511-003 Report Date: 17-Jun-10				Collection	Date: 6/*	0/2010	9:52:00 AM		
				Matrix: GROUNDWATER					
Analyses	Certification	n RL	Qual	Result	Units	DF	Date Analyzed An	alyst	
SW-846 3005A, 6010B, METAI	LS BY ICP (TOTAL)					÷			
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	

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illin	Client Project: Agreement #10-5007							
WorkOrder: 10060511	Client Sample ID: S1							
Lab ID: 10060511-004	Collection	Date: 6/*	0/2010	10:32:00 AM				
Report Date: 17-Jun-10	M	latrix: GF	OUNDV	VATER				
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)							
Boron	NELAP	0.0200		0.0224	mg/L	1	6/14/2010 10:06:48 F	M LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 10:06:48 P	M LAL
Iron	NELAP	0.0200		55.1	mg/L	1	6/14/2010 10:06:48 P	M LAL
SW-846 9036 (TOTAL)								
Sulfate	NELAP	5		29	mg/L	1	6/16/2010 10:59:00 A	M DLW

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illino	Client: Southern Illinois Power Cooperation					Client Project: Agreement #10-5007							
WorkOrder: 10060511		Client Sample ID: S2											
Lab ID: 10060511-005		Collection	Date: 6/	10/2010	10:49:00 AM								
Report Date: 17-Jun-10		Matrix: GROUNDWATER											
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst					
SW-846 3005A, 6010B, METALS BY 1	CP (TOTAL)												
Boron	NELAP	0.100		2.07	mg/L	5	6/15/2010 10:34:35 A	M LAL					
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/15/2010 2:47:34 PI	M JMW					
iron	NELAP	0.0200		250	mg/L	1	6/14/2010 10:13:25 P	M LAL					
<u>SW-846 9036 (TOTAL)</u>													
Sulfate	NELAP	50		184	mg/L	1	6/15/2010 1:06:00 PM	M DLW					

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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							
				Matrix: GROUNDWATER							
				Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An
SW-846 3005A, 6010B, METALS BY 1	CP (TOTAL)										
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

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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	n RL	Qual	Result	Units	DF	Date Analyzed An	alyst
SW-846 3005A, 6010B, METALS BY	CP (TOTAL)							
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
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		61	mg/L	1	6/15/2010 1:06:00 PM	DLW

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illinoi	Client: Southern Illinois Power Cooperation					Client Project: Agreement #10-5007							
WorkOrder: 10060511	WorkOrder: 10060511					Client Sample ID: S5							
Lab ID: 10060511-008				Collection	Date: 6/7	0/2010	9:33:00 AM						
Report Date: 17-Jun-10				М	atrix: GF	OUNDW	/ATER						
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst					
SW-846 3005A, 6010B, METALS BY I	CP (TOTAL)												
Boron	NELAP	0.0200		< 0.0200	mg/L	1	6/14/2010 10:33:42 Pl	M LAL					
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	6/14/2010 10:33:42 Pi	VI LAL					
Iron	NELAP	0.0200		8.25	mg/L	1	6/14/2010 10:33:42 PI	VI LAL					
<u>SW-846 9036 (TOTAL)</u>													
Sulfate	NELAP	50		209	mg/L	1	6/15/2010 1:06:00 PM	I DLW					

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							
Analyses	Certificatio	n RL	Qual	Result	Units	DF	Date Analyzed An	alyst			
<u>SW-846 3005A, 6010B, METALS B</u>	Y ICP (TOTAL)										
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			

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY			TEL: 618-344-1004 FAX: 618-344-1005
Client: Southern Illinois Power Coop Project: Agreement #10-5007 Lab Order: 10060511 Report Date: 17-Jun-10	eration		RECEIVING CHECK LIST
Carrier' Jacob Grimes		Dessived Due All	D
Completed by: Marvin L. Darling On: 10-Jun-10 Marvin L. Darling	Ш.	Reviewed by: On: 10-Jun-10	Elizabeth A. Hurley Elizabeth A. Hurley
Pages to follow: Chain of custody 2	Extra pages inc	luded 0	]
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present Temp °C 15.6
Type of thermal preservation? Chain of custody present?	None 🗌 Yes 🔽	Ice 🗹 No	Blue Ice Dry Ice
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 compliar 0.1°C - 6.0°C, or when samples are received on ice the same	nt with a temperai a day as collected	lure between	
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 m	nust be detailed b	elow or on the C	000.

Print Form	<b>Teklab Chain</b> 5445 Horseshoe Lake Road ~ Collinsville, IL 62234	<b>1 of Custody</b> - ~ Phone: (618)344-1004 ~	Pgof Fax:(618)344-1005	2 Workorder joglo & 511
Southern Illinois Power Cooperation	Are the samples chilled?	Yes 🔿 No with: 🌾 Ice	() Blue ice Preserv	ed in C Lab K Field
11543 Lake of Egypt Road	Cooler Temp 15, 6 Samp	pler Jacob Grimes		sup la cit
Marion	lL 62959			
Project: Agreement #10-5007	Comments Metals: B, C	cd, and Fe		
Contact Jason McLaurin	eMail Phone (618) 964-1	1448 Requested Due Date	NTAT Billing/PO	
lanan meneratu kalent				
Lab Use Sample (D	Sample Date/Time Preservative Matrix	ətəflu2 21619M 21619F		
licotoni	$[l/l^2 \delta_0 0^{\circ}]$ Other Groundwater	            		
8 2,0-	M Other Groundwater			
	Order Other Groundwater			
-Crit 31	(0)2 Other Groundwater			
500-	Other Groundwater			
-01 53	Coundwater			
	Cher Groundwater			
55 500-	y 093 Other Groundwater			
Betterdaished By	/* Date/Time			
		Receiv	/ed By	Date/Time
	10/10/14B	Mornin J- Darline	1 TT	6/10/10 1415
The individual signing this agreement on beh.	half of client acknowledges that they have read and understand th	he terms of this agreement and the	at they have the authority to sign on	h behalf of client.

. Listantinarritetiinin

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

Print Form 5445 Hore	Teklab Chai	n of Custody	Pg. 20	2 Workorder 10000511
Southern Illinois Rower Cooperation	Are the samples chilled?	34 ~ Phone: (618)344-1004 ~ 1 ● Yes ( No with: ( Ice	ax:(618)344-1005 ک 8ایرونده	,
11543 Lake of Egypt Road	Cooler Temp Sar	ndler Jacob Grimes		ream C Lab C Field
Marion	62959			
Project: Agreement #10-5007	Comments Metals B	, Cd, and Fe		
Contact Jason McLaurin eMail	Phone (618) 964	4-1448 Requested Due Date	NTAT Balling Inc.	
				- Yesti - Yesti - Yesti - Yesti - Yesti - Yesti
NATURAL CONTRACTOR				
Lab Use Sample ID Sample	e Date/Time Preservative Matrix	əfatlu 2lafəf		
1000 000 000 000 0000 0000 00000 0000000	(O 1001 Other Groundwater			
	Unpres			
	Unpres Aqueous			
Relingutspeed 8y *	Bate/Time			
	1, 110 1415	Receive	ed By	Date/Time
	CILI - I/AI/ M	Merring A- Daling	H	\$1h1 01/01/9
The individual signing this agreement on hebrait of client actions				
	iowieuges inal 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

# TEKLAB, INC.

ENVIRONMENTAL TESTING LABORATORY

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

> 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: NELAP Accredited #100226

WorkOrder: 10090471

Dear Jason McLaurin:

**RE:** Agreement #10-5007

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,

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

#### **CASE NARRATIVE**

Cooler Receipt Temp: 11.8 °C

State accreditations:

LabOrder: 10090471 Report Date: 17-Sep-10

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

An employee of Teklab, Inc. collected the sample(s).

Project: Agreement #10-5007

Client: Southern Illinois Power Cooperation

	Qualifiers	
DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below POI.
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	of Testing IDPH - IL Dept. of Public Health	<b>2</b>

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illi	nois Power Coo	peration		Client Project: Agreement #10-5007						
WorkOrder: 10090471				Client Sample ID: C1						
Lab ID: 10090471-0	01			Collection Date: 9/13/2010 8:32:00 AM						
Report Date: 17-Sep-10		Matrix: GROUNDWATER								
Analyses	Certification	ı RL	Qual	Result	Units	DF	Date Analyzed An	alyst		
SW-846 3005A, 6010B, METALS B	Y ICP (TOTAL)						······································			
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		
lron	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.

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern	Illinois Power Co	operation		Client P	roject: Ag	reemen	it #10-5007		
WorkOrder: 1009047	1			Client Samp	ole ID: C2				
Lab ID: 1009047	1-002			Collection	Date: 9/1	3/2010	8:49:00 AM		
Report Date: 17-Sep-10				Matrix: GROUNDWATER					
Analyses	Certificatio	n RL	Qual	Result	Units	DF	Date Analyzed A	nalyst	
SW-846 3005A, 6010B, METAL	S 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	I LAL	
Iron	NELAP	0.0200		6.67	mg/L	1	9/15/2010 6:09:59 AM	LAL	
<u>SW-846 9036 (TOTAL)</u>									
Sulfate	NELAP	50		164	mg/L	1	9/16/2010 9:37:00 AM	DLW	

Sample Narrative

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

### LABORATORY RESULTS

Client: Sou WorkOrder: 100 Lab ID: 100 Report Date: 17-5	ithern Illinois Power Cooj 90471 90471-003 Sep-10	peration		Client Project: Agreement #10-5007 Client Sample ID: C3 Collection Date: 9/13/2010 9:31:00 AM Matrix: GROUNDWATER					
Analyses	Certification	I RL	Qual	Result	Units	DF	Date Analyzed Ar	alyst	
<u>SW-846 3005A, 6010B, M</u>	ETALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		0.0335	mg/L	1	9/15/2010 6:16:55 AM	LAL	
Cadmium	NËLAP	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>					2				
Sulfate	NELAP	50		84	mg/L	1	9/16/2010 9:37:00 AM	DLW	
C 1 11 14									

Sample Narrative

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5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illir WorkOrder: 10090471 Lab ID: 10090471-00 Report Date: 17-Sep-10	nois Power Coop )4	peration		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 A	nalyst
SW-846 3005A, 6010B, METALS B	Y ICP (TOTAL)							
Boron	NELAP	0.0200		0.0243	mg/L	1	9/15/2010 6:24:00 AN	/ LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	9/15/2010 6:24:00 AN	/ LAL
Iron	NELAP	0.0200		34.5	mg/L	1	9/15/2010 6:24:00 AN	/ LAL
<u>SW-846 9036 (TOTAL)</u> Sulfate	NELAP	10		29	mg/L	2	9/16/2010 1:28:00 PM	1 DLW

Sample Narrative

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5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illin WorkOrder: 10090471 Lab ID: 10090471-00 Report Date: 17-Sep-10	ois Power Coo 5	peration		Client Project: Agreement #10-5007 Client Sample ID: S2 Collection Date: 9/13/2010 10:40:00 AM Matrix: GROUNDWATER				
Analyses	Certification	ı RL	Qual	Result	Units	ÐF	Date Analyzed An	alyst
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)							
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
5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

### LABORATORY RESULTS

Client: Southern Illing	is Power Coop	peration		Client P	roject: Ag	reemer	nt #10-5007	
WorkOrder: 10090471				Client Samp	ole ID: S3			
Lab ID: 10090471-006	;			Collection	Date: 9/	13/2010	10:59:00 AM	
Report Date: 17-Sep-10				Μ	latrix: GF	ROUNDW	/ATER	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	alyst
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)							
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	ÐLW

Sample Narrative

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5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: So	uthern Illinois Power Coop	eration		Client Pr	roject: Ag	reemen	t #10-5007	
WorkOrder: 10	090471			Client Samp	le ID: S4			
Lab ID: 10	090471-007			Collection	Date: 9/1	3/2010	11:18:00 AM	
Report Date: 17-	Sep-10			М	atrix: GF	OUNDW	/ATER	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Ar	alyst
SW-846 3005A, 6010B, N	IETALS BY ICP (TOTAL)							
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 <sup>1</sup>	NELAP	10		55	mg/L	2	9/16/2010 1:28:00 PM	DLW

Sample Narrative

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5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: South	nern Illinois Power Coc	peration		Client Pr	roject: Ag	reemen	t #10-5007	
WorkOrder: 1009	0471			Client Samp	le ID: S5			
Lab ID: 1009	0471-008			Collection	Date: 9/1	13/2010	9:09:00 AM	
Report Date: 17-Se	p-10			Μ	atrix: GF	ROUNDW	/ATER	
Analyses	Certificatio	n RL	Qual	Result	Units	DF	Date Analyzed A	alyst
SW-846 3005A, 6010B, ME	TALS BY ICP (TOTAL)							
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

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5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

### LABORATORY RESULTS

Client: Southern Illinoi	s Power Coop	peration		Client Pi	roject: Ag	reemen	t #10-5007	
WorkOrder: 10090471				Client Samp	le ID: S6			
Lab ID: 10090471-009				Collection	Date: 9/1	3/2010	9:51:00 AM	
Report Date: 17-Sep-10				М	atrix: GF	OUNDW	/ATER	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3005A, 6010B, METALS BY I	CP (TOTAL)							
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** 

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5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

INVIRONMENTAL TESTING LABORATORY			T	EL: 618-344-1004 AX: 618-344-1005
Client: Southern Illinois Power Coop Project: Agreement #10-5007 Lab Order: 10090471 Report Date: 17-Sep-10	peration		RECEIVING	CHECK LIST
Carrier: Jacob Grimes		Received By: T	WM	<u></u>
Completed by: On: 13-Sep-10 Timothy W. Mathis		Reviewed by: On: 13-Sep-10	Elizabeth A. Hurley	Hm lag
Pages to follow: Chain of custody 2	Extra pages inc	uded 0	7	
Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present? Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance? When thermal preservation is required, samples are compliant	Yes ♥ None ↓ Yes ♥ Yes ♥ Yes ♥ Yes ♥ Yes ♥ Field ↓ Yes ♥	No    Ice    No    No    No    No    Lab    No    Lab    No	Not Present ☐ Blue Ice ☐	Temp °C 11.8 Dry Ice
Water - vials have zero headspace?	Yes	No	 No VOA vials	
Water - TOX containers have zero headspace?	Yes 🗍	No 🗌	No TOX containers	V
Water - pH acceptable upon receipt?	Yes 🗹	No 🗌		
Any No responses	must be detailed I	below or on the	coc.	

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Print Form		Teklab	Chain of	Custody			Pg. 1 of P	Workorder	Tripopola
	5445 Horseshoe Lake	Road ~ Collinsville	, IL 62234 ~ Ph	ione: (618)344	-1004 ~ Fax	:(618)344-100	S	ſ	
Southern Illinois Power Cooperation		Are the samples chi	iled? (G Yes	🔿 No with:	ر eo ارد	Blue ice	Preserved i	n C Lab	رکيز Field
11543 Lake of Egypt Road		Cooler Temp	🖌 Sampler	Jacob Grime	S			•	2.2102
Marion	IL 62959	<u> </u> [							
Project: Agreement #10-5007		Comments M	etals: B, Cd, and	d Fe					
Contact Jason McLaurin 🤞	eMail	Phone (	618) 964-1448	Requested [	Due Date	NTAT	illina/PO		
Lab Use Sample ID	Sample Date/Time	Preservative Matr	Sulfate	Vietals					
1002/04/11 - 001	a/13/10 0832	Other	ndwater		 ]	] ] ] _			
(M2)	6480 /	Other	ndwater						
(M3)	0931	Other	ndwater						
00k	1101	Other	ndwater						
006	0/10	Other	ndwater						
804	1029	Other	ndwater						
061		Other	ndwater						
008	9	Other	ndwater						
Relinquished-Bro		Date/Time							
		9/13/10	2 91	X	Received	By		7.13.K	ime <i>i 345</i>
			<u>}</u>						
rice individual signing this agreement on beh.	alf of client acknowledges that	they have read and un	iderstand the term	is of this agreeme	ent and that the	ey have the auth	ority to sign on beh	alf of client.	

Print Form			Tekla	b Chain	of Custo	٩٧		Pg. 7 of 2	Workorder 1009	icto
	-10-1-1-1	5445 Horseshoe Lake	: Road ~ Collinsv	ille, IL 62234 ~	<ul> <li>Phone: (618)</li> </ul>	344-1004 ~ F	ax:(618)344-1005			-
Southern Illinoi	s Power Cooperation		Are the samples	chilled? 🌀 Y	es () No w	ith: 🕡 Ice	C Blue ice	Preserved ir	ر Lab ر	, Field
11543 Lake of E	gypt Road		Cooler Temp	Sample	er Jacob Gi	imes				
Marion		62959								
Project: Agreen	nent #10-5007		Comments	Metals: B, Cd	, and Fe					
Contact Jasc	an McLaurin eM	lail	Phon	e (618) 964-14	148 Request	ed Due Date	NTAT Bi	lling/PO		
	de debit un seu alta da un diversión de debit une dibe							,		
Lab Use 5	ample iD	Sample Date/Time	Preservative M	atrix	Sulfate Sulfate				··· ··· ··· ··· ··· ···	
MILITYOM		1330 01/81/5	Other	roundwater	X			] []		
			Unpres	queous						
			Unpres	queous						
			Unpres	dueous						
			Unpres	dueous						)
			Unpres	queous						
			Unpres	snoanb						
			Unpres	dueotis						
	RelinquishertBr		Dațe/Time			Bereive			E	
			0//0/6	0101	CIAL I	the second	6		1-3-10 13	2
The individual signin	g this agreement on behalf (	of client acknowledges that	t they have read and	Lunderstand the	tarme of this of					
	<u>*************************************</u>					centent and that	they have the autho	nity to sign an beha	if af client.	
	and provide the second									

# TEKLAB, INC.

ENVIRONMENTAL TESTING LABORATORY

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

> 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:



WorkOrder: 10120351

Dear Jason McLaurin:

**RE:** Agreement #10-5007

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,

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

LabOrder: 10120351 Report Date: 20-Dec-10 TEL: 618-344-1004 FAX: 618-344-1005

#### **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).

Project: Agreement #10-5007

Client: Southern Illinois Power Cooperation

	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	

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

#### ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

### LABORATORY RESULTS

Client: Southern Illino	is Power Coop	peration		Client P	roject: Ag	reemei	nt #10-5007	
WorkOrder: 10120351				Client Samp	ole ID: C1			
Lab ID: 10120351-001				Collection	Date: 12	/8/2010	9:30:00 AM	
Report Date: 20-Dec-10				Μ	latrix: GF		VATER	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	alyst
SW-846 3005A, 6010B, METALS BY	(CP (TOTAL)		· · · · · ·					
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

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5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

### LABORATORY RESULTS

Client: Southern Illinoi WorkOrder: 10120351 Lab ID: 10120351-002 Report Date: 20-Dec-10	s Power Coop	peration		Client P Client Samp Collection M	roject: Ag ble ID: C2 Date: 12 latrix: GF	reemei /8/2010 OUNDV	nt #10-5007 ) 9:47:00 AM VATER	
Analyses	Qual	Result	Units	DF	Date Analyzed An	alyst		
SW-846 3005A, 6010B, METALS BY I	CP (TOTAL)							
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
SW-846 9036 (TOTAL)								
Sulfate	NELAP	50		190	mg/L	1	12/10/2010 10:12:00 AM	DLW

Sample Narrative

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5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Sout	hern Illinois Power Coo	peration		Client Pi	roject: Ag	reemer	nt #10-5007	
WorkOrder: 1012	0351			<b>Client Samp</b>	le ID: C3			
Lab <b>ID</b> : 1012	0351-003			Collection	Date: 12	/8/2010	10:19:00 AM	
Report Date: 20-De	ec-10			М	latrix: GF	OUNDV	VATER	
Analyses	Certificatio	n RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3005A, 6010B, ME	TALS BY ICP (TOTAL)							
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

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illino	is Power Coop	peration		Client P	roject: Ag	reemer	nt #10-5007	
WorkOrder: 10120351				Client Samp	le ID: S1			
Lab ID: 10120351-004	Ļ			Collection	Date: 12	/8/2010	11:02:00 AM	
Report Date: 20-Dec-10				Μ	latrix: GF	ROUNDV	VATER	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)							
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** 

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SW-846 9036 (Total)

Matrix spike did not recover within control limits because of matrix interference.

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

### LABORATORY RESULTS

Client: Southern Illinoi	peration		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				М	atrix: GF	ROUNDW	/ATER			
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	alyst		
SW-846 3005A, 6010B, METALS BY I	CP (TOTAL)									
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		

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5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

### LABORATORY RESULTS

Client:	Southern Illinois Powe	er Cooperatio	n	Client P	roject: Ag	greemen	it #10-5007			
WorkOrder:	10120351			Client Sam	ple ID: S3	1				
Lab ID:	10120351-006			Collection Date: 12/8/2010 11:52:00 AM						
<b>Report Date:</b>	20-Dec-10			N	latrix: GF	ROUNDW	/ATER			
Analyses	Certi	fication RI	Qual	Result	Units	DF	Date Analyzed	Analyst		
SW-846 3005A, 6010	B, METALS BY ICP (TO	TAL)								
Boron	NEL	.AP 0.020	0	0.0244	mg/L	1	12/17/2010 3:30:25	AM JMW		
Cadmium	NEL	AP 0.002	0	< 0.0020	mg/L	1	12/17/2010 3:30:25	AM JMW		
iron	NEL	AP 0.020	0	48.3	mg/L	1	12/17/2010 3:30:25	AM JMW		
SW-846 9036 (TOTA Sulfate	<u>L)</u> NEL	AP	5	5	mg/L	1	12/10/2010 1:59:00	PM DLW		

Sample Narrative

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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: 10120351-007 Report Date: 20-Dec-10				Client Project: Agreement #10-5007 Client Sample ID: S4 Collection Date: 12/8/2010 12:17:00 PM Matrix: GROUNDWATER					
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	alyst	
SW-846 3005A, 6010B, METALS BY	(CP (TOTAL)								
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

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5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illino	ois Power Coop	peration		Client Pi	roject: Ag	reemer	nt #10-5007			
WorkOrder: 10120351				Client Samp	le ID: S5					
Lab ID: 10120351-008	3			Collection Date: 12/8/2010 10:02:00 AM						
Report Date: 20-Dec-10				М	atrix: GR	OUNDV	VATER			
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst		
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)									
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

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

#### LABORATORY RESULTS

Client: Southern Illin	ois Power Coop	peration		Client Pr	roject: Ag	reemer	nt #10-5007			
WorkOrder: 10120351				Client Samp	le ID: S6					
Lab ID: 10120351-00	9		Collection Date: 12/8/2010 10:40:00 AM							
Report Date: 20-Dec-10				М	latrix: GR	OUNDV	VATER			
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst		
SW-846 3005A, 6010B, METALS BY	(ICP (TOTAL)									
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

IL ELAP and NELAP Accredited - Accreditation #100226

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

VVIRONMENTAL TESTING LABORATORY			.T F	EL: 618-344-1004 AX: 618-344-1005
Client: Southern Illinois Power Coor Project: Agreement #10-5007 Lab Order: 10120351 Report Date: 20-Dec-10	peration	]	RECEIVING	CHECK LIST
Carrier: Jacob Grimes	Re	ceived By: TW	'M	
Completed by: On: 08-Dec-10 Dawn Brantley	R 08	Reviewed by: On: 8-Dec-10	Elizabeth A. Hurley	Hurley
Pages to follow: Chain of custody 2	Extra pages includ	led 0		
Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present?	Yes ☑ None □ Yes ☑	No 🗌 Ice 🗹 No 🗌	Not Present	Temp °C 7.6 Dry Ice
Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels?	Yes V Yes V			
Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact?	Yes V Yes V Yes V Yes V	No [] No [] No []		
Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured:	Yes Yes Yes Yes Yes Yes Yes Yes	No    No    No    No    No    No    Lab	NA 🗹	
Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance? When thermal preservation is required, samples are complia 0.1°C - 6.0°C, or when samples are received on ice the sam	Yes ♥ Yes ♥ Yes ♥ Yes ♥ Yes ♥ Yes ♥ Field □ Yes ♥ ant with a temperature te day as collected.	No    No    No    No    No    Lab    No    Te between	NA 🗹	
Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance? When thermal preservation is required, samples are complia 0.1°C - 6.0°C, or when samples are received on ice the sam Water - vials have zero headspace?	Yes Yes Yes Yes Yes Yes Field Yes Yes Yes Yes Yes Yes Yes Yes	No    No    No    No    No    Lab    No    e between	NA 🔽	
Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance? When thermal preservation is required, samples are complia 0.1°C - 6.0°C, or when samples are received on ice the sam Water - vials have zero headspace? Water - TOX containers have zero headspace?	Yes Yes Yes Yes Yes Yes Yes Field Yes Yes Yes Yes Yes Yes Yes Yes	No    No    No    No    No    No    No    No	NA 🗹 No VOA viats No TOX containers	

Additional nitric acid was needed in C1 upon arrival at the laboratory. TWM/EAH 12/8/10

Print Form		Teklab Cł	าain of Custody	oof	
	5445 Horseshoe Lake	Road ~ Collinsville, JL (	62234 ~ Phone: (618)344-1004 ~	Fax:(618)344-1005	
Southern Illinois Power Cooperation		Are the samples chilled	? ⑥ Yes C No with: ⑥ Ice	、	din 🕅 Lab 🖒 Field
11543 Lake of Egypt Road		Cooler Temp 7.6	Sampler Jacob Grimes		
Marion	62959				
Project: Agreemert #10-5007		Comments Metal	is: B, Cd, and Fe		
Contact Jason McLaurin eM	lail	Phone (618	1) 964-1448 Requested Due Dat	e NTAT Billing/PO	10
antaren Saratu Bernin da bernan da der					
Lab Use Sample [D	Sample Date/Time	Preservative Matrix	Sulfate Vletals		
10120351 c	12/20 01/2/21	Other Groundw		]	
D 20	CH20 /	Other Groundw	ater X		
Ø3 G	5101	Other	ater X		
00 4 21	2011	Other	ater X		
s Soo	1154	Other Groundw	ater X		
Ø6 s	i152	Other Groundwi	ater X		
067 54	L121	Other	ater X		
50 X Is	Leol	Other	ater X III		
Actionation By *		Date/Time	Recei	ved By	Date/Time
		12/8/10 12 no	o findling it for		2.8-10 1500
The individual signing this agreement on behalf	of client acknowledges that	they have read and under			
। स्थेल्वेक्योक्ट्रांस्ट्रान्ट्र ।		י זוסן וופיס ופפע מוע עועקו.	stand the terms of this agreement and th	iat they have the authority to sign on t	ehalf of client.
728 <sup>3</sup> 44,00000)					
Sector and the					

Finite frequent         Teklab Chain of Custody         Page 100 - Faciol (B) 344 (Hanch Chain of Custody         Page - 4         Memore (D) (D) 345           Substruction line on the corporation         Substruction to the amplies child of the corporation         And Hanch Chain (B) (B) (C) (B) (B) (B) (B) (B) (B) (B) (B) (B) (B
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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.

LIST TYPE OF WASTE: Coal Combustion Byproducts Α.

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:

(in place cubic yards)

IL 532 2428 LPC 536 Rev. Oct. 03

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The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statues 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 Page 2

#### C. PROPOSED ACTIVITIES

1. Expected amount of waste to be disposed on-site January 1, <u>2013</u> thru December 31, <u>2013</u>:

D. OTHER INFORMATION TO BE SUBMITTED

Please attach the following required information. Please indicate attachment number or letter in the blank provided.

<u>Attachments</u>

- 1. Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
- 2. \_\_\_\_\_ 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

Name (print/type)

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

jab\PermitExemptSurveyForm.doc



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,

Jupe Mught

Hope Wright Waste Reduction and Compliance Section Annual Reports and Data Analysis Unit Bureau of Land

Enclosure

HW.Jab\Document1

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



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http://www.teklabinc.com/

March 09, 2012 .

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



WorkOrder: 12030057

**RE:** Quarterly Groundwater Analysis

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,

Elizabeth & Hurley

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

# Xerox WorkCentre 5330 Transmission Report - Job Undelivered

Date & Time : 08/18/2021 10:46 AM Page : I(Last Page)

The job was not sent. Pass this report to the sender.

Job Date & Time

08/18/2021 10:45 AM

	Environmental Laboratory	Definitions http://www.teklabinc.com/	
	Client: Southorn 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	o determine the state of calibration of an instrument between recalibration.	
	UP Dation is the deuton performed during analysis only reported result is final and includes all doutions factors DNI. Did not ignite	and does not take into account any divitions made during sample preparation. The	
	DUP Leboratory duplicate is an about of a sample taken from the independently of the original sigurat. ICV initial calibration verification is a check of a standard to deter	e Sama container under laboratory conditions for independent processing and ensityis Intrine the state of calibration of an instrument before sample positivit initiated	
	IDPH IL Dept of Public Health		
	LCS Laboratory control sample, spiked with verified known amous specific precision and bass or to assess the performance of a Package (provided upon request).	nts of analytes, is analyzed exactly Ric a sample is vetablish intra-leboratory or analysi all or a portion of the measurement system. The acceptable recovery range is in tha QC	
	LCSD Laboratory control zample duplicate is a replicate laboratory approved (ast method. The accentable recovery more is lat	r control sample that is prepared and analyzed in order to determine the precision of the ted in the OC Packase (provided upon request).	
	MB Method blank is a sample of a matrix striker to the batch of a processed simultaneously with and under the same condition analysiss or interferences should present at concentrations the	associated sample (when available) (hat is free from the analytes of interest and is no as samples through at stops of the analytical procedures, and in which no target hall inscruct the analytical results for sample nanueses.	
	MDL Method detection link means the minimum concentration of a concentration is present than taken and is determined from as	a substance that can be measured and reported with 99% confidence that the analyte Abis of a substance that can be measured on a substance that the analyte Abis of a substantial in a choice contraining the analyte	
	Concernation of growing concernation of the	anyse on adaptive in a grant master type constanting the analyse my quankies of specific analyses that is subjected to the entire enalytical procedures in ist method's recovery system. The acceptable recovery range is listed in the QC Package	
	MSD Matrix spike deplation means a replicate matrix spike that is p MSD matrix spike deplation means a replicate matrix spike that is p The acceptable recovery range is tisted in the QC Package (p	prepared and analyzed in order to determine the precision of the approved lest method. provided uppn request).	
	ND Not Detected at the Reportion Limit		
	NELAP NELAP Accredited		
	PQL Practical quantitation limit means the lowest level that can be	e reliably achieved within specified limits of precision and accuracy during routine	
	RL. The reporting limit the lowest level that the data is displayed a	ige is sealed in one use Practicage (provided upon request). In the final report. The reporting limit may vary according to customer request or sample	
	diction. The reporting limit may not be less than the MDL. RPD. Relative percent difference is a calculated difference between	n two recoveries (i.e. MS/MSD). The acceptable recovery limit is fisted in the QC Package	
	(provided upon request). SPK. The solve is a known mass of larget ansivte added to a blank	k sample of sub-sample, used to determine recovery deficiency of for other pushty control	
	purpases.	of internet in sharvital compaction and habeving in the manifold presses but unlich are	
	not normally found in environmental samples.	or whenesh ar cherriscal compassion and benavior in the analysical process, but when are	
	THTC Too numerous to count (> 200 CFU )		
	#. Thismen history then	Qualifiers B- Anable delected in reconstruct Method Blank	
	E - Value above quantitation range	<ul> <li>Holding times exceeded</li> </ul>	
	M+ Manual Integration used to datermine area response	ND - Not Detected at the Reporting Limit	
	R . RPD outside accepted recovery limits	S - Spike Recovery outside recovery kniks	
		an an an a train an a train an Alban An	
		Page 2 of 13	
Date & Time Sent	Recipient Information	Result	
08/18/2021 10:46 AM	1	Completed with an Error (026-721) : Medi	a access fai
		l(ln Job)	



Definitions

Client: Southern Illinois Power Cooperation

Client Project: Quarterly Groundwater Analysis

http://www.teklabinc.com/

Work Order: 12030057 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 )

	Qual	lifiers	
#-	Unknown hydrocarbon	В -	Analyte detected in associated Method Blank
E -	Value above quantitation range	н-	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		

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**Case Narrative** 

Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis

Environmental Laboratory

An employee of Teklab, Inc. collected the sample(s).

Collinsville			Springfield		Kansas City		
Address 5445 Horseshoe Lake Road Collinsville, IL 62234-7425		Address	3920 Pintail Dr Springfield, IL 62	0 Pintail Dr ingfield, IL 62711-9415		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@teklabi	nc.com	Email	dthompson@teklabinc.com
State		Dept		Cert#	NELAP	Exp Date	Lab
Illinois	S	IEPA		100226	NELAP	1/31/2013	Collinsville
Kansa	s	KDHE		E-10374	NELAP	1/31/2013	Collinsville
Louisi	ana	LDEQ		166493	NELAP	6/30/2012	Collinsville
Louisi	ana	LDEQ		166578	NELAP	6/30/2012	Springfield
Arkan	sas	ADEQ		88-0966		3/14/2012	Collinsville
Illinoi	s	IDPH		17584		4/30/2012	Collinsville
Kentu	cky	UST		0073		5/26/2012	Collinsville
Misso	uri	MDNR		00930		4/13/2013	Collinsville
Oklah	oma	ODEO		9978		8/31/2012	Collinsville

Work Order: 12030057 Report Date: 09-Mar-12



#### Laboratory Results

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Work Order: 12030057

Report Date: 09-Mar-12

Lab ID: 12030057-001

Matrix: GROUNDWATER

Client Project: Quarterly Groundwater Analysis

Client Sample ID: C1

Collection Date: 03/05/2012 12:30

Analyses	Certification	RL (	Qual	Result	Units	DF	Date Analyzed Bat	ch
SW-846 9036 (TOTAL)								
Sulfate	NELAP	100	S	272	mg/L	10	03/07/2012 20:40 R16	0864
Matrix spike did not recover w	vithin control limits because of sa	mple composi	ition.					
SW-846 3005A, 6010B, M	ETALS BY ICP (TOTAL)		e en			화물에 다시	요즘 승규는 영국을 통하는 것	
Boron	NELAP	0.0200		0.0720	mg/L	1	03/07/2012 13:29 757	93
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	03/07/2012 13:29 757	93
Iron	NELAP	0.0200		0.292	mg/L	1	03/07/2012 13:29 757	93



### Laboratory Results

http://www.teklabinc.com/

Work Order: 12030057

Report Date: 09-Mar-12

Lab ID: 12030057-002

Client Project: Quarterly Groundwater Analysis

Client: Southern Illinois Power Cooperation

Client Sample ID: C2 Collection Date: 03/05/2012 12:40

Matrix: GROUNDWATER		Collection Date: 03/05/2012 12:40							
Analyses	Certification	RL Qua	l 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, ME	TALS 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/ Work Order: 12030057 Client: Southern Illinois Power Cooperation Report Date: 09-Mar-12 Client Project: Quarterly Groundwater Analysis Lab ID: 12030057-003 Client Sample ID: C3 Collection Date: 03/05/2012 13:08 Matrix: GROUNDWATER Certification RL Qual Result Units DF Date Analyzed Batch Analyses SW-846 9036 (TOTAL) 2 03/07/2012 20:54 R160864 mg/L Sulfate NELAP 20 61 SW-846 3005A, 6010B, METALS BY ICP (TOTAL) 1 03/07/2012 13:53 75793 NELAP 0.0200 0.0389 mg/L Boron < 0.0020 mg/L 1 03/07/2012 13:53 75793 NELAP 0.0020 Cadmium 03/07/2012 13:53 75793 0.0200 mg/L 1 NELAP 0.116 Iron



### Laboratory Results

 Client: Southern Illinois Power Cooperation
 Work Order: 12030057

 Client Project: Quarterly Groundwater Analysis
 Report Date: 09-Mar-12

Lab ID: 12030057-004

Matrix: GROUNDWATER

Client Sample ID: S1 Collection Date: 03/05/2012 13:36

Analyse	es Certification	RL Qual	Result	Units	DF	Date Analyzed B	atch
SW-846 9036 (TOTA	<b>(L)</b>						
Sulfate	NELAP	10	23	mg/L	1	03/07/2012 20:59 F	R160864
SW-846 3005A, 601	0B, METALS BY ICP (TOTAL)				li Agrice		
Boron	NELAP	0.0200	0.0222	mg/L	1	03/07/2012 13:59 7	5793
Cadmium	NELAP	0.0020	< 0.0020	mg/L	1	03/07/2012 13:59 7	5793
Iron	NELAP	0.0200	2.49	mg/L	1	03/07/2012 13:59 7	5793



#### 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** Collection Date: 03/05/2012 14:25 Matrix: GROUNDWATER Units DF Date Analyzed Batch Certification RL Qual Result Analyses SW-846 9036 (TOTAL) NELAP 10 39 mg/L 1 03/07/2012 21:02 R160864 Sulfate SW-846 3005A, 6010B, METALS BY ICP (TOTAL) 03/07/2012 14:43 75793 NELAP 0.0200 0.573 mg/L 1 Boron 03/07/2012 14:43 75793 NELAP 0.0020 < 0.0020 mg/L 1 Cadmium 03/07/2012 14:43 75793 0.0200 mg/L 1 Iron NELAP 121



#### Laboratory Results

http://www.teklabinc.com/ Work Order: 12030057 Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis Report Date: 09-Mar-12 Lab ID: 12030057-006 **Client Sample ID: S3** Collection Date: 03/05/2012 13:56 Matrix: GROUNDWATER Date Analyzed Batch Certification RL Qual Units DF Analyses Result SW-846 9036 (TOTAL) NELAP 03/07/2012 21:07 R160864 Sulfate 10 < 10 mg/L 1 SW-846 3005A, 6010B, METALS BY ICP (TOTAL) NELAP 0.0200 0.0307 mg/L 03/07/2012 14:48 75793 Boron 1 03/07/2012 14:48 75793 0.0020 < 0.0020 Cadmium NELAP mg/L 1 0.0200 03/07/2012 14:48 75793 Iron NELAP 59.5 mg/L 1



Lab ID: 12030057-007

Matrix: GROUNDWATER

### Laboratory Results

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Client Project: Quarterly Groundwater Analysis

Work Order: 12030057

Report Date: 09-Mar-12

Client Sample ID: S4

Collection Date: 03/05/2012 13:46

Analyses	Certification	RL Qual	Result	Units	DF	Date Analyzed Batch
SW-846 9036 (TOTAL)	요즘 아파 관계 관계 관계 관계					
Sulfate	NELAP	20	45	mg/L	2	03/07/2012 21:10 R160864
SW-846 3005A, 6010B, ME	TALS BY ICP (TOTAL)					그는 사람은 같은 문화를 받고 있을 것 같아. 나는
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/ Work Order: 12030057 Client: Southern Illinois Power Cooperation Report Date: 09-Mar-12 Client Project: Quarterly Groundwater Analysis **Client Sample ID: S5** Lab ID: 12030057-008 Matrix: GROUNDWATER Collection Date: 03/05/2012 12:50 Date Analyzed Batch Analyses Certification RL Qual Result Units DF SW-846 9036 (TOTAL) mg/L 10 03/07/2012 21:13 R160864 NELAP 100 Sulfate 222 SW-846 3005A, 6010B, METALS BY ICP (TOTAL) 03/07/2012 20:14 75793 0.0200 Boron NELAP < 0.0200 mg/L 1 NELAP 0.0020 < 0.0020 mg/L 1 03/07/2012 20:14 75793 Cadmium 0.0200 0.141 mg/L 1 03/07/2012 20:14 75793 NELAP Iron
-

eklab.	Inc.	Labor	atory	Results			http://www.teklal	oinc.com/
Client: Southern I	llinois Power Cooperat	tion				w	ork Order: 120300	)57
Client Project: Quarterly					R	eport Date: 09-Mar	Mar-12	
Lab ID: 12030057-			Client Samp	ole ID: S6				
Matrix: GROUNDV	ATER			Collection	Date: 03/	05/2012	2 13:20	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)	1	VIII	1 section					
Sulfate	NELAP	20	_	69	mg/L	2	03/07/2012 21:29	R160864
SW-846 3005A, 6010B, ME	TALS BY ICP (TOTAL)	161 1						
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	Carrier: Josh Cerar Received By: H			२				
Completed by: On: 05-Mar-12 Timothy W. Mathis	Revi O 05-M	ewed by: n: ar-12	Elizabeth A. Hurley	thily				
Pages to follow: Chain of custody 2	Extra pages included	9						
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present	🗌 Temp °C 8.6				
Type of thermal preservation?	None	lce 🗹	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 - at least one vial per sample has zero headspace?	Yes	No	No VOA vials	$\checkmark$				
Water - TOX containers have zero headspace?	Yes 🗌	No 🗌	No TOX containers	$\checkmark$				
Water - pH acceptable upon receipt?	Yes 🔽	No 🗌						

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,

Shelly A Hunesoy

Shelly A. Hennessy Project Manager (618)344-1004 ex 36 SHennessy@teklabinc.com http://www.teklabinc.com/



#### Definitions

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Client Project: Quarterly Groundwater Analysis

Work Order: 12060096 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

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- 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	В-	Analyte detected in associated Method Blank
E -	Value above quantitation range	н-	Holding times exceeded
J -	Analyte detected below quantitation limits	М-	Manual Integration used to determine area response
ND -	Not Detected at the Reporting Limit	R-	RPD outside accepted recovery limits
5 -	Spike Recovery outside recovery limits	Х	Value exceeds Maximum Contaminant Level

Environmental Laboratory

**Case Narrative** 

Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis

#### Cooler Receipt Temp: 1.4 °C

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations Collinsville Springfield Kansas City 8421 Nieman Road 3920 Pintail Dr 5445 Horseshoe Lake Road Address Address Address Springfield, IL 62711-9415 Lenexa, KS 66214 Collinsville, IL 62234-7425 (618) 344-1004 (217) 698-1004 Phone (913) 541-1998 Phone Phone (217) 698-1005 (913) 541-1998 (618) 344-1005 Fax Fax Fax Email jhriley@teklabinc.com Email kmcclain@teklabinc.com Email dthompson@teklabinc.com Dept Cert # NELAP Exp Date Lab State 1/31/2013 Collinsville Illinois IEPA 100226 NELAP KDHE E-10374 NELAP 1/31/2013 Collinsville Kansas 166493 NELAP 6/30/2013 Collinsville Louisiana LDEQ Louisiana LDEQ 166578 NELAP 6/30/2012 Springfield 3/14/2013 Collinsville 88-0966 Arkansas ADEQ 17584 4/30/2013 Collinsville Illinois IDPH Collinsville Kentucky UST 0073 5/26/2013 Collinsville Missouri MDNR 00930 4/13/2013 Oklahoma ODEQ 9978 8/31/2012 Collinsville

http://www.teklabinc.com/

Work Order: 12060096 Report Date: 25-Jun-12



Lab ID: 12060096-001

Matrix: GROUNDWATER

#### Laboratory Results

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Client Project: Quarterly Groundwater Analysis

Work Order: 12060096

Report Date: 25-Jun-12

Client Sample ID: C1

Collection Date: 06/15/2012 9:00

Analy	ses Certificati	on RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TO	TAL)							
Sulfate	NELAP	100		260	mg/L	10	06/19/2012 15:50	R164941
SW-846 3005A, 60	10B, METALS BY ICP (T	OTAL)						
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



Lab ID: 12060096-002

# Laboratory Results

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Client Project: Quarterly Groundwater Analysis

Work Order: 12060096

Report Date: 25-Jun-12

Client Sample ID: C2

Matrix: GROUNDWATER

Collection Date: 06/15/2012 9:28

Analyses	Certification	RL Qu	al 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, I	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/

Work Order: 12060096

Report Date: 25-Jun-12

Lab ID: 12060096-003

Client Project: Quarterly Groundwater Analysis

Client: Southern Illinois Power Cooperation

Client Sample ID: C3 Collection Date: 06/15/2012 10:15

Matrix: GROUNDWA	TER		Collection	1 Date: 06/	/15/2012	10:15	
Analyses	Certification	RL Qua	l 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, MET	ALS BY ICP (TOTAL)	양 동생은 동안 문 문					
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



Lab ID: 12060096-004 Matrix: GROUNDWATER

# Laboratory Results

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Client Project: Quarterly Groundwater Analysis

Work Order: 12060096 Report Date: 25-Jun-12

Report Dat

Client Sample ID: S1

Collection Date: 06/15/2012 12:25

Analyses	Certification	RL Qu	al Result	Units	DF	Date Analyzed E	Batch
SW-846 9036 (TOTAL)							
Sulfate	NELAP	10	25	mg/L	1	06/19/2012 16:30 F	R164941
SW-846 3005A, 6010B, I	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 7	79092
Iron	NELAP	0.0200	22.2	mg/L	1	06/19/2012 23:24 7	79092



#### Laboratory Results

http://www.teklabinc.com/

Work Order: 12060096

Report Date: 25-Jun-12

Client Project: Quarterly Groundwater Analysis Lab ID: 12060096-005

Client: Southern Illinois Power Cooperation

Matrix: GROUNDWATER

Client Sample ID: S2 Collection Date: 06/15/2012 11:20

Analyses	Certification	RL Qua	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)	영화 소리는 여러 관리하는 것이다.						
Sulfate	NELAP	10	25	mg/L	1	06/19/2012 16:41	R164941
SW-846 3005A, 6010B, I	METALS BY ICP (TOTAL)				이 가슴을 가슴을 가슴을 다.		
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

Work Order: 12060096

Report Date: 25-Jun-12

Client Sample ID: S3

Matrix: GROUNDWATER

Lab ID: 12060096-006

Client Project: Quarterly Groundwater Analysis

Collection Date: 06/15/2012 11:05

Апа	lyses	Certification	RL Q	ual Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (T	OTAL)							
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/ Work Order: 12060096 Client: Southern Illinois Power Cooperation Report Date: 25-Jun-12 Client Project: Quarterly Groundwater Analysis Lab ID: 12060096-007 Client Sample ID: S4 Matrix: GROUNDWATER Collection Date: 06/15/2012 10:40 Certification RL Qual Result Units DF Date Analyzed Batch Analyses SW-846 9036 (TOTAL) 06/19/2012 16:49 R164941 20 mg/L 2 Sulfate NELAP 42 SW-846 3005A, 6010B, METALS BY ICP (TOTAL) 0.0200 < 0.0200 mg/L 1 06/22/2012 17:44 79092 NELAP Вогоп 1 06/19/2012 23:41 79092 0.0020 < 0.0020 mg/L NELAP Cadmium 06/19/2012 23:41 79092 0.0200 92.2 mg/L 1 iron NELAP



#### Laboratory Results

http://www.teklabinc.com/ Work Order: 12060096 Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis Report Date: 25-Jun-12 Lab ID: 12060096-008 **Client Sample ID: S5** Collection Date: 06/15/2012 9:50 Matrix: GROUNDWATER Certification RL Qual Units DF Date Analyzed Batch Result Analyses 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) 1 06/22/2012 17:50 79092 Boron NELAP 0.0200 < 0.0200 mg/L 0.0020 1 06/19/2012 23:47 79092 NELAP < 0.0020 mg/L Cadmium 06/19/2012 23:47 79092 0.0200 mg/L 1 Iron NELAP 0.675

eklab	Inc. aboratory	Labor	atory	Results			http://www.tekla	binc.com/
Client: Southern II	ion				w	ork Order: 120600	096	
Client Project: Quarterly C	Groundwater Analysis					R	eport Date: 25-Jun	-12
Lab ID: 12060096-			Client Samp	ple ID: S6				
Matrix: GROUNDW	ATER			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, ME	TALS 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

Client Project: Quarterly Groundwater Analysis

# Work Order: 12060096

Report Date: 25-Jun-12

Carrier: Rick Schmidt	I	Received By: JM	н	
Completed by: On: 18-Jun-12 Heather L. Riley		Reviewed by: On: 18-Jun-12	Shelly A Henr Shelly A. Hennessy	ressy-
Pages to follow: Chain of custody 2 Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present? Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance?	Extra pages incl Yes V None Yes V Yes V Yes V Yes V Yes V Yes V Field Yes V	uded 9 No 1 Ice 9 No 1 No 1 No 1 No 1 No 1 No 1 No 1 Lab 1 No 1	Not Present Blue Ice NA	☐ Temp °C 1.4 ☐ Dry Ice ☐
When thermal preservation is required, samples are complian 0.1°C - 6.0°C, or when samples are received on ice the same	nt with a tempera e day as collected	ture between I.		
Water - at least one vial per sample has zero headspace?	Yes 🛄	No 🛄	No VOA vials	
Water - TOX containers have zero headspace?	Yes 🛄	No 🛄	No TOX containers	
Water - pH acceptable upon receipt?	Yes 🗹	No		
NPDES/CWA TCN interferences checked/treated in the field?	Yes 🗆	No 🗔	NA	$\checkmark$
Any No responses r	must be detailed t	elow or on the	coc.	



http://www.teklabinc.com/

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,

Shelly A Hennessy

Shelly A. Hennessy Project Manager (618)344-1004 ex 36 SHennessy@teklabinc.com



#### Definitions

#### 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 )

	Qua	lifiers						
# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank					
Ε-	Value above quantitation range	H -	Holding times exceeded					
М -	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 -	-X Value exceeds Maximum Contaminant Level							

Environmental Laboratory

**Case Narrative** 

Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis

#### 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.

Work Order: 12090430 Report Date: 04-Oct-12

			Loc	ations and Acc	reditations		
	Collinsville			Springfield			Kansas City
Address	5445 Horseshoe Lake Road	I	Address	3920 Pintail Dr		Address	8421 Nieman Road
	Collinsville, IL 62234-7425	5		Springfield, IL 627	711-9415		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@teklabine.com		Email	kmcclain@teklabir	nc.com	Email	dthompson@teklabinc.com
State		Dept		Cert #	NELAP	Exp Date	Lab
Illinoi	s	IEPA		100226	NELAP	1/31/2013	Collinsville
Kansa	S	KDHE		E-10374	NELAP	1/31/2013	Collinsville
Louisi	ana	LDEQ		166493	NELAP	6/30/2013	Collinsville
Louisi	ana	LDEQ		166578	NELAP	6/30/2013	Springfield
Texas		TCEQ		T104704515-12-1	NELAP	7/31/2013	Collinsville
Arkan	sas	ADEQ		88-0966		3/14/2013	Collinsville
Illinoi	S	IDPH		17584		4/30/2013	Collinsville
Kentu	cky	UST		0073		5/26/2013	Collinsville
Misso	uri	MDNR		00930		4/13/2013	Collinsville
Oklah	oma	ODEQ		9978		8/31/2013	Collinsville

http://www.teklabinc.com/



#### 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 Date Analyzed Batch Result Units DF 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 Certification RL Qual Analyses 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

Report Date: 04-Oct-12

#### Client Sample ID: C3

Matrix: GROUNDWATER

Lab ID: 12090430-003

Client Project: Quarterly Groundwater Analysis

Collection Date: 09/14/2012 12:15

Analyses	Certification	RL Qu	al 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, 6010E	, 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

Report Date: 04-Oct-12

Client Sample ID: S1

Matrix: GROUNDWATER

Lab ID: 12090430-004

Client Project: Quarterly Groundwater Analysis

Collection Date: 09/14/2012 12:45

Analyses	Certification	RL Qua	l Result	Units	DF	Date Analyzed Batch	
SW-846 9036 (TOTAL)							2
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	



Lab ID: 12090430-005

# Laboratory Results

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Work Order: 12090430

Report Date: 04-Oct-12

**Client Sample ID: S2** 

Matrix: GROUNDWATER

Client Project: Quarterly Groundwater Analysis

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, N	IETALS 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 Units Result 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 10/03/2012 0:00 R168930 1 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/

Work Order: 12090430

Report Date: 04-Oct-12

Lab ID: 12090430-007

Client Project: Quarterly Groundwater Analysis

Client: Southern Illinois Power Cooperation

Client Sample ID: S4 Collection Date: 09/14/2012 13:13

Matrix: GROUNDWATER   Analyses Certification RL   SW-846 9036 (TOTAL) Sulfate NELAP 20   SW-846 3010A, 6010B, METALS BY ICP (TOTAL) Descent Descent			Collection Date: 09/14/2012 13:13					
Analyses	Certification	RL Qu	al 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, N	IETALS 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 10/03/2012 0:00 R168930 < 0.020 mg/L 1 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



NELAP

Iron

#### 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: 12090430-009 **Client Sample ID: S6** Matrix: GROUNDWATER 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 10/03/2012 0:00 R168930 1 Cadmium NELAP 0.002 < 0.002 mg/L 1 10/03/2012 0:00 R168930

3.71

mg/L

1

10/03/2012 0:00 R168930

0.020



#### **Receiving Check List**

http://www.teklabinc.com/

#### Client: Southern Illinois Power Cooperation

#### Work Order: 12090430 Report Date: 04-Oct-12

Client Project: Quarterly Groundwater Analysis

Carrier: Ricky Schmidt	Rec	eived By: TW	M			
Completed by: On: 17-Sep-12 Timothy W. Mathis	Ra 17-	eviewed by: On: Sep-12	Shelly A Hennessy	nesoy	-	
Pages to follow: Chain of custody 2	Extra pages includ	ed 9				
Shipping container/cooler in good condition?	Yes 🔽	No 🗌	Not Present		Temp °C	32
Type of thermal preservation?	None	Ice 🗹	Blue Ice	Ē	Dry Ice	
Chain of custody present?	Yes 🗹	No 🗌			2.,	
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	$\checkmark$		
Container/Temp Blank temperature in compliance?	Yes 🔽	No 🗌				
When thermal preservation is required, samples are compliar 0.1°C - 6.0°C, or when samples are received on ice the same	nt with a temperature day as collected.	e between				
Water - at least one vial per sample has zero headspace?	Yes 🛄	No	No VOA vials	$\checkmark$		
Water - TOX containers have zero headspace?	Yes 🗌	No 🗌	No TOX containers			
Water - pH acceptable upon receipt?	Yes 🗹	No				
NPDES/CWA TCN interferences checked/treated in the field?	Yes 🗌	No 🗍	NA	$\checkmark$		

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



http://www.teklabinc.com/

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,

Shelly A Hennessy

Shelly A. Hennessy Project Manager (618)344-1004 ex 36 SHennessy@teklabinc.com



#### Definitions

#### 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 )

	Q	ualifiers	
# -	Unknown hydrocarbon	В -	Analyte detected in associated Method Blank
E -	Value above quantitation range	н-	Holding times exceeded
М -	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	Valuo exceede Maximum Contaminant Lovel		



#### 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) NELAP Sulfate 100 265 mg/L 10 12/07/2012 14:00 R171370 SW-846 3005A, 6010B, METALS BY ICP (TOTAL) Boron NELAP 0.0200 mg/L 12/07/2012 16:17 83958 0.0581 1 NELAP Cadmium 0.0020 < 0.0020 mg/L 12/07/2012 16:17 83958 1 NELAP 0.0200 Iron 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 12/07/2012 16:21 83958 mg/L 1 Cadmium NELAP 0.0020 < 0.0020 12/07/2012 16:21 83958 mg/L 1 NELAP 0.0200 Iron 3.76 mg/L 1 12/07/2012 16:21 83958

eklab,	aboratory	Labor	atory	Results			http://www.tekla	binc.com/
Client: Southern I	llinois Power Coopera	tion				w	ork Order: 12120	102
Client Project: Quarterly (					Report Date: 14-Dec-12			
Lab ID: 12120102-	003			Client Samp	ole ID: C3			
Matrix: GROUNDW		Collection Date: 12/05/2012 10:20						
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)			- ANT			Contra a Mar		1
Sulfate	NELAP	20		56	mg/L	2	12/12/2012 11:53	R171592
SW-846 3005A, 6010B, ME	TALS BY ICP (TOTAL)				North Party	in market	经上的 计算法	and the second
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 Certification Qual Analyses RL Result Units DF Date Analyzed Batch SW-846 9036 (TOTAL) Sulfate NELAP 10 30 mg/L 12/07/2012 14:13 R171370 1 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 12/07/2012 16:36 83958 58.9 mg/L 1



#### 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 Certification Analyses RL Qual Result Units DF Date Analyzed Batch SW-846 9036 (TOTAL) NELAP 10 Sulfate 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  $\mathbf{DF}$ Date Analyzed Batch SW-846 9036 (TOTAL) Sulfate NELAP 20 mg/L 2 50 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 NELAP 0.0200 Iron 1 12/07/2012 16:47 83958 47.2 mg/L



### Laboratory Results

http://www.teklabinc.com/ Client: Southern Illinois Power Cooperation Work Order: 12120102 Client Project: Quarterly Groundwater Analysis Report Date: 14-Dec-12 Client Sample ID: S5 Lab ID: 12120102-008 Matrix: GROUNDWATER Collection Date: 12/05/2012 10:00 Analyses Certification RL Qual Result Units  $\mathbf{DF}$ 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 1 12/07/2012 16:50 83958 < 0.0200 mg/L Cadmium NELAP 0.0020 < 0.0020 mg/L 12/07/2012 16:50 83958 1 NELAP 0.0200 Iron 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 mg/L 2 86 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 12/07/2012 16:54 83958 mg/L 1 B - Elevated reporting limit due to high levels of non-target analytes.



## **Receiving Check List**

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Client Project: Quarterly Groundwater Analysis

### Work Order: 12120102 Report Date: 14-Dec-12

Carrier: Ricky Schmidt	Rece	eived By: SR	н		
Completed by: On: 06-Dec-12 Timothy W. Mathis	Re 0 06-E	viewed by: Dn: Dec-12	Elizabeth A. Hurley	the	log
Pages to follow: Chain of custody 2	Extra pages include	d 9			
Shipping container/cooler in good condition?	Yes 🔽	No 🗌	Not Present		Temp °C 7.6
Type of thermal preservation?	None	Ice 🗸	Blue Ice		Drv 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 compli- 0.1°C - 6.0°C, or when samples are received on ice the sam	ant with a temperature ne day as collected.	between	]		
Nater – at least one vial per sample has zero headspace?	Yes	No	No VOA vials	~	
Vater - TOX containers have zero headspace?	Yes	No 🗌	No TOX containers	~	
Nater - pH acceptable upon receipt?	Yes 🔽	No 🗌			
	× □	N- []			

### 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.

Coal Combustion Byproducts LIST TYPE OF WASTE: ( А.

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, 7.47 (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 Statues 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 Page 2

### C. PROPOSED ACTIVITIES

1. Expected amount of waste to be disposed on-site January 1, 2013 thru December 31, 2013

\_\_\_\_\_ (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. \_\_\_\_\_ 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))



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

jab\PermitExemptSurveyForm.doc



http://www.teklabinc.com/

December 09, 2013

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



WorkOrder: 13120003

**RE:** Quarterly Groundwater Analysis

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,

Shelly A Hennessy

Shelly A. Hennessy Project Manager (618)344-1004 ex 36 SHennessy@teklabinc.com



### Definitions

#### Client: Southern Illinois Power Cooperation

http://www.teklabinc.com/

Work Order: 13120003 Report Date: 09-Dec-13

#### Client Project: Quarterly Groundwater Analysis

#### 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	Н-	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	ana maanna aa ahaa ahaa ahaa magaala ahaa ahaa ahaa ahaa ahaa ahaa aha	ลตรังกรมใจกรณ์รักษณร์และแรกระบาทระบาทสุดที่สายแรกและรายออกและรักษร์กรุ่งได้รับวิวัววิรังรักร์และคลตระบาทสุดและ และรักษณ์ใจกรุ่งให้กระบาร์และสายคลามของสายรู้สายแห่งและรายออกและรักษร์การ์ได้รับวิวัววิรังรักร์และคลตระบาทรักษ



Case Narrative

Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis

Cooler Receipt Temp: 9.2 °C

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations Collinsville Springfield **Collinsville** Air Kansas City Address 5445 Horseshoe Lake Road 3920 Pintail Dr 8421 Nieman Road 5445 Horseshoe Lake Road Collinsville, IL 62234-7425 Springfield, IL 62711-9415 Lenexa, KS 66214 Collinsville, IL 62234-7425 Phone (618) 344-1004 (217) 698-1004 (618) 344-1004 (913) 541-1998 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 88-0966 3/14/2014 Collinsville ADEQ 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

http://www.teklabinc.com/

Work Order: 13120003 Report Date: 09-Dec-13

eklab	Inc.	Labor	atory ]	Results		0,02,1	<u>http://www.tekla</u>	binc.com/	
Client: Southern I	Client: Southern Illinois Power Cooperation				Work Order: 13120003				
Client Project: Quarterly (	Groundwater Analysis	Report Date: 09-Dec-13						:-13	
Lab ID: 13120003-	001			Client Samp	ple ID: C1				
Matrix: GROUNDW	ATER			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, ME	TALS 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	

LEAN FIRST AND DOMESTICS

eklab.	aboratory	Labora	atory	Results			http://www.tekla	binc.com/		
Client: Southern Illinois Power Cooperation						w	ork Order: 131200	)03		
Client Project: Quarterly G					R	eport Date: 09-Dec	-13			
Lab ID: 13120003-0	002			Client Sam	ple ID: C2					
Matrix: GROUNDW	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, ME	TALS 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		

eklab.	aboratory	Labora	atory	Results			http://www.tekla	binc.com/	
Client: Southern I	llinois Power Coopera	tion				w	ork Order: 131200	003	
Client Project: Quarterly (	Groundwater Analysis	is					Report Date: 09-Dec-13		
Lab ID: 13120003-	003			Client Sam	ple ID: C3				
Matrix: GROUNDW	ATER			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, ME	TALS BY ICP (TOTAL)	전문 관심가 같							
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	

eklab,		Labor	atory	Results			http://www.tekla	binc.com/
Client: Southern 1	Illinois Power Cooperati	on				w	ork Order: 131200	003
Client Project: Quarterly	Groundwater Analysis					R	eport Date: 09-Dec	:-13
Lab ID: 13120003-	004			Client Sam	ple ID: S1			
Matrix: GROUNDW	/ATER			Collection	Date: 12/	04/2013	10:50	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								natas tra da Antas di
Sulfate	NELAP	10		26	mg/L	1	12/05/2013 17:26	R184829
SW-846 3005A, 6010B, ME	TALS BY ICP (TOTAL)		가지는지	날 옷을 받는				
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

 $\sim$ 

eklab.]	aboratory	Labor	atory	Results			http://www.tekla	binc.com/
Client: Southern I	llinois Power Coopera	tion				w	ork Order: 131200	)03
Client Project: Quarterly (					R	eport Date: 09-Dec	-13	
Lab ID: 13120003-	005			Client Sam	ple ID: S2			
Matrix: GROUNDW	ATER			Collection	n Date: 12/	04/2013	13:15	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								n la franciska fra slava Na slava slava slava slava Na slava slav
Sulfate	NELAP	50		77	mg/L	5	12/05/2013 17:31	R184829
SW-846 3005A, 6010B, ME	TALS BY ICP (TOTAL)	지수는 물건을	연양, 목소					
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/ Work Order: 13120003 Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis Report Date: 09-Dec-13 Lab ID: 13120003-006 **Client Sample ID: S3** Collection Date: 12/04/2013 12:50 Matrix: GROUNDWATER Qual Units DF Date Analyzed Batch Analyses Certification RL Result SW-846 9036 (TOTAL) 12/05/2013 17:34 R184829 NELAP 10 mg/L Sulfate 23 1 90 SW-846 3005A, 6010B, METALS BY ICP (TOTAL) Boron NELAP 0.02 < 0.02 mg/L 1 12/05/2013 18:06 94323 mg/L 12/05/2013 18:06 94323 0.002 < 0.002 1 Cadmium NELAP 0.02 mg/L 12/05/2013 18:06 94323 Iron NELAP 42 1

eklab.	inc.	Labor	atory ]	Results		0,02,1	-021	
Environmental L	aboratory						http://www.tekla	binc.com/
Client: Southern Il	llinois Power Cooperatio	on				w	ork Order: 131200	003
Client Project: Quarterly G	Groundwater Analysis	Report Date: 09-Dec-13						:-13
Lab ID: 13120003-(	007			Client Samp	ple ID: S4			
Matrix: GROUNDW	ATER	Collection Date: 12/04/2013 12:25						
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)				le for en lagulet de co Victor de constantes d				
Sulfate	NELAP	20		41	mg/L	2	12/05/2013 17:39	R184829
SW-846 3005A, 6010B, ME	TALS 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
lron	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 Certification RL Qual Units DF Date Analyzed Batch Analyses Result SW-846 9036 (TOTAL) NELAP 50 212 mg/L 5 12/05/2013 17:42 R184829 Sulfate SW-846 3005A, 6010B, METALS BY ICP (TOTAL) NELAP 0.02 1 12/05/2013 18:19 94323 Boron mg/L < 0.02 12/05/2013 18:19 94323 Cadmium NELAP 0.002 < 0.002 mg/L 1 Iron NELAP 0.02 0.0589 mg/L 1 12/05/2013 18:19 94323

eklab.	Inc.	Labora	atory	Results			<u>http://www.tekla</u>	ibinc,com
Client: Southern I	llinois Power Cooperat	ion				w	ork Order: 13120(	003
Client Project: Quarterly (					R	eport Date: 09-Dec	:-13	
Lab ID: 13120003-			Client Sam	ple ID: S6				
Matrix: GROUNDW	ATER			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, ME	TALS 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 Report Date: 09-Dec-13

<b>Client Project:</b>	Quarterly Groundwate	r Analysis
------------------------	----------------------	------------

Carrier: Rick Schmidt Completed by: On: 04-Dec-13 Emily E. Pohlman		Received By: SR Reviewed by: On: 04-Dec-13	H Swilly A Hunn Shelly A. Hennessy	essiy-			
Pages to follow: Chain of custody 2	Extra pages inc	luded 9			0 <b>19</b> 7		
Shipping container/cooler in good condition?	Yes 🗹	No 🗔	Not Present	Temp ℃ 9.2			
Type of thermal preservation?	None	lce 🗹	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 $0.1^{\circ}$ - 6.0°C, or when samples are received on ice the same day as collected.							
Water at least one vial per sample has zero headspace?	Yes 🗌	No	No VOA vials				
Water - TOX containers have zero headspace?	Yes 🗌	No 🗔	No TOX containers				
Water - pH acceptable upon receipt?	Yes 🗹	No 🗔	NA [				
NPDES/CWA TCN interferences checked/treated in the field?	Yes 🗌	No 🗌	NA				
Any No responses must be detailed below or on the COC.							



http://www.teklabinc.com/

September 19, 2013

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



WorkOrder: 13090409

**RE:** Quarterly Groundwater Analysis

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,

Shelly A Hennessy

Shelly A. Hennessy Project Manager (618)344-1004 ex 36 SHennessy@teklabinc.com



### Definitions

http://www.teklabinc.com/
Work Order: 13090409
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

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- 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	8-	Analyte detected in associated Method Blank
Ε-	Value above quantitation range	H -	Holding times exceeded
М-	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/

Work Order: 13090409 Report Date: 19-Sep-13

Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis

Cooler Receipt Temp: 14.4 °C

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations **Collinsville** Air Collinsville Springfield Kansas City Address 5445 Horseshoe Lake Road 3920 Pintail Dr 8421 Nieman Road 5445 Horseshoe Lake Road Collinsville, IL 62234-7425 Springfield, IL 62711-9415 Lenexa, KS 66214 Collinsville, IL 62234-7425 (618) 344-1004 Phone (618) 344-1004 (217) 698-1004 (913) 541-1998 Fax (618) 344-1005 (217) 698-1005 (913) 541-1998 (618) 344-1005 EHurley@teklabinc.com Email jhriley@teklabinc.com KKlostermann@teklabinc.com dthompson@teklabinc.com Lab State Dept Cert # NELAP Exp Date 1/31/2014 Collinsville lllinois IEPA 100226 NELAP KDHE E-10374 NELAP 1/31/2014 Collinsville Kansas 166493 NELAP 6/30/2014 Collinsville LDEQ Louisiana Louisiana LDEQ 166578 NELAP 6/30/2014 Springfield NELAP 7/31/2014 Collinsville TCEQ T104704515-12-1 Texas 3/14/2014 Collinsville Arkansas ADEQ 88-0966 Illinois IDPH 17584 5/31/2015 Collinsville 4/5/2014 Collinsville Kentucky UST 0073 00930 5/31/2015 Collinsville Missouri MDNR 8/31/2014 Collinsville Oklahoma ODEQ 9978

eklab.]	aboratory	Labor	atory	Results			http://www.tekla	<u>binc.com/</u>
Client: Southern I	linois Power Coopera	tion				W	ork Order: 130904	109
Client Project: Quarterly C	Groundwater Analysis					R	eport Date: 19-Sep	-13
Lab ID: 13090409-	001			Client Sam	ple ID: C1			
Matrix: GROUNDW	ATER			Collection	1 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, ME	TALS BY ICP (TOTAL)	et tetap						
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

0.10-3/03/2

eklab.]	Inc. aboratory	Labor	atory	Results			<u>http://www.tekla</u>	binc.com/
Client: Southern Il	linois Power Cooperatio	n				W	ork Order: 130904	109
Client Project: Quarterly G	Groundwater Analysis					R	eport Date: 19-Sep	-13
Lab ID: 13090409-0	002			Client Sam	ple ID: C2			
Matrix: GROUNDW	ATER			Collection	Date: 09/	13/2013	9:10	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								ing an thin Ng pangang
Sulfate	NELAP	100		227	mg/L	10	09/16/2013 13:59	R181833
SW-846 3005A, 6010B, ME	TALS BY ICP (TOTAL)					한편에서		
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

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eklab.	Inc. aboratory	Labora	itory	Results			http://www.tekla	binc.com/
Client: Southern I	llinois Power Coopera	tion				W	ork Order: 130904	109
Client Project: Quarterly (	Groundwater Analysis					R	eport Date: 19-Sep	-13
Lab ID: 13090409-	003			Client Sam	ple ID: C3			
Matrix: GROUNDW	ATER			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, ME	TALS 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

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eklab.		Labor	atory	Results			http://www.tekla	binc.com/
Client: Southern	Illinois Power Cooperat	ion				w	ork Order: 130904	109
Client Project: Quarterly	Groundwater Analysis					R	eport Date: 19-Sep	-13
Lab ID: 13090409	0-004			Client Samp	ple ID: S1			
Matrix: GROUND	WATER			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, M	ETALS 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

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## 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 RL Qual Units DF Date Analyzed Batch Certification Result Analyses SW-846 9036 (TOTAL) NELAP 50 100 mg/L 5 09/18/2013 13:58 R181951 Sulfate SW-846 3005A, 6010B, METALS BY ICP (TOTAL) Boron NELAP 0.02 mg/L 09/17/2013 20:59 91942 1.08 1 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

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eklab	aboratory	Labor	atory l	Results			http://www.tekla	binc.com/
Client: Southern Il	linois Power Cooperat	ion				W	ork Order: 130904	109
Client Project: Quarterly G	iroundwater Analysis					Re	eport Date: 19-Sep	-13
Lab ID: 13090409-(	006			Client Sam	ole ID: S3			
Matrix: GROUNDW	ATER			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, ME	TALS BY ICP (TOTAL)	an a sha i	a de pol	이 아이는 같은			2020년 - 영문 - 1	
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

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## 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 Certification RL Qual Result Units DF Date Analyzed Batch Analyses SW-846 9036 (TOTAL) NELAP 10 45 mg/L 1 09/16/2013 14:50 R181833 Sulfate SW-846 3005A, 6010B, METALS BY ICP (TOTAL) NELAP 0.02 1 09/17/2013 21:11 91942 Boron < 0.02 mg/L 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

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eklab.	aboratory	Labora	itory	Results			http://www.tekla	ibinc.com/
Client: Southern I	llinois Power Coopera	tion				W	ork Order: 130904	109
Client Project: Quarterly C	Groundwater Analysis					R	eport Date: 19-Sep	-13
Lab ID: 13090409-	008			Client Sam	ple ID: S5			
Matrix: GROUNDW	ATER			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, ME	TALS 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/ Work Order: 13090409 Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis Report Date: 19-Sep-13 Lab ID: 13090409-009 **Client Sample ID: S6** Collection Date: 09/13/2013 10:35 Matrix: GROUNDWATER DF Batch Analyses Certification RL Qual Result Units Date Analyzed SW-846 9036 (TOTAL) NELAP 20 2 09/16/2013 14:58 R181833 Sulfate 71 mg/L SW-846 3005A, 6010B, METALS BY ICP (TOTAL) Boron NELAP 0.02 < 0.02 mg/L 1 09/18/2013 13:34 91942 NELAP 0.002 < 0.002 1 09/17/2013 21:23 91942 Cadmium mg/L 0.02 1 09/17/2013 21:23 91942 NELAP mg/L 4.37 Iron



## **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: EE	p	
Completed by: On: 13-Sep-13 Emily E. Pohlman		Reviewed by: On: 13-Sep-13	Shelly A Hune Shelly A. Hennessy	soy
Pages to follow: Chain of custody 2	Extra pages ind	duded 9		
Shipping container/cooler in good condition?	Yes 🔽	No 🗍	Not Present	Тетр С 14.4
Type of thermal preservation?	None	ice 🗸	Blue Ice	
Chain of custody present?	Yes 🗹	No 🗌	D.00.00 m	
Chain of custody signed when relinguished 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 complia $0.1^{\circ}$ - $6.0^{\circ}$ , or when samples are received on ice the sam	nnt with a temper le day as collecte	ature between ed.		
Water - at least one vial per sample has zero headspace?	Yes 🗌	No	No VOA vials 🗸	
Water - TOX containers have zero headspace?	Yes 🗌	No 🗌	No TOX containers 🗹	
Water - pH acceptable upon receipt?	Yes 🗹	No 🗔	NA 🗌	]
NPDES/CWA TCN interferences checked/treated in the field?	Yes 🗌	No 🗌	NA 🔽	
Any No responses in	must be detailed	below or on the	coc.	



http://www.teklabinc.com/

June 24, 2013

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



WorkOrder: 13060701

RE: Quarterly Groundwater Analysis

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,

Shelly A Hennessy

Shelly A. Hennessy Project Manager (618)344-1004 ex 36 SHennessy@teklabinc.com



### Definitions

Client: Southern Illinois Power Cooperation Work Order: 13060701

Client Project: Quarterly Groundwater Analysis

Report Date: 24-Jun-13

http://www.teklabinc.com/

#### 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

NUMBER STATES

- 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 )

	Q	ualifiers	
# -	Unknown hydrocarbon	в-	Analyte detected in associated Method Blank
E -	Value above quantitation range	H -	Holding times exceeded
М -	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
Χ-	Value exceeds Maximum Contaminant Level		



**Case Narrative** 

http://www.teklabinc.com/

Work Order: 13060701

Report Date: 24-Jun-13

Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis

### Cooler Receipt Temp: 1.8 °C

An employee of Teklab, Inc. collected the sample(s).

Locations and Accreditations Collinsville Springfield Kansas City **Collinsville** Air 5445 Horseshoe Lake Road 3920 Pintail Dr 8421 Nieman Road 5445 Horseshoe Lake Road Address Collinsville, IL 62234-7425 Springfield, IL 62711-9415 Lenexa, KS 66214 Collinsville, IL 62234-7425 Phone (618) 344-1004 (217) 698-1004 (913) 541-1998 (618) 344-1004 Fax (217) 698-1005 (913) 541-1998 (618) 344-1005 (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 1/31/2014 Collinsville Kansas KDHE E-10374 NELAP NELAP 6/30/2013 Collinsville LDEQ 166493 Louisiana 6/30/2013 Springfield Louisiana LDEQ 166578 NELAP 7/31/2013 Texas TCEQ T104704515-12-1 NELAP Collinsville 88-0966 3/14/2014 Collinsville Arkansas ADEO Illinois IDPH 17584 4/30/2013 Collinsville 4/5/2014 Collinsville Kentucky UST 0073 4/13/2013 Collinsville Missouri MDNR 00930 8/31/2013 Collinsville Oklahoma ODEQ 9978

eklab,	Laboratory	Labora	atory	Results			http://www.tekla	binc.com/
Client: Southern	Illinois Power Cooperati	on				w	ork Order: 130607	01
Client Project: Quarterly	Groundwater Analysis					R	eport Date: 24-Jun	-13
Lab ID: 13060701	-001			Client Samp	ple ID: C1			
Matrix: GROUND	WATER			Collection	Date: 06/	17/2013	10:35	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)					LESS D	ça da		
Sulfate	NELAP	100		307	mg/L	10	06/19/2013 21:41	R178538
SW-846 3005A, 6010B, M	ETALS BY ICP (TOTAL)	Mar Heralyg			Ne osaik			
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

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### 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 Certification RL Qual Units DF Date Analyzed Batch Analyses Result SW-846 9036 (TOTAL) NELAP 100 216 mg/L 10 06/19/2013 21:46 R178538 Sulfate SW-846 3005A, 6010B, METALS BY ICP (TOTAL) NELAP 0.02 Boron 06/19/2013 14:35 89322 0.0652 mg/L 1 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

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eklat	) Inc.	Labor	atory	Results			<u>http://www.tekla</u>	binc.com/	
Client: Souther	n Illinois Power Cooperat	ion				W	ork Order: 130607	701	
Client Project: Quarter	ly Groundwater Analysis					R	eport Date: 24-Jun	-13	
Lab ID: 1306070	)1-003			Client Samp	ole ID: C3				
Matrix: GROUNI	OWATER		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)	References							
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/ Work Order: 13060701 Client: Southern Illinois Power Cooperation Client Project: Quarterly Groundwater Analysis Report Date: 24-Jun-13 Lab ID: 13060701-004 **Client Sample ID: S1** Collection Date: 06/17/2013 12:35 Matrix: GROUNDWATER RL Qual Units DF Date Analyzed Batch Analyses Certification Result SW-846 9036 (TOTAL) 06/19/2013 21:52 R178538 NELAP 10 26 mg/L Sulfate 1 SW-846 3005A, 6010B, METALS BY ICP (TOTAL) Boron NELAP 0.02 < 0.02 mg/L 1 06/19/2013 14:43 89322 0.002 Cadmium NELAP < 0.002 mg/L 1 06/19/2013 14:43 89322 NELAP 0.02 mg/L 06/19/2013 14:43 89322 Iron 100 1



### 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) 06/19/2013 21:57 R178538 Sulfate NELAP 20 41 mg/L 2 SW-846 3005A, 6010B, METALS BY ICP (TOTAL) Boron NELAP 0.02 0.649 mg/L 1 06/19/2013 14:46 89322 0.002 06/19/2013 14:46 89322 Cadmium NELAP < 0.002 mg/L 1 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 Certification RL Qual Units DF Date Analyzed Batch Analyses Result SW-846 9036 (TOTAL) NELAP 10 < 10 mg/L 06/19/2013 22:02 R178538 Sulfate 1 SW-846 3005A, 6010B, METALS BY ICP (TOTAL) Boron NELAP 0.02 mg/L 1 06/19/2013 14:50 89322 < 0.02 06/19/2013 14:50 89322 Cadmium NELAP 0.002 < 0.002 mg/L 1 Iron NELAP 0.02 47.5 mg/L 1 06/19/2013 14:50 89322

eklab,		Labor	atory	Results			http://www.teklabinc.com/
Client: Southern	Illinois Power Cooperatio	1				W	ork Order: 13060701
Client Project: Quarterly	Groundwater Analysis					R	eport Date: 24-Jun-13
Lab ID: 13060701	-007			Client Sam	ple ID: S4		
Matrix: GROUNDV	VATER			Collection	1 Date: 06/	17/2013	12:50
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Batch
SW-846 9036 (TOTAL)					an an the second se		0640/2012 22:00 0178529

SW-846 9036 (TOTAL)	计自动推翻自计计					승규는 승규는 것이 같아.	ng sa taon ang sa Taon ang sa
Sulfate	NELAP	20	39	mg/L	2	06/19/2013 22:08	R178538
SW-846 3005A, 6010B,	METALS BY ICP (TOTAL)				걸음 옷을 숨고		
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

eklab ]	aboratory	Labor	atory	Results			http://www.tekla	binc.com/
Client: Southern I	linois Power Cooperatio	on				W	ork Order: 130607	/01
Client Project: Quarterly G	iroundwater Analysis					R	eport Date: 24-Jun	-13
Lab ID: 13060701-0	)08			Client Samp	ole ID: S5			
Matrix: GROUNDW	ATER			Collection	Date: 06/	17/2013	11:30	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								ana ang ang ang ang ang ang ang ang ang
Sulfate	NELAP	100		226	mg/L	10	06/19/2013 22:14	R178538
SW-846 3005A, 6010B, ME	TALS 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

Environmental	Inc. Laboratory	Labora	atory	Results			http://www.tekla	abinc.com/
Client: Southern I	Illinois Power Coopera	tion				W	ork Order: 13060	701
Client Project: Quarterly					R	eport Date: 24-Jun	-13	
Lab ID: 13060701-			Client Sam	ple ID: S6				
Matrix: GROUNDW	/ATER			Collection	1 Date: 06/	/17/2013	3 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, ME	TALS 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
Elevated reporting limit for B di	e to high levels of non-targ	et analytes.						



## **Receiving Check List**

http://www.teklabinc.com/

#### Client: Southern Illinois Power Cooperation

Work Order: 13060701 Report Date: 24-Jun-13

Client Project: Quarterly Groundwater Analysis

Carrier: Ricky Schmidt	Received By: SRI	रम				
Completed by: On: 18-Jun-13 Timothy W. Mathis		Reviewed by: On: 18-Jun-13	Shilliz A Hennessy	essy		
Pages to follow: Chain of custody 2	Extra pages inc	luded 9				
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present	🗌 Temp °C	1.8	
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	$\checkmark$		
Container/Temp Blank temperature in compliance?	Yes 🗹	No 🗔				
When thermal preservation is required, samples are complia $0.1^{\circ}$ - $6.0^{\circ}$ , or when samples are received on ice the sam	nt with a temper e day as collecte	ature between ed.				
Water - at least one vial per sample has zero headspace?	Yes	No 🗌	No VOA vials	<b>v</b>		
Water - TOX containers have zero headspace?	Yes 🗌	No 🗔	No TOX containers			
Water - pH acceptable upon receipt?	Yes 🗌	No 🗔	NA			
NPDES/CWA TCN interferences checked/treated in the field?	Yes 🗌	No 🗌	NA			
Any No responses r	nust be detailed	l below or on the	coc.			



http://www.teklabinc.com/

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,

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

Client Project: Special GW Monitoring

Work Order: 13030341

Chem Project: Special GW Monit

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).
- 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 )

	Quali	ifiers	
# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank
E -	Value above quantitation range	Н -	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/

Work Order: 13030341

Report Date: 24-Feb-14

Client: Southern Illinois Power Cooperation

Client Project: Special GW Monitoring

#### 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	Colli	insville Air	
Address	5445 Horseshoe Lake Road	3920 Pintail Dr	3920 Pintail Dr 842		5445	Horseshoe Lake Road	
	Collinsville, IL 62234-7425	Springfield, IL 6	2711-9415	Lenexa, KS 66214	Colli	nsville, IL 62234-7425	
Phone	(618) 344-1004	(217) 698-1004	(	(913) 541-1998	(618)	344-1004	
Fax	(618) 344-1005	(217) 698-1005	(217) 698-1005 (9		(618)	344-1005	
Email	jhriley@teklabinc.com	KKlostermann@	KKlostermann@teklabinc.com		com EHur	ley@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	T104704515-1	2-1 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	

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eklab	Inc.	Labor	atory	Results			http://www.tekla	binc.com/
Client: Southern I	llinois Power Cooperati	on				W	ork Order: 130303	341
Client Project: Special GW	/ Monitoring					R	eport Date: 24-Feb	-14
Lab ID: 13030341-	001			Client Sam	ple ID: C1			
Matrix: GROUNDW	ATER			Collection	n Date: 03/	11/2013	3 11:00	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)								Anna an Anna Anna Anna an Anna Anna Anna
Sulfate	NELAP	200		395	mg/L	20	03/16/2013 12:39	R174870
SW-846 3005A, 6010B, ME	TALS 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

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eklab.	aboratory	Labora	atory	Results			<u>http://www.tekla</u>	binc.com/
Client: Southern I	linois Power Cooperation					W	ork Order: 130303	341
Client Project: Special GW	Monitoring					R	eport Date: 24-Feb	-14
Lab ID: 13030341-0	002			<b>Client Samp</b>	ole ID: C2			
Matrix: GROUNDW	ATER			Collection	Date: 03/	11/2013	11:35	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)							ne kolesno for a provinske na kolesno i Na se kolesno state kolesno se kolesno s	vlask propiol. Gli 1 Deleta esta esta esta Diserve esta esta esta
Sulfate	NELAP	200		232	mg/L	20	03/16/2013 12:48	R174870
SW-846 3005A, 6010B, ME	TALS 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

eklab,	Inc.	Labor	atory	Results			http://www.tekla	binc.com/
Client: Southern I	llinois Power Cooperation					W	ork Order: 130303	341
Client Project: Special GV	/ Monitoring					Re	eport Date: 24-Feb	-14
Lab ID: 13030341-	003			Client Samp	le ID: C3			
Matrix: GROUNDW	/ATER			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, ME	TALS 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

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eklab, ]	aboratory	Labor	atory	Results			http://www.tekla	binc.com/	
Client: Southern I	linois Power Coopera	tion				W	ork Order: 130303	341	
Client Project: Special GW	' Monitoring					R	eport Date: 24-Feb	-14	
Lab ID: 13030341-0	004			Client Samp	ple ID: S1				
Matrix: GROUNDW	ATER		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, ME	TALS 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	

eklab I	nc.	Labora	atory 1	Results			http://www.tekla	binc.com/
Client: Southern II	linois Power Cooperation					W	ork Order: 130303	341
Client Project: Special GW	Monitoring					R	eport Date: 24-Feb	-14
Lab ID: 13030341-0	05			Client Samp	ole ID: S2			
Matrix: GROUNDW	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, ME	TALS BY ICP (TOTAL)					것같을		
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

eklab, I	nc. boratory	Labor	atory ]	Results			http://www.tekla	binc.com/
Client: Southern Ill	inois Power Cooperatio	n				W	ork Order: 130303	341
Client Project: Special GW					R	eport Date: 24-Feb	-14	
Lab ID: 13030341-0			Client Samp	ole ID: S3				
Matrix: GROUNDWA			Collection	Date: 03/	11/2013	3 13:26		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 9036 (TOTAL)				a tri ky voz desiriou i				
Sulfate	NELAP	10		22	mg/L	1	03/16/2013 13:12	R174870
SW-846 3005A, 6010B, MET	TALS 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

eklab.	Inc.	Labor	atory ]	Results			http://www.tekla	binc.com/
Client: Southern I	llinois Power Cooperati	on				W	ork Order: 130303	341
Client Project: Special GW					R	eport Date: 24-Feb	-14	
Lab ID: 13030341-	007			Client Samp	ole ID: S4			
Matrix: GROUNDW			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, ME	TALS 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

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eklab.	Labora	atory	Results		http://www.teklabinc.com/			
Client: Southern	tion				w	ork Order: 130303	341	
Client Project: Special G	N Monitoring					R	eport Date: 24-Feb	-14
Lab ID: 13030341	-008			Client Sam	ple ID: S5			
Matrix: GROUND	VATER		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, M	ETALS 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

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eklab,	Laboratory	Laboratory Results					http://www.teklabinc.com/			
Client: Southern	Client: Southern Illinois Power Cooperati					W	ork Order: 130303	341		
Client Project: Special G	N Monitoring					R	eport Date: 24-Feb	<b>)-14</b>		
Lab ID: 13030341	-009			Client Sam	ole ID: S6					
Matrix: GROUNDV	VATER		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, M	ETALS BY ICP (TOTAL)					기관하고				
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	e to high levels of non-target a	nalvtes.								



Client Project: Special GW Monitoring

### **Receiving Check List**

http://www.teklabinc.com/

Client: Southern Illinois Power Cooperation

Work Order: 13030341 Report Date: 24-Feb-14

Carrier: Ricky Schmidt Completed by: On: 11-Mar-13 Timothy W. Mathis		Received By: TV Reviewed by: On: 12-Mar-13	VM Shelly A Hurr Shelly A. Hennessy	ressy-	
Pages to follow: Chain of custody 2	Extra pages ir	cluded 9	]		
Shipping container/cooler in good condition?	Yes 🗸	No 🗌	Not Present	Temp °C	5.8
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 complia 0.1°C - 6.0°C, or when samples are received on ice the sam	nt with a tempe le day as collec	rature between ted.			
Water - at least one vial per sample has zero headspace?	Yes 🗸	No 🗌	No VOA vials		
Water - TOX containers have zero headspace?	Yes 🗌	No 🗌	No TOX containers	$\checkmark$	
Water - pH acceptable upon receipt?	Yes 🗹	No 🗆	NA		
NPDES/CWA TCN interferences checked/treated in the field?	Yes	No 🗆	NA	$\checkmark$	
Any No responses	must be detaile	d below or on th	e 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)782-2829 PAT QUINN, GOVERNOR LISA BONNETT, DIRECTOR

1990555005 SOUTHERN ILLENOIS 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 <u>January 1, 2014 thru</u> <u>December 31, 2014</u>.

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:

<u>930,160</u> (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 Statues 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., Rackford, IL 61103 (815)987-7760 595 S. State, Elgin, IL 60123 (847)608-3131 2125 S. First St., Chompalgn, IL 61820 (217)278-5800 2009 Mall St., Collinsville, IL 62234 (618)346-5120

PLEASE PRINT ON RECYCLED PAPER

Page 2

#### C. PROPOSED ACTIVITIES

1. Expected amount of waste to be disposed on-site January I,ZO15thru December 31,ZO15

*O* (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.

<u>Attachments</u>

- Copies of all identification reports required under 35 Ill. Adm. Code

   \$11.404.
- 2. <u>All raw monitoring data collected at the facility from the leachate</u> 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))

Name (print/type) 0000-7 Phone: (619) 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

jab\PermitExemptSurveyForm.doc



# Microbac Laboratories, Inc.

KENTUCKYTESTING 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.		Date Reported	04/18/2014
Leonard Hopkins		Date Due	04/03/2014
11543 Lake of Egypt Road		Date Received	03/25/2014
Marion, IL 62959		Customer #	E5660
		Customer P.O.	N/A

#### Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 01	Well C-1								Sampled	03/24/201	4@ 11:45
Sampled By	David Richardso	n	220				EN4 4600 EØ4 E	120	04/14	0014 15-55	DDI
Deves			520 mg/L	12.5			SM 4300 SO4 E	120	04/14	2014 15:55	EMI
Codmin			<0.30 mg/L	1			EPA 200.7	0.00	03/20	2014 19:09	EML
Lon			<0.0050 mg/L	1			EFA 200.7	0.000	03/20	/2014 13:56	EMI
100			S.7 mgr.	1			217/20017	0.010	05/20	12014 13.30	LIND
Sample: 02	Well C-2								Sampled	03/24/2014	1@ 12:01
Sampled By	David Richardsor	1	380 ma/i	Ø 22			SM 4500 SO4 F	83	04/14	/2014 15:55	ומס
Boron			<0.50 mg/L	5.55 t			EPA 200.7	0.50	03/26	/2014 19:14	EML
Cadmium			<0.0050 mg/l.	•			EPA 200.7	0.0050	03/26	/2014 14:00	EML
Iron			8.1 mg/L	,			EPA 200.7	0.010	03/26	2014 14:00	EML
			···· ···· ····	•							
Sample: 03	Well C-3								Sampled	03/24/2014	@ 12:33
Sampled By Sulfate	David Richardson	1	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	L			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										
Sulfata	fferfilme maai kadadili ini dikada fatir	*******			ele <b>N</b> iciotisti	ciclisiticatio	SM 4500 SQ4 E	12	04/14/2	2014-15:55	DDL
Boron			<0.50 mg/L	1			EPA 200.7	0.50	03/26/7	2014 19:29	EML
Cadmium			<0.0050 mg/L	1			EPA 200.7	0.0050	03/26/2	2014 14:15	EML
Iron			51 mg/L	10			EPA 200.7	0.10	03/26/2	2014 14:53	EML

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#### Chemical, Biological, Physical, Molecular, and Toxicological Services

#### **CERTIFICATE OF ANALYSIS**

#### 4031442

Southern Illinois Power Coop.	Date Reported	04/18/2014
Leonard Hopkins	Date Received	03/25/2014
	Date Sampled	03/24/2014

#### Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier Resu	lt Units DF	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 06	Well S-4							Sampled	03/24/201	4@ 12:54
Sampled By	David Richardsor	r								
Sulfate		49	mg/L i			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 l			EPA 200.7	0.0050	03/26	/2014 14:19	EML
Iron		39	mg/L I			EPA 200.7	0.010	03/26	2014 14:19	EML
Sample: 07	Well S-5							Sampled	03/24/2014	1@ 12:18
Sampled By	David Richardson	I								
Sulfate		210	mg/L 8,33			SM 4500 SO4 E	83	04/14/	2014 15:55	DDL
Boron		<0,50	mg/L ł			EPA 200.7	0.50	03/26/	2014 19:40	EML
Cadmium		<0.0050	mg/L l			EPA 200.7	0.0050	03/26/	2014 14:24	EML
Iron		6.4	mg/L I			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	03/26/2	2014 19:45	EML
Cadmium		<0.0050	mg/L I			EPA 200.7	0.0050	03/26/2	2014 14:37	EML
Iron		9.0	mg/L I			EPA 200.7	0.010	03/26/2	014 14:37	EML
Sample: 09 Sampled By	Well Swamp David Richardson							Sampled	03/24/2014	@ 13:56
Sulfate		28 1	mg/L I			SM 4500 SO4 E	10	04/14/2	014 15:55	DDL
Boron		<0.50 i	ng/L l			EPA 200.7	0.50	03/26/2	014 20:01	EML
Cadmium		<0.0050 1	ng/L I			EPA 200.7	0.0050	03/26/2	014 14:43	EML
Iron		11 r	ng/L í			EPA 200.7	0.010	03/26/2	014 14:43	EML

#### Qualifier Definitions

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Chemical, Biological, Physical, Molecular, and Toxicological Services

#### CERTIFICATE OF ANALYSIS

#### 4031442

Date Reported Date Received Date Sampled

04/18/2014 03/25/2014 03/24/2014

Quarterly Well Sampling 2014 Thru 2016

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

MOORE , A.M. Michael Flournoy For WY

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



Member



Southern Illinois Power Coop.

Leonard Hopkins



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## Chemical, Biological, Physical, Molecular, and Toxicological Services

#### CERTIFICATE OF ANALYSIS

	4040761		
	4040701	Date Reported	04/24/2014
Southern Illinois Power Coop.		Date Due	04/22/2014
Leonard Hopkins 11543 Lake of Egypt Road		Date Received	04/10/2014
Marion, IL 62959		Customer #	E5660
		Customer P.O.	N/A

#### Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF	Min	Мах	Method	Rpt Limit	Date	Tíme	Tech
Sample: 01	Well C-1								Sampled	04/10/2014	@ 11:46
Sampled By	David Richardso	n មា	320 mg/L	10			EPA 300.0	5.0	04/23	/2014 11:46	ATM
Poren			<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	I			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 Richardso	n Bi	370 mg/L	10			EPA 300.0	ŝ.0	04/23	/2014 12:39	ATM
Doron		υ,	>0.50 mg/L	1			EPA 200.7	0.50	04414	2014 13:33	EML
Cadmium			<0.0050 mgL	1			EPA 200.7	0.0050	04/14	/2014 16:47	EML
Iron			9.3 mg/L	I			EPA 200,7	0.010	04/14	/2014 16:47	EML
Sample: 03	Well C-3								Sampled	04/10/2014	1 @ 12:05
Sampled By	David Richardso	n 	120 mg/L	10			EPA 300.0	5.0	04/23	/2014 12:43	ATM
Baran		2.	<0.50 mg/L	۱			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 16:53	EML
Sample: 04	Well S-2								Sampled	04/10/2014	1@ 12:58
Sampled By	David Richardso	ก ณ	71 mg/L	10			EPA 300.0	5.0	04/23	/2014 12:57	ATM
Doron			1,4 mg [.	I			EPA 200.7	0.50	04/13	1/2014 13:44	EML
Cadmium			0.014 mg/L	1			EPA 300.7	0.0050	04/1-	1/2014 17:05	EML
Iron			140 mg/L	50			EPA 200.7	0.50	04/14	12014 19:10	EMI.
Sample: 05	Well S-3								Sampled	04/10/201	4 🏟 13:12
Sampled By Sulfate	David Richardso	B1	2.3 mg/L	1			EPA 300.0	0.50	04/2)	3/2014 20:04	ATM
Beron			<0.50 mg.L	l			EPA 200.7	0.50		1 201 1 2 2 2 4 1999 1 4 4 4 7 2 2 4	E) (1
Cadmium			0 0060 mg L	I			EPA 200.7	0.6050	041-	4-2014-17210 1700-6-17-17	EALE
lren			49 mg/L	25			EPA 200.7	0.25	0471-	42014-19:15	EML

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## Chemical, Biological, Physical, Molecular, and Toxicological Services

#### CERTIFICATE OF ANALYSIS

#### 4040761

Southern Illinois Power Coop.	Date Reported	04/24/2014
Leonard Hopkins	Date Received	04/10/2014
	Date Sampled	04/10/2014

### Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF	Min	Мах	Method	Rpt Limit	Date	Time	Tech
Sample: 06	Well S-4								Sampled	04/10/201	4@ 12:19
Sampled By	David Richardso	n Bl	34 mg/l.	10			EPA 300.0	5.0	04-23-3	2014 13:25	ATM
Sunate		51	<0.50 mol	1			EPA 200.7	0.50	04:14/	2014 13:54	EML
Boron			<0.050 mg/L	, 1			EPA 200.7	0.0050	04/14/	2014 17:15	EML
Cadmium			tenen er	,			EPA 200.7	0.010	04/14/	2014 17:15	EML
iron			3.7 115 0						Sumpled	04/10/201	4@ 11:35
Sample: 07	Well S-5								Sampica	5410/201	
Sampled By	David Richardso	n 81	210 mgJ	10			EPA 300.0	5.0	04/23/	2014 13:40	ATM
Sulfate		81	<0.50 mg l	1			EPA 200.7	0.50	04/14/	2014 13:59	EML
Boron			-0.0850 mg/l	,			EPA 200.7	0,0050	04/14/	2014 17:19	EML
Cadmiun			<0.0000 mg/D				EPA 200.7	0.010	0-1/1-1/	2014 17:19	EML
Iron			0.64 10203	•					Samoled	04/10/201	4 60 17·28
Sample: 08	Well S-6								Sampled	511101201	10 34.40
Sampled By	David Richardso	n	(1) (1	10			EPA 300.0	5.0	04/23/	2014 13:54	ATM
Sulfate		81	60 mg41	10			FPA 200.7	0.50	04/14	2014 14:04	EML
Boron			<0.50 mga.				EPA 200.7	0.0050	04/14/	2014 17:34	EML
Cadmium			<0.0050 mg/L				5PA 2007	0.010	04 14/	2014 17:24	EML
Iron			20 mg/L	I			E111 2000				
Sample: 09	Well S1 - Sv	vamp							Sampled	04/10/201	.4 39 12:39
Sampled By	David Richardso	'n					CDA 20/0 ()	50	04/23/	2014 14:08	ATM
Sulfate		Bl	18 mg/l.	10			EPA 309.0	0.50	()4:14:	2014 14:20	EML
Boron			<0.50 mg/L	1			EIM 2007	0.0050	04/14/	2014 17:43	EML
Cadmium			<0.0050 mg/L	1			EPA 300.7	0,000	04/14/	2014 17:42	EML
Iron			11 mg/L	1			EPA 200.7	0.010	v		

Qualifier Definitions

B1 The analyte value in the Method Blank is above the Control Limit.

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Method

EPA 300.0

EPA 200.7 EPA 200.7 EPA 200.7

### Chemical, Biological, Physical, Molecular, and Toxicological Services

#### CERTIFICATE OF ANALYSIS

4040761

Southern Illinois Power Coop. Leonard Hopkins

nero bac

Quarterly Well Sampling 2014 Thru 2016

The following analyses were subcontracted to a qualified laboratory: <u>Laboratory</u> Kontucky Testing Lab

ABBASIS
Sulfate
Iron
Cadmium
Boran
Sampling Labor - Hourly

1 . . .

Date Reported

Date Received

Date Sampled

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

04/24/2014

04/10/2014 04/10/2014

AL MOORE 1.34

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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## ACIL

#### Chemical, Biological, Physical, Molecular, and Toxicological Services

4091181

#### CERTIFICATE OF ANALYSIS

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

in the state of the

Analysis	000	Qualifier Resu	ult Units Min	Max	Method	Li	Rpt imit	Date	Time	Tech	
Sample: 01	Well C1						5	Sampled	09/22/201	ŧ@ 11:19	
Sampled By	David Richardsor	ı									
Chloride		170	70 mg/L		EPA 300.0	2.	5	09/24/	2014 5:25	JGF	
Nitrogen, Nitrate		<0.11	li mg/L		EPA 300.0	0.1	1	09/23/	2014 13:18	JGF	
Solids, Dissolved		1100	00 mg/L		SM 2540C	SI	0	09/26/	2014 8:33	ATM	
Fluoride		<0.50	50 mg/L		EPA 300.0	0.5	n	09/23/	2014 13:18	JGF	
Sulfate		180	80 mg/L		EPA 300.0	2	5	09/24/	2014 5:25	JGF	
Arsenic		<0.050	i0 mg/L		EPA 200.7	0,050	)	09/24/	2014 19:17	EML	
Barium		0.027	7 mg/L		EPA 200.7	0.0050	)	09/24/	2014 19:17	EML	
Beryllium		<0.0050	0 mg/L		EPA 200,7	0.0050	)	09/24/	2014 19:17	EML	
Boron		<0.25	5 mg/l_		EPA 200.7	0.25	;	09/25/2	2014 10:45	EML	
Chromium		<0.0050	0 mg/L		EPA 200.7	0.0050	I	09/24/:	014 19:17	EML	
Cobali		0.018	8 mg/L		EPA 200.7	0.010	i	09/24/2	014 19:17	EML	
Copper		<0.010	0 mg/l.		EPA 200.7	0.010	I	09/24/2	014 19:17	EML	
Iron		1.4	4 mg/L		EPA 200.7	0.0050	I.	09/24/2	014 19:17	EML	
Lead		<0.0050	0 mg/L		EPA 200.7	0.0050		09/24/3	014 19:17	EML	
Manganese		0.41	1 mg/L		EPA 200.7	0.0050		09/24/2	014 19:17	EML	
Mercury		<0.00020	0 mg/L		EPA 245.7	0.00020		09/23/2	014 16:03	MSR	
Nickel		0.020	0 mg/L		EPA 200.7	0.0050		09/24/2	014 19:17	EM1,	
Vanadium		<0.0050	) mg/L		EPA 200.7	0.0050		09/24/2	014 19:17	EML	
Zinc		0.019	) mg/L		EPA 200.7	0.0050		09/24/2	014 19:17	EML	
Sample: 02	Well C2						Sa	mpled	09/22/2014	@ 11:27	
Sampled By (	David Richardson										
Chloride		18	G mg/L		EPA 300.0	0.50		09/23/2	014 14:39	JGF	
Nitrogen, Nitrate		-(0.11	nıg/L		EPA 300.0	0.11		09/23/2	014-14:29	JOP	
Solids, Dissolved		540	i mg/L		SM 2540C	50		09/26/20	014 8:33	ATM	
Fluoride		<0.50	mg/L		EPA 300.0	0.50		09/23/2	014 14:29	JGF	
Sulfate		130	mg/L		EPA 300.0	1.5		09/24/20	)14 5(39	JGF	
Arsenic		<0.050	mg/L	I	EPA 200.7	0.050		09/24/20	)14 19:21	EML	
Barium		0.050	mg/L	I	EPA 200.7	0.0050		09/24/20	014 19:21	EML	
Berylfium		<0.0050	mg/L	1	EPA 200.7	0.0050		09/24/20	14 19:21	EML	

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#### Chemical, Biological, Physical, Molecular, and Toxicological Services

#### CERTIFICATE OF ANALYSIS

4091181

Southern Illinois Power Coop.	Date Reported	09/30/2014
Jason McLaurin	Date Received	09/22/2014
	Date Sampled	09/22/2014

#### 3rd Quarter Wells 2014

Analysis	000	Qualifier Result Units	Min Max Method	Rpt Limit	Date Time Tech
Sample: 02	Well C2				Sampled 09/22/2014@ 11:27
Sampled By	David Richardson	ו			
Boran		<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	010.0	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				Completion of the second second
Sampled By	David Richardson				52mpred 69/22/2014@11:41
Chloride		490 mg/L	EPA 300.0	1.5	09/24/2014 5:54 JGF
Vitrogen, Nitrate		<0.11 mg/i_	EPA 300.0	0.11	09/23/2014 14:43 JGF
folids, Dissolved		1900 mg/L	SM 2540C	50	09/26/2014 \$:33 ATM
luoride		<0.50 mg/L	EPA 300.0	0.50	09/23/2014 14:43 JGF
ullate		110 mg/L	EPA 300.0	1.5	09/24/2014 5:54 JGF
rsenie		<0.050 mg/L	EPA 200.7	0.050	09/24/2014 19:26 EML
arium		0.23 mg/L	EPA 200.7	0.0050	09/24/2014 19:26 EML
eryllium		~0.0050 mg/L	EPA 200.7	0.0050	09/24/2014 19:26 EML
oron		<0.25 mg/L	EPA 200.7	0.25	09/25/2014 10:55 EMI
hromium		<0.0050 mg/L	EPA 200,7	0.0050	09/24/2014 19:26 EML
obalt		<0.010 mg/L	EPA 200.7	0.010	09/24/2014 19:26 EML
opper		<0.010 mg/L	EPA 200,7	0.010	09/24/2014 19:26 EML
n		2.5 mgL	EPA 200.7	0.0050	09/24/2014 19:26 EML
ad		<0.0050 mg/L	EPA 300.7	0.0050	09/24/2014 19:26 EML
anganese		0.79 mg/L	EPA 200.7	0.0050	09/24/2014 19:26 EML
ercury		<0.00020 mg/L	EPA 245.7	0.00020	09/23/2014 16-00 MSR

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#### Chemical, Biological, Physical, Molecular, and Toxicological Services

#### CERTIFICATE OF ANALYSIS

	4091181	
Southern Illinois Power Coop.	Date Reported	09/30/2014
Jason McLaurin	Date Received	09/22/2014
	Date Sampled	09/22/2014

#### 3rd Quarter Wells 2014

Analysis	000	Qualifier Resu	ult Units A	Ain I	Max Met	ıod	Rpt Limlt	Date	Time	Tech
Sample: 03 Sampled By	Well C3 David Richardsor	n					San	npled 0	9/22/2014	1@ 11:41
Nickel		0.006	5 mg/L		EPA	200.7 0.0	050	09/24/201	4 19:26	EML
Vanadium		<0.005	) mg/L		EPA	200.7 0.00	050	09/24/201	4 19:26	EML.
Zinc		0.02	3 mg/L		EPA	200.7 0.00	550	09/24/201	4 19:26	EML
Sample: 04 Sampled By	Well Swamp David Richardsor	51.					Бал	pled 0	9/22/2014	@ 12:12
Chloride		7.2	s mg/L		EPA	300.0 0	.50	09/23/201	4 14:57	JGF
Nitrogen, Nitrate		0.16	i mgʻL		EPA	300.0 0	.11	09/23/201	4 14:57	JGP
Solids, Dissolved		310	mg/L		SM 3	540C	50	09/26/201	4 8:33	ATM
Fluoride		<0.50	mg/L		EPA	300.0 D,	50	09/23/201	4 14:57	JGF
Sulfate		23	mg/L		EPA	300.0 0.	50	09/23/201	4 14:57	JGF
Arsenie		<0.050	тgÆ		EPA	200.7 0.0	50	09/24/201	4 19:31	EML
Barium		0.29	mg/L		EPA	200.7 0.00	50	09/24/201	4 19:31	EML
Beryllium		<0.0050	mg/L		EPA	0.00	50	09/24/201-	4 19:33	EML
Boron		<0.25	mg/L		EPA :	00.7 0.	25	09/25/2014	4 11:00	EML
Chromium		0,0063	mg/L		EPA 2	00,7 0.00	50	09/24/2014	19:31	EMI.
Cobalt		<0.010	mg/L		EPA 1	00.7 0.0	10	09/24/201-	19:31	EML
Coppor		0.013	mg/L		EPA :	00.7 0.0	10	09/24/2014	19:31	EML
lron		17	mg/L		EPA 1	00.7 0.00;	50	09/24/2014	19:31	EML
Lead		0.020	mg/L		EPA 1	00.7 0.00	50	09/24/2014	19:31	EML
Manganese		0.59	mg/L		EPA 2	00.7 0.00	50	09/24/2014	19:31	EMI.
Mercury		<0 00020	mg/L		EPA 2	45,7 0.0001	20	09/23/2014	16:12	MSR
Nickel		0.0071	mg/L		EPA 3	00.7 0.005	i0	09/24/2014	19:31	EML
Vanadium		0.026	mg/L		EPA 2	0.005	0	09/24/2014	19:31	EML
Zine		0.047	mg/L		EPA 2	0.005	i0	09/24/2014	19:31	EML
Sample: 05 Sampled By	Well S2 David Richardson				Destances of the second	nden for any skilmen for family 100 (100 / 10 any or sign that definitions that	Samp	led 09/	22/2014 (	) 12:27
Chloride		200	mg/L		EPA 3	J0.0 2.	5	09/24/2014	6:08	JGI:
Nitrogen, Nitrate		<0.11	mg/L		ЕРА З	0.0 0.1	1	09/23/2014	15:25	JGF
Solids, Dissolved		650	mg/L		SM 25	40C 5	Ü	09/26/2014	8:33	ATM

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#### Chemical, Biological, Physical, Molecular, and Toxicological Services

#### CERTIFICATE OF ANALYSIS

 Southern Illinois Power Coop.
 Date Reported
 09/30/2014

 Jason McLaurin
 Date Received
 09/22/2014

 Date Sampled
 09/22/2014

#### 3rd Quarter Wells 2014

Analysis	000	Qualifier Re	sult Units	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 05	Well S2							Sampled	09/22/201	4@ 12:27
Sampled By	David Richardsor	1								
Fluoride		<0	.50 mg/L			EPA 300.0	0,50	09/23	/2014 15:25	JGF
Sulfate			88 mg/L			EPA 300.0	0.50	09/23	/2014 15:25	JGF
Arsenic		<0.(	)50 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		<0.00	150 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		0.00	175 mg/L			EPA 200.7	0.0050	09/24	2014 19:44	EML
Cobalt		<0.0	10 mg/L			EPA 200.7	0.010	09/24	2014 19:44	EML.
Copper		<0.0	10 mg/L			EPA 200.7	0.010	09/24/	2014 19:44	EML
Iron		1	40 mg/L			EPA 200.7	0,12	09/25/	2014 13:59	EML
Lead		0.00	75 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		<0.000	20 mg/L			EPA 245.7	0.00020	09/23/	2014 16:15	MSR
Nickel		0,003	51 mg/L			EPA 200,7	0.0050	09/24/	2014 19:44	EML
Vanadium		0.03	22 mg/L			EPA 200.7	0.0050	09/24/2	1014 19:44	EML
Ziac		0.03	35 mg/L			EPA 200.7	0.0050	09/24/3	014 19:44	EML
Sample: 06 Sampled By	Well S3 David Richardson							Sampled	09/22/2014	@ 12:35
Chloride		6	i0 mg/L		1	PA 300.0	0.50	09/23/2	014 15:40	JGF
Nitrogen, Nitrate		<0,1	1 mg/[.		I	IPA 300.0	0.11	09/23/2	014 15:40	JGF
Solids, Dissolved		31	0 mg/L		5	5M 2540C	50	09/26/2	014 8:33	ATM
Fluoride		<0.5	0 mg/L		ſ	EPA 300.0	0.50	09/23/2	014 15:40	JGF
Sulfate		7.	2 mg/L		ſ	EPA 300.0	0.50	09/23/2	014 15:40	JGF
Arsenie		<0.05	0 mg1.		Ŀ	PA 200.7	0.050	09/24/2	014 19:49	EMI,
Barium		0.3	5 mg/L		E	PA 200.7	0.0050	09/24/2	014 19:49	EML
Beryllium		<0.005	0 ույլվ.		B	PA 200.7	0.0050	09/24/2	114 19:49	EMIL
Boron		< 0.2;	5 mg/L		en e	PA 200.7	0.25	09/25/2	)14 11:10	EML
Thromium		0.0055	5 ուց Ն		E	PA 200.7	0.0050	09/24/20	)14 19:49	EML
obalt		<0.010	) mg/L		E	PA 300.7	0.010	09/24/20	) 4  9 49	EMI.

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#### CERTIFICATE OF ANALYSIS

	4091181		
Southern Illinois Power Coop.		Date Reported	09/30/2014
Jason McLaurin		Date Received	09/22/2014
		Date Sampled	09/22/2014

#### 3rd Quarter Wells 2014

Analysis	000	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 06	Well S3							Sampled	09/22/201	4@ 12:35
Sampled By	David Richardso	n								
Соррег			<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	EM1.
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	EMI.
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	EMI.
Zinc			0.042 mg/L			EPA 200.7	0.0050	09/24/	2014 19;49	EML
Sample: 07 Sampled By	Well S4 David Richardson	1						Sampled	09/22/2014	1@ 12:42
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	09/24/2	2014 19:53	EML
Barium			0.087 mg/L			EPA 200.7	0.0050	09/24/2	2014 19:53	EML
Beryllium			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2	2014 19:53	EML
Boron			<0.25 mg/L			EPA 200.7	0.25	09/25/2	2014 11:15	EML
Chromium			0.0057 mg/L			EPA 200.7	0.0050	09/24/2	2014 19:53	EML
Cobalt			<0.010 mg/L			EPA 200.7	0.010	09/24/2	014 19:53	EML
Copper			<0.010 mg/L			EPA 200.7	0.010	09/34/3	014 19:53	EMI.
Iron			100 mg/L			EPA 200.7	0.050	09/25/2	014 14:08	EML
Lead			<0.0050 mg/L			EPA 200.7	0.0050	09/34/2	014 19:53	EM1.
Manganese			0.072 mg/L			EPA 200.7	0.0050	09/24/2	014 19:53	EML
lereury	nasti (1954.000) and a same a sam	<	0.00020 mg/ł.	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		EPA 245,7	0.00020	09/23/2	014 16:27	MSR
vickel			<0.0050 mg/L			EPA 200.7	0.0050	09/24/2	014 19:53	EMI.
Vanadium			0.016 mg/L		I	EPA 200.7	0 0050	09/24/2	014 19:53	EML
Cinc			0.018 mg/L		1	EPA 200.7	0.0050	09/24/2	014 19 53	EML

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#### Chemical, Biological, Physical, Molecular, and Toxicological Services

#### CERTIFICATE OF ANALYSIS

4091181

Southern Illinois Power Coop.	Date Reported	09/30/2014
Jason McLaurin	Date Received	09/22/2014
	Date Sampled	09/22/2014

3rd Quarter Wells 2014

Analysis	555 quanner result Units	with wax method	Limit	Date Time fech
Sample: 08 Well Sampled By David I	l S5 Richardson			Sampled 09/22/2014@ 11:0
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
Arsenie	<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
Cobait	<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
Lend	<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 Sampled By David Ri	56 ichardson			Sampled 09/22/2014@11:54
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
Arsenie	<0.050 mg/l.	EPA 200.7	0.050	09/24/2014 20:03 EM1.
Barium	0.16 mg/L	EPA 200,7	0.0050	09/24/2014 20:03 EML
cryllium	<0.0050 mg/l.	EPA 200 7	0.0050	09/24/2014 20:01 EN4

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## Chemical, Biological, Physical, Molecular, and Toxicological Services

### CERTIFICATE OF ANALYSIS

	4091181		
Southern Illinois Power Coon.		Date Reported	09/30/2014
Jason McLaurin		Date Received	09/22/2014
		Date Sampled	09/22/2014

### 3rd Quarter Wells 2014

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Analysis	000	Qualifier	Result Units	Min	Max	Method	Rpt Limit	Date	Time	Tech
Sample: 09	Well S6							Sampled	09/22/201	4@ 11:54
Sampled By	David Richardsor	n	<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	09/24/2	2014 20:03	EML
Copper			<0.010 mg/L			EPA 200.7	0.010	09/24/	2014 20:03	EMI.
lron			3.5 mg/L			EPA 200.7	0.0050	09/34/2	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	09/34/2	2014-20:03	EML
Mercury			<0.00020 mg/L			EPA 245.7	0.00020	09/23/2	2014 16:36	MSK
Nickel			0.0077 mg/L			EPA 200.7	0.0050	09/24/2	2014 20:03	EML
Vanadium			0.0080 mg/L			EPA 200.7	0,0050	09/24/2	2014 20.03	EML.
Zinc			0.015 mg/L			EPA 200.7	0,0050	09/24/2	2014 20:03	EML

#### Qualifier Definitions

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

ALMOORE, A.M.

SENIOR VICE PRESIDENT

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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 Irevor.boyce@microbac.com

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### Chemical, Biological, Physical, Molecular, and Toxicological Services

### **CERTIFICATE OF ANALYSIS**

	4120939		
Southern Illinois Power Coop.		Date Reported	12/23/2014
Leonard Hopkius		Date Due	12/23/2014
11543 Lake of Egypt Road		Date Received	12/12/2014
Marion, IL 62959		Customer #	E5660
		Customer P.O.	N/A

#### Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF	Mìn	Max	Method		Rpt Limit	Cus Limit	MDL	Date	Time	Tech
Sample: 01 Sampled By	Well C-1 David Richardson	1									Sam	pled 1	.2/12/201	4@ 11:39
Sulfate			250 mg/L	10			EPA 300.0		5.0			12/20/201	14 6:11	JGF
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/16/201	4 18:55	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200,7	0.0	050	0.002	0.0014	12/16/201	4 23:54	MSR
Iron			6.4 mg/L	ł			EPA 200,7	0	010			12/16/201	4 23:54	MSR
Sample: 02 Sampled By	Well C-2 David Richardson										Samp	oled 1	2/12/2014	@ 11:49
Sulfate			260 mg/L	10			EPA 300.0		5.0			12/20/201	4 6:25	JGF
Boron			<0.50 mg/L	1			EPA 200.7	(	0.50			12/16/201	4 19:06	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0	050	0.002	0.0014	12/16/201	4 23:58	MSR
Iron			17 mg/L	1			EPA 200.7	0.	010			12/16/201	4 23:58	MSR
Sample: 03 Sampled By	Well C-3 David Richardson										Samp	fed 12	/12/2014	@ 12:04
Sulfate			84 mg/L	10			EPA 300.0		5.0			12/20/2014	6:39	JGF
Boron			<0.50 mg/L	I			EPA 200.7	0	.50			12/16/2014	19:12	EML
Cadmium		U	<0.002 mg/L	1			EPA 200.7	0.00	50	0.002	0.0014	12/17/2014	0:03	MSR
Iron			3.5 mg/L	1			EPA 200.7	0.0	10			12/17/2014	0:03	MSR
Sample: 04 Sampled By	Well S1 - Swa David Richardson	mp									Sampl	ed 12/	/12/2014	@ 13:11
Sulfate			25 mg/L	1		1	EPA 300.0	0.	50			12/20/2014	6:53	JGF
Boron			<0.50 mg/L	1		1	EPA 200.7	0.	50			12/16/2014	19:17	EML
Cadmium			0.0052 mg/L	L		1	EPA 200.7	0.00	50	0.002	0.0014	12/17/2014	0;08	MSR
Iron			18 mg/L	1		I	EPA 200.7	0.0	10			12/17/2014	0:08	MSR
Sample: 05 Sampled By	Well S-2 David Richardson										Sample	d 12/	12/2014@	D 12:52
Sulfais	ta kata kata kata kata kata kata kata k	Innel Martin and State States of States		naaren Jopen een	1885-87178-890-8	nezowana 🖌	ira 300.0	ander bestriver street and a set	: <b>0</b> :>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	an a		12/20/2014	19154	10 Paristeran
Boron			2.0 mg/L	1		E	EPA 200.7	0.:	50			12/16/2014	19:22	EML
Cadmium			0.012 mg/L	I		E	EPA 200 7	0.00	50 0	002	0.0014	12/17/2014	0:21	MSR
Iron			150 mg/L	10		E	EPA 200,7	0.1	0			12/19/2014	9:26	MSR

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.

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**

### 4120939

Date Reported	12/23/2014
Date Received	12/12/2014
Date Sampled	12/12/2014
	Date Reported Date Received Date Sampled

### Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method		Rpt Limit	Cus Limit	MDL	Date	Time	Tech
Sample: 06	Well S-3										Sam	pled 1	2/12/201	4@ 12:36
Sampled By	David Richardson	n												
Sulfate			4.1 mg/L	L			EPA 300.0		0.50			12/20/201	4 7:22	JGF
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/16/201	4 19:27	EML
Cadmium		Л	0.0044 mg/L	t			EPA 200,7	0.	0050	0.002	0.0014	12/17/201	4 0:26	MSR
Iron			61 mg/L	10			EPA 200.7		0,10			12/19/201	4 9:35	MSR
Sample: 07 Sampled By	Well S-4 David Richardsor	n									Samj	oled 12	2/12/2014	1@ 12:21
Sulfate			45 mg/L	1			EPA 300.0		0.50			12/20/201	4 7;50	JGF
Boron			1.7 mg/L	1			EPA 200.7		0.50			12/16/201	4 19:32	EML
Cadmium			0,14 mg/L	I			EPA 200.7	0.0	050	0.002	0.0014	12/17/2014	1 0:30	MSR
Iron			1600 mg/L	100			EPA 200.7		1.0			12/19/2014	1 9:40	MSR
Sample: 08 Sampled By	Well S-5 David Richardson	I									Samp	led 12	/12/2014	@ 11:25
Sulfate			180 mg/L	10			EPA 300.0		5.0			12/20/2014	8:04	JGF
Boron			<0.50 mg/L	I			EPA 200.7		0.50			[2/16/2014	19:37	EML
Cadmium		ເບ	<0.002 mg/L	1			EPA 200.7	0.0	050	0.002	0.0014	12/17/2014	0:35	MSR
Iron			3.7 mg/L	I			EPA 200.7	0.	010			12/17/2014	0:35	MSR
Sample: 09 Sampled By	Well S-6 David Richardson										Samp	led 12/	12/2014	@ 13:30
Sulfate			75 mg/L	2		:	EPA 300.0	(	.50			12/20/2014	8:47	JGF
Boron			<0.50 mg/L	1		l	EPA 200.7	(	.50			12/16/2014	19:53	EML.
Cadmium		Л	0.0034 mg/L	I		1	EPA 200.7	0.0	)50	0.002	0.0014	12/17/2014	0:39	MSR
Iron			42 mg/L	1		l	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.



Southern Illinois Power Coop.

Leonard Hopkins

# Microbac Laboratories, Inc.

KENTUCKY TESTING LABORATORY DIVISION 3323 Gilmore Industrial Blvd. Louisville, KY 40213 502 962 6400 Fax: 502 962 6411 Evansville \$12.464.9000 | Lexington \$59.276.3506 | Paducah 270.898.3637 | Hazard 606.487.0511 Member



### Chemical, Biological, Physical, Molecular, and Toxicological Services

### **CERTIFICATE OF ANALYSIS**

### 4120939

Date Reported Date Received Date Sampled

12/23/2014 12/12/2014 12/12/2014

Quarterly Well Sampling 2014 Thru 2016

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

MISCHELLE GEAR OORE , A.M.

SENIOR VICE PRESIDEN

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



# ENDINGIBILERVIRGINALENTA'E PROTOCOPOR AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397 BRUCE RAUNER, GOVERNOR

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 BYPRODULTS

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 Statues 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	
LPC 536 Rev. Oct. 03	\$10,000 for each day during which the violation continues. This form has been approved by	
	the Forms Management Center.	

en des de **la company** 

Page 1

### C. PROPOSED ACTIVITIES

- 1. Expected amount of waste to be disposed on-site January 1, 2015 thru December 31, 2015:
  - \_\_\_\_\_ (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. 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. Mysurn	Son AMS .
Name (print/type)	Signature
Phone: (618) 914 2446	Email: Juciaurin & Sipoweriorg

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

jab\PermitExemptSurveyForm.doc

## ⟨𝔅⟩ MICROBAC<sup>\*</sup>

### **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	000	Qualifier	Result Units	DF	Min	Max	Method	i Li	Rpt Cus nit Limi	MDL.	Analysis	Date	Tech
Sample: 01 Sampled By	Well C-1 David Richardsor	n								Sa	mpled	12/17/201	5@ 10:26
Sulfate			230 mg/L	10			EPA 300.0	5	.0		12/30/20	)15 4:36	LJC
Boron			<0.50 mg/L	1			EPA 200,7	0.5	10		12/23/20	)15 11:11	EML
Cadmium		μJ	<0.002 mg/L	1			EPA 200.7	0.005	0 0.002	0.00064	12/22/20	15 20:07	EML
Iron			17 mg/L	1			EPA 200.7	0.01	0		12/22/20	15 20:07	EML
Sample: 02 Sampled By	Well C-2 David Richardson	1								Sar	npled	12/17/201!	5@ 10:38
Sulfate			290 mg/L	10			EPA 300.0	5.	0		12/30/20	15 4:50	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0,5	0		12/23/20	15 11:16	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.005	0 0.002	0.00064	12/22/20	15 20:12	EML
Iron			9.9 mg/L	1			EPA 200.7	0.01	0		12/22/20	15 20:12	EML
Sample: 03 Sampled By	Well C-3 David Richardson									San	npled	12/17/2015	;@ 11:00
Sulfate			63 mg/L	10			EPA 300.0	5.	0		12/30/20	15 5:47	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.5	0		12/23/20	15 11:21	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200,7	0.005	0.002	0.00064	12/22/20	15 20:25	EML
Iron			1.0 mg/L	1			EPA 200.7	0.01	כ		12/22/20	15 20:25	EML
Sample: 04 Sampled By	Well S-1 David Richardson									San	pled	12/17/2015	@ 11:47
Sulfate			27 mg/L	1			EPA 300.0	0,5	)		12/30/20	15 3:40	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.5	)		12/23/20	15 11:26	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.005	0.002	0.00064	12/22/20	15 20:30	EML
iron			25 mg/L	1			EPA 200.7	0.01	)		12/22/20	15 20:30	EML
Sample: 05 Sampled By	Well S-2 David Richardson									San	pled	12/17/2015	Ø 12:08
Boron			110 mg/				EFA 300.0				12/39/20	15-6:01	-LJC
Codmium			1.8 mg/L	1			EPA 200.7	0.50	)		12/23/20	15 11:31	EML
Jaamium			0.010 mg/L	1			EPA 200.7	0.0050	0.002	0.00064	12/22/201	15 20:35	EML

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### **CERTIFICATE OF ANALYSIS**

### 5121355

Southern Illinois Power Coop. Leonard Hopkins

Date Due Date Received 12/29/2015 12/17/2015

Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method		Rpt Limit	Cus Limit	MDL	Analysis	Date	Tech
Sample: 05	Well S-2										Sai	npled	12/17/201/	5@ 12:08
Sampled By	David Richardsor	ı										-		-
Iron			180 mg/L	10			EPA 200,7		0.10			12/22/20	15 20:35	EML
Sample: 06	Well S-3										Sar	npled	12/17/201!	5@ 12:22
Sampled By	David Richardson	ı												-
Sulfate			13 mg/L	1			EPA 300.0		0.50			12/30/20	15 2:57	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/23/20	15 11:37	EML
Cadmium		J1	0.0034 mg/L	1			EPA 200.7	(	3.0050	0.002	0.00064	12/22/20	15 20:39	EML
Iron			59 mg/L	10			EPA 200.7		0.10			12/22/20	15 20:39	EML
Sample: 07	Well S-4										San	npied	12/17/2015	a 12:37
Sampled By	David Richardson											•		-
Sulfate			44 mg/L	1			EPA 300.0		0.50			12/30/201	15 4:08	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/23/20 <sup>.</sup>	15 11:42	EML
Cadmium			0.0083 mg/L	1			EPA 200.7	C	.0050	0.002	0.00064	12/22/201	15 20:44	EML
Iron			120 mg/L	10			EPA 200.7		0.10			12/22/201	15 20:44	EML
Sample: 08	Well S-5										San	noled	12/17/2015	@ 10-10
Sampled By	David Richardson											•		4 10.10
Sulfate			180 mg/L	10			EPA 300.0		5.0			12/30/201	15 6:16	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/23/201	15 11:58	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0	.0050	0.002	0.00064	12/22/201	15 21:07	EML
Iron			0.73 mg/L	1			EPA 200.7		0.010			12/22/201	15 21:07	EML
Sample: 09	Well S-6										Sam	inied	12/17/2015	@ 11-10
Sampled By	David Richardson										outi	pica	12/17/2013	67 14.13
Sulfate			62 mg/L	1			EPA 300.0		0.50			12/30/201	5 4:22	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/23/201	5 12:03	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0	.0050	0.002	0,00064	12/22/201	5 21:19	EML
Iron			0.54 mg/L	1			EPA 200.7		0.010			12/22/201	5 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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Microbac Laboratories, Inc.



### **CERTIFICATE OF ANALYSIS**

5121355

Southern Illinois Power Coop. Leonard Hopkins

Date Due Date Received 12/29/2015 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 littae

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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Microbac Laboratories, Inc.

# MICROBAC\*

### **CERTIFICATE OF ANALYSIS**

5081881

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer # 09/09/2015 09/10/2015 08/31/2015 E5660

### 3rd Quarter Wells 2015

Analysis	000	Qualifier Result U	nits Min	Max	Method	Rpt Limit		Analysis Date		Tech
Sample: 01	Well C1							Sampled	08/31/2015	i@ 13:59
Sampled By	David Richardsor	1								
Sulfate		230 mg	/L		EPA 300.0		5.0	09/08/20	015 15:31	JGF
Boron		<0.50 mg	/L		EPA 200.7		0.50	09/02/20	015 20:16	EML
Chromium		0.015 mg	/L		EPA 200.7		0.010	09/02/20	015 15:48	EML
Iron		11 mg	/L		EPA 200.7		0.010	09/02/20	015 15:48	EML
Sample: 02 Sampled By	Well C2 David Richardson	I				Comp Start	08/28/2015 @ 13:48	Comp End	08/31/2015	@ 13:48
Sulfate		140 mg	/L		EPA 300.0		5.0	09/08/20	015 15:45	JGF
Boron		<0.50 mg	/L		EPA 200.7		0.50	09/02/20	015 20:21	EML
Chromium		<0.010 mg	ſL.		EPA 200.7		0.010	09/02/20	015 15:53	EML
Iron		11 mg.	ľL.		EPA 200.7		0.010	09/02/20	)15 15:53	EML
Sample: 03 Sampled By	Well C3 David Richardson					Comp Start	08/28/2015 @ 13:35	Comp End	08/31/2015	@ 13:35
Sulfate		83 mg	L		EPA 300.0		5.0	09/08/20	015 16:00	JGF
Boron		<0.50 mg/	ſL.		EPA 200.7		0.50	09/02/20	15 20:26	EML
Chromium		<0.010 mg/	Ľ		EPA 200.7		0.010	09/02/20	15 15:57	EML
Iron		1.9 mg/	۲.		EPA 200.7		0.010	09/02/20	15 15:57	EML
Sample: 04 Sampled By	Well Swamp David Richardson					Comp Start	08/28/2015 @ 12:10	Comp End	08/31/2015	@ 12:10
Sulfate		29 mg/	L		EPA 300.0		0.50	09/08/20	15 16:15	JGF
Boron		<0.50 mg/	L		EPA 200.7		0.50	09/02/20	15 20:31	EML
Chromium		0.074 mg/	L		EPA 200.7		0.010	09/02/20	15 16:02	EML
Iron		94 mg/	L		EPA 200.7		0.10	09/02/20	15 16:12	EML
Sample: 05 Sampled By	Well S2 David Richardson					Comp Start	08/28/2015 @ 12:50	Comp End	08/31/2015	@ 12:50
Sullato		69 mg/	fan an a		EPA 800:0		2.5	00/08/20	15-16:68	JGF
Boron		1.5 mg/	L		EPA 200.7		0,50	09/02/20	15 21:02	EML
Chromium		<0.010 mg/	L		EPA 200.7		0.010	09/02/20	15 16:55	EML

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Microbac Laboratories, Inc.



### **CERTIFICATE OF ANALYSIS**

### 5081881

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 09/10/2015 08/31/2015

#### **3rd Quarter Wells 2015**

Analysis	000	Qualifier	Result Units	Min	Max	Method	Rpt Limit		Analysi	s Date	Tech
Sample: 05 Sampled By	Well S2 David Richardsor	'n					Comp Start	08/28/2015 @ 12:50	Comp End	08/31/201	5@ 12:50
Iron			140 mg/L			EPA 200.7		0.10	09/02/2	015 19:02	EML
Sample: 06	Well S3						Comp Start	08/28/2015 @ 13:05	Comp End	08/31/201	5@ 13:05
Sampled By	David Richardsor	ו									
Sulfate			14 mg/L			EPA 300.0		0.50	09/08/2	015 17:12	JGF
Boron			<0,50 mg/L			EPA 200.7		0.50	09/02/2	015 21:07	EML
Chromium			0.029 mg/L			EPA 200.7		0.010	09/02/2	015 17:00	EML
Iron			73 mg/L			EPA 200.7		0.10	09/02/2	015 19:06	EML
Sample: 07	Well S4						Comp Start	08/28/2015 @ 13:17	Comp End	08/31/2019	5@ 13:17
Sampled By	David Richardson	1	44			FD4 444 4		a.co			
Surate			44 mg/L			EPA 300,0		0.50	09/08/20	J15 17:40	JGF
Boron			<0.50 mg/L			EPA 200.7		0,50	09/02/20	015 21:12	EML
Chromium			<0.010 mg/L			EPA 200.7		0.010	09/02/20	315 17:04	EML
Iron			12 mg/L			EPA 200.7		0.010	09/02/20	015 17:04	EML
Sample: 08	Well S5						Comp Start	08/28/2015 @ 14:12	Comp End	08/31/2019	i@ 14:12
Sampled By	David Richardson										
Sulfate			180 mg/L			EPA 300.0		5.0	09/08/20	)15 17:26	JGF
Boron			<0.50 mg/L			EPA 200.7		0.50	09/02/20	15 21:17	EML
Chromium			0.016 mg/L			EPA 200.7		0.010	09/02/20	015 17:09	EML
Iron			13 mg/L			EPA 200.7		0.010	09/02/20	)15 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	09/08/20	15 17:54	JGF
Boron			<0.50 mg/L			EPA 200.7		0.50	09/02/20	15 21:22	EML
Chromium			0.057 mg/L			EPA 200.7		0.010	09/02/20	15 17:23	EML
ron			45 mg/L			EPA 200.7		0.10	09/02/20	15 19:11	EML

### **Qualifier Definitions**

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Microbac Laboratories, Inc.



### **CERTIFICATE OF ANALYSIS**

5081881

Southern Illinois Power Coop. **Jason McLaurin** 

Date Due Date Received 09/10/2015 08/31/2015

**3rd Quarter Wells 2015** 

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

Joan Heinsohn 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 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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# MICROBAC\*

### **CERTIFICATE OF ANALYSIS**

### 5061475

Southern Illinois Power Coop. Leonard Hopkins 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer # 06/29/2015 06/30/2015 06/19/2015 E5660

### 2nd Quarter 2015 Wells

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL Date	٦	īme	Tech
Sample: 01	Well C-1	~								Sampled	06/	19/2015	@ 11:32
Sulfate	David Nichardson	14	220 ma/L	10			EPA 300 0	50		06/20	12015	22.20	
Boron			<0.50 mg/L	1			EPA 200.7	0.50		06/20	12015	11.20	5GP EMI
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014.06/23	/2015	15.20	
iron			0.15 mg/L	1			EPA 200,7	0.010	0.002	06/23	/2015	15:21	EML
Sample: 02 Sampled By	Well C-2 David Richardson	1								Sampled	06/1	9/2015	@ 11:37
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		IJ	<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 Sampled By	Well C-3 David Richardson									Sampled	06/1	9/2015 (	@ 11:04
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 1	17:48	EML
Sample: 04 Sampled By	Well S1 - Swa David Richardson	amp								Sampled	06/1	9/2015 (	@ 10:43
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 1	12:06	EML
Cadmium		J1	0.0048 mg/L	1			EPA 200.7	0.0050	0.002	0.0014 06/23/	2015 1	17:53	EML
Iron			25 mg/L	1			EPA 200.7	0.010		06/23/	2015 1	17:53	EML
Sample: 05 Sampled By	Well S-2 David Richardson									Sampled	06/19	J∕2015¢	9 10:27
Poren				10	54-0457775-64		EPA 300.0	5,0		06/27/	2015-1	0:15	JQP
Onderium			0.91 mg/L	1			EPA 200.7	0.50		06/24/	2015 1	2:22	EML
Caomium		UJ	<0.002 mg/L	1			EPA 200.7	0,0050	0.002	0.0014 06/23/	2015 1	8:50	EML

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Microbac Laboratories, Inc.

# MICROBAC\*

### **CERTIFICATE OF ANALYSIS**

5061475

Southern Illínois Power Coop. Leonard Hopkins

Date Due Date Received 06/30/2015 06/19/2015

### 2nd Quarter 2015 Wells

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL Dat	e Tin	e Tech
Sample: 05 Sampled By	Well S-2 David Richardsor	n								Sampled	06/19/	2015@ 10:27
íroл			130 mg/L	50			EPA 200.7	0.50		06/2	3/2015 18	:50 EML
Sample: 06 Sampled By	Well S-3 David Richardson	1								Sampled	06/19/	2015@ 10:14
Sulfate			3.0 mg/L	1			EPA 300.0	0.50		06/2	7/2015 2:	53 JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50		06/2	4/2015 12	27 EML
Cadmium			0.0054 mg/L	1			EPA 200.7	0.0050	0.002	0.0014 06/2	3/2015 18	11 EML
Iron			51 mg/L	10			EPA 200.7	0.10		06/2	3/2015 19	51 EML
Sample: 07 Sampled By	Well S-4 David Richardson									Sampled	06/19/2	015@ 10:02
Sulfate			45 mg/L	1			EPA 300,0	0.50		06/2	7/2015 3:	07 JGF
Boron			<0.50 mg/L	1			EPA 200.7	0,50		06/2	4/2015 12:	32 EML
Cadmium		J1	0.0021 mg/L	1			EPA 200.7	0,0050	0.002	0.0014 06/2	3/2015 18:	22 EML
Iron			22 mg/L	1			EPA 200.7	0.010		06/2	3/2015 18:	22 EML
Sample: 08	Well S-5									Sampled	06/19/2	015@ 11:17
Sampled By	David Richardson											
Deres			180 mg/L	10			EPA 300.0	5.0		06/2	7/2015 3:2	1 JGF
Bolon			<0.50 mg/L	1			EPA 200.7	0.50		06/24	4/2015 12:	37 EML
, cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014 06/2	3/2015 18:	27 EML
Iron			0.43 mg/L	1			EPA 200.7	0.010		06/23	3/2015 18:	27 EML
Sample: 09 Sampled By	Well S-6 David Richardson									Sampled	06/19/2	D15@ 10:56
Sulfate			71 mg/L	1			EPA 300.0	0.50		06/21	7/2015 4:1	8 .IGE
Boron			<0.50 mg/L	1			EPA 200,7	0.50		06/24	1/2016 12:	43 EMI
Cadmium			0.0078 mg/L	1			EPA 200.7	0.0050	0.002	0.0014 06/2	3/2015 18	32 EMI
ron			67 mg/L	10			EPA 200.7	0,10		06/23	8/2015 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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Evansville 812.464.9000 | Lexington 859.276.3506 | Paducah 270.898.3637 | Hazard 606.487. 0511



### CERTIFICATE OF ANALYSIS

### 5061475

Southern Illinois Power Coop, Leonard Hopkins

Date Due **Date Received**  06/30/2015 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<sup>\*</sup>L ester. Laboratory Director

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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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### **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	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL Dat	e Tir	ne	Tech
Sample: 01	Well C-1									Sampled	03/18	/2015	@ 9:44
Sampled By	David Richardsor	n											
Sulfate			300 mg/L	10			EPA 300.0	5.0		03/2	7/2015 19	9:35	JGF
Boron			<0.50 mg/L	1			EPA 200,7	0.50		03/2	3/2015 11	:43	EML
Cadmium		ŲJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014 03/2	3/2015 18	:17	EML
iron			1.3 mg/L	1			EPA 200.7	0.010		03/2	3/2015 18	:17	EML
Sample: 02	Well C-2									Sampled	03/18/	2015	ጠ 6,51
Sampled By	David Richardson									on the second se	00,10,	2015	@ 9.9I
Sulfate			280 mg/L	10			EPA 300.0	5.0		03/2	7/2015 19	:50	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50		03/2	3/2015 11	:49	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200,7	0.0050	0.002	0.0014 03/2	3/2015 18	:22	EML
iron			12 mg/L	1			EPA 200.7	0.010		03/2	3/2015 18	:22	EML
Sample: 03 Sampled By	Well C-3 David Richardson									Sampled	03/18/	20150	@ 10:04
Sulfate			68 mg/L	10			EPA 300.0	5.0		03/2	7/2015 20	:04	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50		03/2	3/2015 12	:09	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014 03/2	3/2015 19	29	EML
Iron			2.1 mg/L	1			EPA 200.7	0.010		03/2	3/2015 19	29	EML
Sample: 04 Sampled By	Well S1 - Swa David Richardson	ımp								Sampled	03/18/2	015 (	) 11:0B
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	3/2015 19;	51	EML
Iron			36 mg/L	1			EPA 200.7	0.010		03/23	/2015 19:	51	EML
Sample: 05	Well S-2									Sampled	02/10/2	04F 6	
Sampled By Sulfate	David Richardson		440 li							Compila	00/10/2	0196	9 10.52
Boron			110 mg/6	10		Statisticko	EPA 300.0	5.0			2015-22	46	JGr
Cadmium			2.8 mg/L	1			EPA 200.7	0.50		03/23	/2015 12:	40	EML
Canimini			0.010 mg/L	1			EPA 200.7	0.0050	0.002	0.0014 03/23	/2015 19:	56	EML

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# ⟨𝔄⟩ MICROBAC<sup>\*</sup>

### **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	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Date	Time	Tech
Sample: 05	Well S-2	<b>n</b>								Samj	led	03/18/201	5@ 10:52
lron	Dana Monasol	E	160 mg/L	10			EPA 200.7	0.10			03/24/201	5 11:28	EML
Sample: 06	Well S-3	_								Samp	led (	03/18/201!	5@ 10:38
Sulfate	David Richardson	1 M2	0.96 mg/L	1			EPA 300.0	0.50			03/27/201	5 23:01	IGE
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/23/201	5 12:46	FMI
Cadmium			0.0064 mg/L	1			EPA 200.7	0.0050	0.002	0.0014	03/23/201	5 20:01	EML
Iron			79 mg/L	10			EPA 200.7	0.10			03/24/201	5 11:33	EML
Sample: 07	Well S-4									Samp	led (	)3/18/2015	i@ 10:19
Sampled By	David Richardson											• •	-
Sultate			44 mg/L	1			EPA 300.0	0.50		(	3/27/201	5 23:59	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50		(	3/23/201	5 12:51	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.0014 (	3/23/201	5 20:05	EML
Iron			32 mg/L	1			EPA 200.7	0.010		(	3/23/201	5 20:05	EML
Sample: 08 Sampled By	Well S-5 David Richardson									Samp	led 0	3/18/2015	@ 9:34
Sulfate			190 mg/L	10			EPA 300.0	5.0		C	3/28/2018	5 0:13	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50		c	3/23/2015	5 13:03	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.0050	0.002	0.00140	3/23/2018	5 20:10	EML
Iron			7.6 mg/L	1			EPA 200.7	0.010		c	3/23/2015	5 20:10	EML
Sample: 09 Sampled By	Well S-6 David Richardson									Sampl	ed 0	3/18/2015	© 11:23
Sulfate			52 mg/L	10			EPA 300.0	5.0		C	3/28/2015	5 0:28	JGF
Boron			<0.50 mg/L	1			EPA 200.7	0.50		C	3/23/2015	5 13:08	EML
Cadmium		J1	0.0021 mg/L	1			EPA 200.7	0.0050	0.002	0.0014 0	3/23/2015	5 20:14	EML
Iron			28 mg/L	1			EPA 200.7	0.010		0	3/23/2015	i 20:14	EML

-Qualifier Definitions-

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Page 2 of 5



### **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 hime

Al Moore A.M.

David Lester, Laboratory Director

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# Electronis Environmentals 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: <u>Coal Combustion</u> 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:

**<u><u><u></u></u>**(in place cubic yards)</u>

IL 532 2428 LPC 536 Rev. Oct. 03	The Illinois Environmental Protection Agency is authorized to require this information under 415 Illinois Compiled Statues 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.

-----

Page 1

### 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.

<u>Attachments</u>

- 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	Sorand Mg
Name (print/type)	Signature
Phone: (618) 964 2446	Email: Suclaurin Q 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

# MICROBAC\*

### **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	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cu <del>s</del> Limit	MDL	Analysis	Date	Tech
Sample: 01	Well C-1									Sar	npled	12/16/201	5@ 14:00
Sampled By Sulfate	David Richardsor	1	240 ma/L	10			EPA 300.0	5.0			12/22/20	16 15:05	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/20	16 18:45	JGF
Cadmium		IJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/20	16 18:45	JGF
Iron			11 mg/L	1			EPA 200.7	0.010			12/21/20	16 18:45	JGF
Sample: 02 Sampled By	Well C-2 David Richardson	1								San	npled	12/16/2016	5@ 13:47
Sulfate			150 mg/L	10			EPA 300.0	5.0			12/22/20	16 15:48	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/20	16 19:00	JGF
Cadmium		บJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/20	16 19:00	JGF
Iron			14 mg/L	1			EPA 200,7	0.010			12/21/20	16 19:00	JGF
Sample: 03 Sampled By	Well C-3 David Richardson	I								San	pled	12/16/2016	i@ 13:01
Sulfate			74 mg/L	5			EPA 300.0	2.5			12/22/201	16 16:02	LJÇ
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/201	16 19:05	JGF
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/201	6 19:05	JGF
Iron			3.5 mg/L	1			EPA 200.7	0.010			12/21/201	6 19:05	JGF
Sample: 04 Sampled By	Well S-2 David Richardson									San	npled	12/16/2016	@ 11:52
Sulfate			130 mg/L	5			EPA 300.0	2.5			12/22/201	6 16:36	LJC
Boron			2.3 mg/L	1			EPA 200.7	0.50			12/21/201	6 19:10	JGF
Cadmium		J1	0.0023 mg/L	1			EPA 200.7	0,010	0.002	0.00020	12/21/201	6 19:10	JGF
Iron			160 mg/L	10			EPA 200.7	0.10			12/22/201	6 15:01	JGF
Sample: 05 Sampled By	Well S-3 David Richardson									San	pled	12/16/2016	@ 11:38
Sulfate			7.3 nig/L	5			EPA 300,0	2.5	<u></u>		12/22/201	6 16:50	LJČ
Boron			<0.50 mg/L	1			EPA 200.7	0,50			12/21/201	6 19:16	JGF

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### **CERTIFICATE OF ANALYSIS**

### 6121231

Southern Illinois Power Coop. Leonard Hopkins

Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis	; Date	Tech
Sample: 05 Sampled By	Well S-3 David Richardso	'n								Sa	mpled	12/16/201	.6@ 11:38
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0002	0 12/21/20	)16 19:16	JGF
Iron			52 mg/L	5			EPA 200,7	0.050			12/22/20	316 15:06	JGF
Sample: 06 Sampled By	Well S-4 David Richardso	n								Sa	mpled	12/16/201	6@ 11:19
Sulfate			28 mg/L	50			EPA 300.0	25			12/22/20	16 17:04	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/20	16 19:21	JGF
Cadmium		J1	0.0021 mg/L	1			EPA 200.7	0.010	0.002	0.00020	0 12/21/20	116 19:21	JGF
Iron			120 mg/L	10			EPA 200.7	0.10			12/22/20	16 15:21	JGF
Sample: 07 Sampled By	Well S-5 David Richardson	n								Sa	mpled	12/16/201	6@ 13:34
Sulfate			170 mg/L	50			EPA 300,0	25			12/22/20	16 17:18	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/20	16 19:41	JGF
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/20	16 19:41	JGF
Iron			6.6 mg/L	1			EPA 200.7	0.010			12/21/20	16 19:41	JGF
Sample: 08 Sampled By	Well S-6 David Richardsor	ı								Sai	npled	12/16/2016	5@ 12:39
Sulfate			44 mg/L	20			EPA 300.0	10			12/22/20	16 17:32	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/20	16 19:46	JGF
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	12/21/20	16 19:46	JGF
Iron			34 mg/L	1			EPA 200.7	0.010			12/21/20	16 19:46	JGF
Sample: 09 Sampled By	Well S-1 Swa David Richardson	amp								Sar	npled	12/16/2016	j@ 12:19
Sulfate			21 mg/L	5			EPA 300.0	2.5			12/22/20	16 17:46	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/21/20	16 20:01	JGF
Cadmium		J1	0.0028 mg/L	1			EPA 200,7	0.010	0.002	0.00020	12/21/20	16 20:01	JGF
Iron			50 mg/L	5			EPA 200.7	0.050			12/22/20	16 15 26	JGF

### Qualifier Definitions

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Date Due Date Received 12/28/2016 12/16/2016

Date Due



### **CERTIFICATE OF ANALYSIS**

### 6121231

Southern Illinois Power Coop. Leonard Hopkins

Date Due Date Received 12/28/2016 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: .

Will.

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.

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**CERTIFICATE OF ANALYSIS** 

### 6091197

Southern Illinois Power Coop. Leonard Hopkins 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer # 09/28/2016 10/04/2016 09/23/2016 E5660

Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result	Units	DF	Min	Max	Method	i Li	Rpt Cus mit Limit	MDL.	Analysis Date	Tech
Sample: 01 We Sampled By Davi	d Richardsor	1 1 1 1				۲ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰						ampled 09/20/20	16@ 11:58
Sulfate		in de line da	240	mg/L	5	1992	an and a	EPA 300.0	ەر ئىلۇمىدۇرۇر ئايالىي 2	ыңазадғаға <b>.5</b>	ing (status) Ang (status)	09/26/2016 20:35	ЪЦС
Boron			<0.50	mg/L	1			EPA 200.7	0.4	50		09/27/2016 10:59	EML
Cadmium		UJ	<0.002	mg/L	1			EPA 200,7	0.01	0.002	2 0.0002	0 09/27/2016 13:05	EML
Iron			0.83 (	mg/L	1			EPA 200.7	0.01	0		09/27/2016 13:05	EML
Sample: 02 We Sampled By Davk	II C-2 Richardson						* 					impled. 09/20/20	16@ 11:44
Suirate			130 r	mg/L	5			EPA 300.0	2	5		09/26/2016 20:49	LIC
Boron			<0.50 r	ng/L	1			EPA 200.7	0.5	0		09/27/2016 11:14	EML
Caomium		UJ	<0.002 r	ng/L	1			EPA 200.7	0.01	0 0.002	0.0002	0 09/27/2016 13:24	EML
IFON			25 r	ng/L	1			EPA 200.7	0.01	0		09/27/2016 13:24	EML
Sample: 03 We Sampled By David	II C-3 Richardson	and a second second									<b>Sa</b>	mpled 09/20/201	6@ 11:30
Bomo			83 n	ng/L	5			EPA 3D0.0	2.	5		09/26/2016 21:03	LJC
Cadmium		111	<0.000 n	ng/L	1			EPA 200.7	0.5	0		09/27/2016 11:19	EML
Iron		03	<0.002 fi	ngrc nari	1			EPA 200,7	0.01	0 0.002	0.00020	0 09/27/2016 13:29	EML
	a en en en en en	5-957.4576	n 61.0 	ng/L	1			EPA 200.7	0.01	0		09/27/2015 13:29	EML
Sample: 04 We Sampled By David	I S-1 Richardson	2		in de la compañía de Compañía de la compañía					n an a' fhair an Airte an Airte an Airte An Airte an Airte an Airte an Airte an Airte An Airte an br>Airte an Airte an Air	المربوعة المعقد مركز ال مقاومة المحقق المركز الم مرتبع المحقق المراجع المركز الم		mpled 09/20/201	6@ 10:53
Sulfate	alah Kathuru a lua pa	10) Matalaner (10)	19 n	ng/L	5 saadaan saabaa		enne i stande Norde	EPA 300.0	2. 2.		terre fi	09/28/2016 21:17	ыc
Boron			<0.50 m	ng/L	1			EPA 200.7	0.5	0		09/27/2016 11:24	EML
Cadmium		UJ	<0.002 n	∿g/L	1			EPA 200,7	0.01	0.002	0.00020	09/27/2016 13:34	EML.
Iron			6.9 m	ng/L	1			EPA 200.7	0.01	)		09/27/2016 13:34	EML
Sample: 05 Wel	I S-2 Richardson		ling designed to the state of t				مېږ د ه. ر <del>- </del> ک	کی میں والد ہو۔ اور اس میں المانی کی ال		gys (feisier) in eili Star (feisier) Alta a tha an an an an	5a) Sa)	mpled 09/20/2011	5@ 10:28
Sulfate		and a strategy of	92 n	ionaanii <mark>WL</mark>	5 <b>5</b>	aan tindit	ner tel. I	EPA 300.0	2.	nessing data data da S	.'	09/26/2016 21:32	
Boron			1.6 m	φ/L	1		1	EPA 200.7	0.5	)	*************	09/27/2016 11:32	EML

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### **CERTIFICATE OF ANALYSIS**

### 6091197

Southern Illinois Power Coop. Leonard Hopkins

Date Due Date Received 10/04/2016 09/23/2016

Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Un	lits DF	Min	Max	Method	Rp Limi	t Cus t Limit	MDL.	Analysis Date	Tech
Sample: 05 Well S	- <b>2</b> ,	1451) - 1411 (1910) - 51 - 1412 (1910) - 51		الالحامية بالمحاصر المار موجوعات المراس	ار از المراجع رئیسی پر المراجع			na ang ng n		Sales Sa	mpled 09/20/20	16@ 10:28
Sampled By David Ric Cadmium	hardsoi	- 1819-1997 - 1997 N - 1997 - 1997 - 191	0 0073 ma	n partingan property General de la composition Martine de la composition Martine de la composition			EDA 200 7		0.000			
Iron			160 mg/	1 50			EPA 200.7	0.010	0.002	0,00020	00/07/2016 13:23	
	فيرك والتلقين		no ngr	ದ ಅಂಶ ಎರೆಸ್ರಾಂಶನ್ರಾಗ		velatir.	EFA 200,7	ucu 			09/2/72016 17:00	
Sample: 06 Well S	-3 hardsor				, af 'af ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '		1997 - 1997 - 1997 - 1997 - 1997 1997 - 1997 - 1997 - 1997 - 1997 - 1997 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1		ing an a'	Sa	mpled 09/20/20	16 @ 10:15 .
Sulfate		na na mana	<2.5 mg/l	L 5	,	** ***	EPA 300.0	2.5	Cl Calents		09/27/2016 17:23	üс
Boron			<0.50 mg/l	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	ورد رسته رو د درم کې در د	1996 yezek	ing Grade and a		-jas-in	an an an a	المحص بالدير ميزي والن. كان موال مرضورية المراجع	<u>s konstele</u>	مىلى بىرى بىرى بىرى بىرى بىرى بىرى بىرى ب		
Sampled By David Rick	hardson	hur, daalaaryy sa Hefi yaabu oosi	na si shekara sa Matana Sanaya	n Deserver of the second		ين ٿين ويندڙ معيون	ن الشعبة التي مع المراجع . 1993 - مع المراجع المراجع .		Anima estadada		199/20/20:	16 (0) 9:54
Sulfate		2000 (1999) 1999 (1999) 1990 (1999) 1999 (1999)	30 mg/L	- 20	1999 - San	in desta	EPA 300.0	10	ff fighting a c		09/28/2016 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	at Ski z G	مەركىي يەخبىرى يۇرىي قەت مە	الدائية مدركي أسمير ما الجامع . الدائية مدركي أسمير ما الجامع .		a san i	ىيەر بېرىمىدى <i>ي</i>	ې د د د د او کې د د د د د د د د د د د د د د د . د د د مورد د د د د د د د د د د د د د د د د د د	م مىلى بوتى بوتى بىلەر			
Sampled By / David Rich	iaidson	وأبر شرور في معالي			in de la com		م من المركز ا المركز المركز				191201 19120	06 12:13 ···
Sulfate		011140014076	190 mg/L	. <b>5</b>		ar di Davi	EPA 300.0	2.5	ini dinini dan 18.		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		المراجع من المراجع المراجع المراجع الموجع المواجع المراجع المراجع المراجع المواجع من المراجع المراجع المراجع	ار این و این این میرود. ۱۹۹۰ میر شد و مزارعه ۱۹۹۰ میر میرود		juuri Geografi	يورج محمولان		and the second secon	San	npled 09/20/201	6@ 11:15
Sampled By David Rich	ardson		تو موسطی میا بهمورد کولو ویرا فقه محکوم محکومت کر مو	ارد به مرهد اسم مرد اسم مرد اسمایی از با معارف مدا معلوم مشاور م است مر			22.87 (S.H.	an a ann 1997. A chuire a' chuir an an an an Airtean an Airtean an Airtean an Airtean an Airtean Airtean Airtean Airtean Airte Ann an an an an ann an Airtean A			ann an tha a Tha an tha an t	a an an An an
Roma			47 mg/L	10			EPA 300.0	5.0			09/26/2016 22:43	LIC
Cadmium			<0.50 mg/L	1			EPA 200.7	0.50			09/27/2016 12:03	EML
Georgen and States and State		J]	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		1	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 Date Received 10/04/2016 09/23/2016

#### 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:

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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alline Al Moore A.M.

David Lester, Managing Director

## MICROBAC<sup>∗</sup> ■ MICROBAC<sup>∗</sup> ■

### **CERTIFICATE OF ANALYSIS**

### 6060805

Southern Illinois Power Coop. Leonard Hopkins 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer # 06/27/2016 06/21/2016 06/10/2016 E5660

### Quarterly Well Sampling 2014 Thru 2016

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Analysis	000	Qualifier	Result Units	DF N	Ain Max	Method	Rpt Limit	Cus Limit	MDL A	nalysis Date	Tech
Sample: 01 Sampled By Sulfate	Well C-1		in an	50		EPA 300.0		ter filmen 19 de de 19 19 de de 19 19 de de 19 de 19 de	Sampl	ed 05/10/201 5/24/2016 18:33	6@ 13:03 JGF
Boron			<0.50 mg/L	1		EPA 200.7	0.50		0	5/18/2016 3:25	EML
Cadmium		J1	0.0027 mg/L	1		EPA 200.7	0.0050	0.002	0.0017 0	5/16/2016 0:33	EML
Iron			9.2 mg/L	1		EPA 200.7	0.010		0	3/16/2016 0:33	EML
Sample: 02 Sampled By Sulfate	Well C-2 David Richardso	n	230 mg/L	10		EPA 300.0	5.0		Sampi Of	nd 05/10/201 5/22/2016 10:37	6@ 12:53 JGF
Boron			<0.50 mg/L	1		EPA 200.7	0.50		06	6/18/2016 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 David Richardson	1	<0.50 mg/L	1 1		EPA 300.0	0,50	g af Sta De la la	Sample	ed 06/10/201	5@ 12:39 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 Sempled By Sulfate	Well Swamp David Richardsor		62 mg/L	10		EPA 300.0	5.0		Sample 06	d 05/10/2010	i@ 12:01 JGF
Boron			<0.50 mg/L	1	I	EPA 200.7	0.50		08	/18/2016 3:40	EML
Cadmium		• •	0.0038 mail	1		EPA 200.7	0.0050	0.002	0.0017 06	/16/2016 0:47	EML
iron		71	ANARA WALF	•							
		L.	17 mg/L	1	i	EPA 200.7	0.010		06	/16/2016 0:47	EML
Sample: 05 Sampled By Sulfate	Well S-2 David Richardson		17 mg/L	1 1 1 1	 	EPA 200.7	0.010	en e	06 Sample	/16/2016 0:47 d 06/10/2016	EML

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### **CERTIFICATE OF ANALYSIS**

### 6060805

Southern Illinois Power Coop. Leonard Hopkins

Date Due Date Received 06/21/2016 06/10/2016

Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result L	Units DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis Date	Tech
Sample: 05 Sampled By Cadmium Iron	Weil S-2 David Richardson		0.0098 mg 150 mg	g/L 1 g/L 50			EPA 200.7 EPA 200.7		0.002	5a 0.001	ampled 05/10/ 7 06/16/2016 1:1 06/16/2016 1:1	2016@ 11:36 4 EML 4 EML
Sample: 06	Well S-3	د موجع وتدار من موجع وتدار ندر موجو دارد ندر موجو د	د محدد د مربویین د		2 : *** *			and the second second	چې ود معروف د	Sa	impled	2016@ 11:19
Sulfate			<0.50 mg	g/L 1			EPA 300.0	nya nemi za jej do elu postala. <b>0.50</b>	and states		06/22/2016 11:	6 JGF
Boron			<0.50 mg	g/L 1			EPA 200.7	0.50			06/18/2016 3:5	1 EML
Cadmlum			0.0053 mg	g/L 1			EPA 200.7	0.0050	0.002	0.0017	7 06/16/2016 1:1	9 EML
Iron			58 mg	g/L 50			EPA 200.7	0.50			06/16/2016 1:1	9 EML
Sample: 07 Sampled By	Well S-4	، المسلم ، مراجعة المارية ، والمامة مراجع :					يرد در ادار ال	ی در در از آناد و از آناد از ماند از از می از از مراجع از آناد از می از موجوع از آناد از می مواد	na sa sa sa Mangana S	: Sa	mpled 06/10/	2015@ 11:00
Sulfate	·	•	2300 mg	g/L 50			EPA 300.0	25			06/24/2016 19:0	1 JGF
Boron			<0.50 mg	g/L 1			EPA 200.7	0.50			06/18/2016 3:5	5 EML
Cadmium			0.0078 mg	g/L 1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 1:2	3 EML
iron			100 mg	9/L 50			EPA 200.7	0.50			06/16/2016 1:2	3 EML
Sample: 08 Sampled By Sulfate	Well S-5 David Richardson	antang man Matagan Matagan	66 mg	ı/L. 5			EPA 300.0	25	ب العرب المعتودين بو الالمام المعام مدينة المعام	Sa	mpled 06/10/	016@ 13:19 8 IGE
Boron			<0.50 mg	r 1/L. 1			EPA 200.7	0.50			06/18/2016 4:1	EML
Cadmium		J1	0.0025 mg	ı/L 1			EPA 200.7	0.0050	0.002	0.0017	06/16/2016 1:2	B EML
Iron			2.6 mg	μ <b>ί.</b> 1			EPA 200.7	0.010			06/16/2016 1:20	B EML
Sample: 09 Sampled By	Well S-6 David Richardson	رن الانتكاري الانتكاريكي الإيران						en e		Sar	mpied 06/10/2	016@ 12:22
Sulfate		112444	570 mg	/L 10			EPA 300,0	5.0			06/22/2016 12:1	8 JGF
Boron			<0.50 mgi	/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

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### **CERTIFICATE OF ANALYSIS**

### 6060805

Southern Illinois Power Coop. Leonard Hopkins

Date Due Date Received 06/21/2016 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:

al Altra

Al Moore A.M.

David Lester, Managing Director

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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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Microbac Laboratories, Inc.

# MICROBAC\*

### **CERTIFICATE OF ANALYSIS**

### 6031928

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer #

04/05/2016 04/08/2016 03/30/2016 E5660

### 1st Quarter Wells 2016

Analysis	000	Qualifier	Result Unit	s Min	Max	Method	Rp Limi	t Cus t Limit	MDL.	Analysis	Date	Tech
Sample: 01	Well C1								Sai	npied	03/30/201	6@ 12:07
Sulfate			250 mg/L			EPA 300.0	5.0			04/05/20	16 3:43	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/20	016 11:44	EML
Cadmium		UJ	<0.002 mg/L		-	EPA 200,7	0.0050	0.002	0.00064	04/01/20	16 13:41	EML
Iron			0.66 mg/L			EPA 200.7	0.010			04/01/20	16 13:41	EML
Sample: 02 Sampled By	Well C2 David Richardsor	ı							Sar	npled	03/30/2010	6@ 11:57
Sulfate			250 mg/L			EPA 300.0	5.0			04/05/20	16 3:57	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/20	16 11:49	EML
Cadmium		UJ	<0.002 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/20	16 13:46	EML
Iron			7.9 mg/L			EPA 200.7	0.010			04/01/20	16 13:46	EML
Sample: 03 Sampled By	Well C3 David Richardson	I							San	pled	03/30/2016	5@ 11:43
Sulfate			80 mg/L			EPA 300.0	5.0			04/05/20	16 4:11	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/20	16 11:54	EML
Cadmium		UJ	<0.002 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/20	16 13:59	EML
lron			1.8 mg/L			EPA 200.7	0.010			04/01/20 <sup>-</sup>	16 13:59	EML
Sample: 04 Sampled By	Well Swamp David Richardson								San	ıpled	03/30/2016	5@ 10:52
Sulfate			26 mg/L			EPA 300.0	0.50			04/05/201	16 4:25	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/201	16 12:00	EML
Cadmium		J1	0.0023 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/201	16 14:04	EML
Iron			25 mg/L			EPA 200.7	0.010			04/01/201	16 14:04	EML
Sample: 05 Sampled By	Well S2 David Richardson								Sam	pled	03/30/2016	@ 10:25
Sulfate			100-mg/L		012000000000000000000000000000000000000	EPA 900.0	6,0=	diensidedistaiensens	en an	04/06/201	6 4:40	-LJC
Boron			2.0 mg/L			EPA 200.7	0.50			04/01/201	6 12:05	EML
Cadmium			0.013 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/201	6 14:08	EML

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Microbac Laboratories, Inc.



Date Due

Date Received

04/08/2016

03/30/2016

### **CERTIFICATE OF ANALYSIS**

6031928

Southern Illinois Power Coop. Jason McLaurin

1st Quarter Wells 2016

Analysis	000	Qualifier	Result Units	Min	Мах	Method	Rpt Limit	Cus Limit	MDL	Analysis	Date	Tech
Sample: 05 Sampled By	Well S2 David Richardsor	n							Sa	mpled	03/30/201	6@ 10:25
Iron			170 mg/L			EPA 200.7	0.50			04/01/20	16 14:08	EML
Sample: 06 Sampled By	Well S3 David Richardsor	1							Sa	mpied	03/30/201	6@ 10:09
Sulfate			0.92 mg/L			EPA 300.0	0.50			04/05/20	16 0:53	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/20	16 12:10	EML
Cadmium		J1	0.0034 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/20	16 14:13	EML
Iron			51 mg/L			EPA 200,7	0.10			04/01/20	16 14:13	EML
Sample: 07 Sampled By	Well S4 David Richardsor	ı							Sai	npled	03/30/2010	5@ 9:53
Sulfate			45 mg/L			EPA 300.0	0,50			04/05/20	16 1:36	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/20	16 12:15	EML
Cadmium		IJ	<0.002 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/20	16 14:18	EML
Iron			13 mg/L			EPA 200.7	0.010			04/01/20	16 14:18	EML
Sample: 08 Sampled By	Well S5 David Richardson	ı							Sar	npled	03/30/2016	5@ 9:38
Sulfate			180 mg/L			EPA 300.0	5.0			04/05/20	16 4:54	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/20	16 12:20	EML
Cadmium		UJ	<0.002 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/20	16 14:24	EML
Iron			2.1 mg/L			EPA 200.7	0.010			04/01/20	16 14:24	EML
Sample: 09 Sampled By	Well S6 David Richardson	I							San	npled	03/30/2016	@ 11:23
Sulfate			68 mg/L			EPA 300.0	0.50			04/05/20 <sup>-</sup>	16 5:50	LJC
Boron			<0.50 mg/L			EPA 200.7	0.50			04/01/201	16 12:25	EML
Cadmium		J1	0.0039 mg/L			EPA 200.7	0.0050	0.002	0.00064	04/01/201	16 14:31	EML
Iron			54 mg/L			EPA 200.7	0.10			04/01/201	16 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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Microbac Laboratories, Inc.



### **CERTIFICATE OF ANALYSIS**

### 6031928

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 04/08/2016 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 Allone

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.

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Microbac Laboratories, Inc.

# ELECTON & FILED & RECEIVED, ECHETR'S OFFE 09/02/2021 AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 \* (217) 782-3397 BRUCE RAUNER, GOVERNOR ALEC MESSINA, DIRECTOR

RECEIVED JAN 1 8 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 <u>January 1, 2017</u> thru <u>December 31, 2017</u>.

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.

Cal ( ombustion BYPRODUCTS LIST TYPE OF WASTE: ( A.

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:

<u>【344247</u> (in place cubic yards)

2. Remaining capacity in existing units at the facility:

(in place cubic yards)

IL 532 2428 IL 536 Rev. Oct. 03 IL 536 Rev. Oct. 03 IL 536 Rev. Oct. 03 IL 537 2428 IL 536 Rev. Oct. 03 IL 537 2428 IL 536 Rev. Oct. 03 IL 537 2428 IL 537 2428 IL 537 2428 IL 536 Rev. Oct. 03 IL 537 2428 IL 538 Rev. Oct. 03 IL 537 2428 IL 538 Rev. Oct. 03 
## \* THIS LANDFILL HASN'T RECEIVED MATERIAL FOR A NUMBER OF YEARS

4302 N. Main St., Roddford, IL 61103 (815)987-7760 595 S. State, Egin, IL 60123 (847)608-3131 2125 S. First St., Champeign, IL 61020 (217)278-5800 2009 Mall St., Collinsville, IL 62234 (618)346-5120



### **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

terestalen et Killere

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysi	s Date	Tech
Sample: 01	Well C-1	_								San	npled	03/23/2017	@ 12:20
Sampled By Sulfate	David Richardson	1	230 mg/L	10			EPA 300.0	5,0			03/29/2	017 15:06	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/2	017 14:49	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0,002	0.00020	03/28/2	017 14:49	EML
Iron			15 mg/L	1			EPA 200.7	0,010			03/28/2	017 14:49	EML
Sample: 02 Sampled By	Well C-2 David Richardson	1								San	ipled	03/23/2017	@ 12:09
Sulfate			300 mg/L	5			EPA 300.0	2.5			03/29/2	017 15:20	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0,50			03/28/2	017 14:53	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0,00020	03/28/2	017 14:53	EML
Iron			16 mg/L	1			EPA 200.7	0.010			03/28/2	017 14:53	EML
Sample: 03 Sampled By	Well C-3 David Richardson	ł								San	pled	03/23/2017	@ 15:14
Sulfate			170 mg/L	5			EPA 300.0	2,5			03/29/2	017 15:35	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/2	017 14:58	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2	017 14:58	EML
Iron			0.74 mg/L	1			EPA 200.7	0,010			03/28/2	017 14:58	EML
Sample: 04 Sampled By	Well S-2 David Richardson									Sam	pled	03/23/2017	@ 11:07
Sulfate			140 mg/L	5			EPA 300.0	2.5			03/29/2	017 16:31	LJC
Boron			2.4 mg/L	1			EPA 200.7	0,50			03/28/2	017 15:03	EML
Cadmium		J1	0.0094 mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/2	017 15:03	EML
Iron			170 mg/L	50			EPA 200.7	0.50			03/28/2	017 16.51	EML
Sample: 05 Sampled By	Well S-3 David Richardson									Sam	pled	03/23/2017	@ 10:52
Sulfate	NATANA MANGKANA MANAGANA MANA		<2,5 mg/L	5		5.45450.7000.7000	EPA 300.0	2.5	boblenderseine		03/29/20	<del>317 17 20</del>	LJC
Boron			<0.50 mg/L	1			EPA 200,7	0.50			03/28/20	017 15:08	EML

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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**

7031434

Southern Illinois Power Coop. Leonard Hopkins Date Due Date Received 04/04/2017 03/24/2017

### Quarterly Well Sampling 2014 Thru 2016

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis	Date	Tech
Sample: 05	Well S-3 David Richardso	n								Sar	npled	03/23/201	7@ 10:52
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/20	17 15:08	EML
Iron			64 mg/L	10			EPA 200.7	0.10			03/28/20	17 16:56	EML
Sample: 06	Well S-4	_								Sar	npled	03/23/201	7@10:34
Sampled By Sulfate	Uavid Richardsoi	n	40 mg/L	5			EPA 300.0	2.5			03/29/20	17 17:42	LJC
Baron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/20	17 15:22	EML
Cadmium		IJ	<0.002 mg/L	1			EPA 200.7	0.010	0,002	0.00020	03/28/20	17 15:22	EML
Iron			6.6 mg/L	1			EPA 200.7	0.010			03/28/20	17 15:22	EML
Sample: 07	Well S-5 David Richardson	n								San	npled	03/23/2013	7@12:39
Sulfate		-	220 mg/L	5			EPA 300.0	2.5			03/29/20	17 17:56	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/20	17 15:26	EML
Cadmium		0J	<0.002 mg/L	1			EPA 200.7	0.010	0,002	0.00020	03/28/20	17 15:26	EML
Iron			0.43 mg/L	1			EPA 200.7	0.010			03/28/20	17 15:26	EML
Sample: 08 Sampled By	Well S-6 David Richardsor	1								San	ıpled	03/23/2017	7@ 11:51
Sulfate			54 mg/L	5			EPA 300.0	2.5			03/29/20	17 18:11	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/20	17 15:31	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0,010	0.002	0.00020	03/28/20	17 15:31	EML
Iron			2.7 mg/L	1			EPA 200.7	0.010			03/28/20	17 15:31	EML
Sample: 09 Sampled By	Well S-1 Swa David Richardsor	amp 1								San	ıpled	03/23/2017	7@ 11:31
Sulfate			19 mg/L	5			EPA 300.0	2,5			03/29/20	17 18:25	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			03/28/20	17 15:36	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00020	03/28/20	17 15:36	EML
Iron			19 mg/L	1			EPA 200.7	0.010	an a	tin ATT Sciences - Description	03/28/20	17 15:36	EML

#### **Qualifier Definitions**

State Carlon Room

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Microbac Laboratories, Inc.



**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

- 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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al Mone

Al Moore A.M.

David Lester, Managing Director

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Microbac Laboratories, Inc.


#### **CERTIFICATE OF ANALYSIS**

7060959

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959

3

 Date Reported
 06/30/2017

 Date Due
 07/03/2017

 Date Received
 06/22/2017

 Customer #
 E5660

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Límit	Cus Limit	MDL	Analys	is Date	Tech
Sample: 01	Well C-1									Sai	npled	06/22/201	7@ 12:37
Sampled By	David Richardson	n											
Sulfate			220 mg/L	10			EPA 300.0	5,0			06/29/2	2017 18:20	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/26/2	2017 21:22	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2	2017 21:22	EML
Iron			0.44 mg/L	1			EPA 200.7	0.010			06/26/2	2017 21:22	EML
Sample: 02 Sampled By	Well C-2 David Richardsor	ı								Sar	npled	06/22/201	7@ 12:28
Sulfate			180 mg/L	5			EPA 300.0	2,5			06/29/2	2017 19:17	LJC
Boron			<0.50 mg/l.	1			EPA 200.7	0.50			06/26/2	2017 21:37	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0,002	0.0015	06/26/2	2017 21:37	EML
(ron			12 mg/L	1			EPA 200,7	0.010			06/26/2	2017 21:37	EML
Sample: 03	Well C-3 David Richardson	n								Sar	npled	06/22/201	7@ 12:18
Sulfate			160 mg/L	5			EPA 300.0	2,5			06/29/2	2017 19:31	LJĊ
Boron			<0.50 mg/L	1			EPA 200.7	0.50			06/26/2	2017 21:42	EML
Cadmium		J1	0.0021 mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2	2017 21:42	EML
Iron			1,0 mg/L	1			EPA 200.7	0.010			06/26/2	2017 21:42	EML
Sample: 04 Sampled By	Well S-2 David Richardson	1								Sar	npled	06/22/2017	@ 11:29
Sulfate			63 mg/L	5			EPA 300.0	2.5			06/29/2	2017 19:45	LJC
Boron			1.4 mg/L	1			EPA 200.7	0,50			06/26/2	2017 21:47	EML
Cadmium		J1	0.0041 mg/L	1			EPA 200.7	0.010	0.002	0.0015	06/26/2	2017 21:47	EML
Iron			160 mg/L	10			EPA 200.7	0.10			06/27/2	2017 13:00	EML
Sample: 05 Sampled By	Well S-3 David Richardson									San	spled	06/22/2017	'@ 11:16
Sulfale		#1575.2572.5772.5722.725	<2.5 mg/L	6		iótany artanana	EPA 300.0		Stadiowani wan	aqaaggindanatangi	~00/29/2	1017-10:50-	-sfilear
Baron			<0.50 ma/L	1			EPA 200.7	0,50			06/26/2	2017 21:58	EML

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Microbac Laboratories, Inc.



**CERTIFICATE OF ANALYSIS** 

7060959

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 07/03/2017 06/22/2017

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method		Rpt Limit	Cus Limit	MDL	Analysi	is Date	Tech
Sample: 05 Sampled By	Well S-3 David Richardsor	ı									Sa	mpled	06/22/201	7@ 11:16
Cadmium		J1	0.0029 mg/L	1			EPA 200.7	0.	.010	0.002	0,001	5 06/26/2	2017 21:58	EML
Iron			82 mg/L	10			EPA 200.7		0.10			06/27/2	2017 13:06	EML
Sample: 06	Well S-4										Sa	mpled	06/22/201	7@10:58
Sampled By Sulfate	David Richardsor	)	36 mg/L	5			EPA 300.0		2.5			06/29/2	2017 20:13	LJC
Boron			<0.50 mg/L	1			EPA 200.7	t	0.50			06/26/2	2017 22:08	EML
Cadmium		IJ	<0.002 mg/L	1			EPA 200.7	0.	010	0,002	0.0015	5 06/26/2	2017 22:08	EML
Iron			28 mg/L	1			EPA 200.7	0.	010			06/26/2	017 22:08	EML
Sample: 07 Sampled By	Well S-5 David Richardson	l									Sa	mpled	06/22/2017	7@ 14:01
Sulfate			200 mg/L	5			EPA 300.0		2.5			06/29/2	017 20:28	LJC
Boron			<0.50 mg/L	1			EPA 200.7	C	0.50			06/26/2	017 22:13	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.	010	0,002	0,0015	6 06/26/2	017 22:13	EML.
Iron			3.5 mg/L	1			EPA 200.7	0.	010			06/26/2	017 22:13	EML
Sample: 08 Sampled By	Well S-6 David Richardson										Sar	mpled	05/22/2017	@ 12:04
Sulfate			51 mg/L	5			EPA 300.0		2.5			06/29/2	017 20:42	LJC
Boron			<0.50 mg/L	1			EPA 200.7	c	.50			06/26/2	017 22:18	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200,7	0.	010	0.002	0.0015	06/26/2	017 22:18	EML
iron			10 mg/L	1			EPA 200.7	0.	010			06/26/2	017 22:18	EML
Sample: 09 Sampled By	Well S-1 Swa David Richardson	mp									Sar	npled	05/22/2017	@ 11:57
Sulfate			18 mg/L	5			EPA 300.0		2.5			06/29/2	017 20:56	LJC
Boron			<0.50 mg/L	1			EPA 200,7	C	.50			06/26/2	017 22:23	EML
Cadmium		J1	0.0055 mg/L	1			EPA 200.7	0.0	010	0.002	0,0015	06/26/2	017 22:23	EML
Iron			41 mg/L	10			EPA 200.7	0	.10			06/27/2	017 13:11	EML

#### **Qualifier Definitions**

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Microbac Laboratories, Inc.



**CERTIFICATE OF ANALYSIS** 

### 7060959

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 07/03/2017 06/22/2017

#### **Quarterly Well Sampling**

- 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:

Ralph Rabish For Al Moore A.M.

David Lester, Managing Director

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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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Microbac Laboratories, Inc.



### **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

neerooloogaa

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Cus Limit	MDL	Analysis	s Date	Tech
Sample: 01 Sampled By	Well C-1 David Richardsor	n								Sai	mpled	09/28/2017	°@ 9:44
Sulfate			210 mg/L	5			EPA 300.0	2.5			10/09/20	017 12:21	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0,50			10/02/20	017 19:28	EML
Cadmium		μĴ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	i 10/02/20	017 19:28	EML
Iron			3.6 mg/L	1			EPA 200.7	0.010			10/02/20	017 19:28	EML
Sample: 02 Sampled By	Well C-2 David Richardsor	ì								Sai	npled	09/28/2017	@ 9:34
Sulfate			89 mg/L	5			EPA 300.0	2.5			10/07/20	017 1:38	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			10/02/20	017 19:33	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/20	017 19:33	EML
Iron			12 mg/L	1			EPA 200.7	0.010			10/02/20	)17 19:33	EML
Sample: 03 Sampled By	Well C-3 David Richardsor	1								Sar	npled	09/28/2017	@ 10:02
Sulfate			120 mg/L	5			EPA 300.0	2.5			10/07/20	017 1:52	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0,50			10/02/20	017 19:38	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	10/02/20	017 19:38	EML
fron			0.76 mg/L	1			EPA 200.7	0.010			10/02/20	)17 19:38	EML
Sample: 04 Sampled By	Well S-2 David Richardson	1								Sar	npled	09/28/2017	@ 11:18
Sulfate			100 mg/L	5			EPA 300.0	2,5			10/07/20	)17 2:35	rjc
Boron			2.0 mg/L	1			EPA 200.7	0.50			10/02/20	)17 19:43	EML
Cadmium		J1	0.0050 mg/L	1			EPA 200.7	0.010	0,002	0.0015	10/02/20	)17 19:43	EML
Iron			180 mg/L	100			EPA 200.7	1.0			10/03/20	)17 15:20	EML
Sample: 05 Sampled By	Well S-3 David Richardson	ł								San	npled	09/28/2017	@ 11:30
Sulfate	5.0.1993.199392.0097.0092.005.005	17.2.4.6.5.5777.77.47.4.7.	<2.5 mg/L	5			EPA 300 0	2.5	Matakan Boliz	rdanantai	10/07/20	17 2,49	Lic
Boron			<0.50 mg/L	1			EPA 200.7	0.50			10/02/20	117 19:49	EML

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Microbae Laboratories. Inc.

# MICROBAC\*

### **CERTIFICATE OF ANALYSIS**

### 7091880

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 10/09/2017 09/28/2017

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method		Rpt Limit	Cus Limit	MDL	Analysi	s Date	Tech
Sample: 05 Sampled By	Well S-3 David Richardsor	1									Sar	npled	09/28/201	7@ 11:30
Cadmium		J1	0,0028 mg/L	1			EPA 200.7	(	0.010	0.002	0.0015	10/02/2	017 19:49	EML
Iron			71 mg/L	50			EPA 200.7		0.50			10/03/26	017 15:25	EML
Sample: 06 Sampled By	Well S-4 David Richardson	,									Sar	npled	09/28/2013	7@ 11:44
Sulfate			40 mg/L	5			EPA 300,0		2.5			10/07/20	017 3:03	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0,50			10/02/20	017 19:54	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	C	0.010	0.002	0.0015	10/02/20	017 19:54	EML
Iron			38 mg/L	1			EPA 200.7	C	0.010			10/02/20	017 19:54	EML
Sample: 07 Sampled By	Well S-5 David Richardson	ı									San	pled	09/28/2017	@ 9:21
Sulfate			160 mg/L	5			EPA 300.0		2.5			10/07/20	017 3:17	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			10/02/20	017 20:55	EML
Cadmium		J1	0.0059 mg/L	1			EPA 200.7	0	.010	0,002	0.0015	10/02/20	017 20:55	EML
Iron			9.2 mg/L	1			EPA 200,7	0	.010			10/02/20	17 20:55	EML
Sample: 08 Sampled By	Well S-6 David Richardson										San	pled	09/28/2017	@ 10:45
Sulfate			54 mg/L	5			EPA 300.0		2.5			10/07/20	17 3:31	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			10/02/20	17 21:00	EML
Cadmium		ÛĴ	<0.002 mg/L	1			EPA 200.7	0	.010	0.002	0.0015	10/02/20	17 21:00	EML
Iron			10 mg/L	1			EPA 200.7	0	.010			10/02/20	17 21:00	EML
Sample: 09 Sampled By	Well S-1 Swa David Richardson	mp									Sam	pled	09/28/2017	@ 10:28
Sulfate			19 mg/L	5			EPA 300.0		2.5			10/07/20	17 3:46	LJC
Boron			<0.50 mg/L	1			EPA 200.7	I	0.50			10/02/20	17 21:05	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.	010	0.002	0.0015	10/02/20	17 21:05	EML
Iron			22 mg/L	1			EPA 200.7	0.	010			10/02/20	17 21:05	EML

#### **Qualifier Definitions**

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Microbac Laboratories. Inc.



**CERTIFICATE OF ANALYSIS** 

### 7091880

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received

al Mone

AI Moore A.M.

David Lester, Managing Director

10/09/2017 09/28/2017

#### **Quarterly Well Sampling**

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THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

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.

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Microbac Laboratories, Inc.



#### **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**

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Analysis	000	Qualifier	Result Units	DF	Min	Мах	Method	Rp Limi	t Cus t Limit	MDL	Analys	is Date	Tech
Sample: 01 Sampled By	Well C-1 Ted Meriwether									Sa	mpied	12/11/201	7@ 12:53
Sulfate			170 mg/L	10			EPA 300.0	5.0			12/22/2	2017 0:16	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/13/2	017 17:18	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0,001	5 12/13/2	017 17:18	EML
iron			0.56 mg/L	1			EPA 200.7	0.010			12/13/2	017 17:18	EML
Sample: 02 Sampled By	Well C-2 Ted Meriwether									Sa	mpied	12/11/2017	@ 13:11
Sulfate			130 mg/L	5			EPA 300.0	2,5			12/22/2	017 0:30	LJC
Boron			<0,50 mg/L	1			EPA 200.7	0.50			12/13/2	017 17:23	EML
Cadmium		ίU	<0.002 mg/L	1			EPA 200.7	0,010	0,002	0.0015	5 12/13/2	017 17:23	EML
Iron			14 mg/L	1			EPA 200.7	0.010			12/13/2	017 17:23	EML
Sample: 03 Sampled By	Well C-3 Ted Meriwether									Sai	mpled	12/11/2017	@ 12:10
Sulfate			76 mg/L	5			EPA 300.0	2.5			12/22/2	017 0:45	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0,50			12/13/2	017 17:29	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/2	017 17:29	EML
Iron			2.0 mg/L	1			EPA 200.7	0.010			12/13/2	017 17:29	EML
Sample: 04 Sampled By	Well S-2 Ted Meriwether									Sar	npled	12/11/2017	@ 11:00
Sulfate			140 mg/L	5			EPA 300.0	2,5			12/22/2	017 0:59	LJĆ
Boron			2.9 mg/L	1			EPA 200.7	0.50			12/13/2	317 17:34	EML
Cadmium		J1	0.0044 mg/L	1			EPA 200.7	0.010	0.002	0.0015	12/13/20	017 17:34	EML
Iron			200 mg/L	50			EPA 200,7	0.50			12/13/20	017 19:25	EML
Sample: 05 Sampled By	Well S-3 Ted Meriwether									San	npled	12/11/2017	@ 10:40
Sulfale		nder 2 Erst officient Marrie Room	11 mg/L	5	104271.15T		EPA 300.0	2.5		444 <sup>8</sup> 8484988848	12/22/20	017 1:50	Lic
Boron			<0.50 mg/L	****			EPA 200.7	0.50			12/13/20	)17 17:39	EML

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**CERTIFICATE OF ANALYSIS** 

7111717

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 01/01/2018 12/11/2017

#### **Quarterly Well Sampling**

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Analysis	000	Qualifier	Result Units	DF	Min	Max	Method		Rpt Limit	Cus Limit	MDL	Analysis	Date	Tech
Sample: 05 Sampled By	Well S-3 Ted Meriwether										Sa	mpled	12/11/2013	7@ 10:40
Cadmium		ບງ	<0.002 mg/L	1			EPA 200,7	C	0.010	0,002	0.001	5 12/13/20	)17 17:39	EML
Iron			56 mg/L	10			EPA 200.7		0.10			12/13/20	17 19:30	EML
Sample: 06 Sampled By	Well S-4 Ted Meriwether										Sa	mpled	12/11/2013	7@ 10:20
Sulfate			38 mg/L	5			EPA 300.0		2.5			12/22/20	17 2:10	LJC
Boron			<0.50 mg/L	1			EPA 200,7		0.50			12/13/20	17 17:44	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	C	.010	0.002	0,0015	12/13/20	17 17:44	EML
Iron			1.8 mg/L	1			EPA 200.7	O	.010			12/13/20	17 17:44	EML
Sample: 07 Sampled By	Well S-5 Ted Meriwether										Sa	npled	12/11/2017	@ 12:36
Sulfate			160 mg/L	5			EPA 300.0		2.5			12/22/20	17 2:24	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/13/20	17 17:59	EML
Cadmium		μſ	<0.002 mg/L	1			EPA 200.7	0	.010	0.002	0.0015	12/13/20	17 17:59	EML
Iron			0.17 mg/L	1			EPA 200.7	0	.010			12/13/20	17 17:59	EML
Sample: 08 Sampled By	Well S-6 Ted Meriwether			_							Sar	npled	12/11/2017	@ 11:45
Sulfate			48 mg/L	5			EPA 300.0		2.5			12/22/20	17 2:38	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/13/20	17 18:04	EML
Cadmium		UJ	<0.002 mg/L	1			EPA 200.7	0.	.010	0,002	0.0015	12/13/20	17 18:04	EML
Iron			28 mg/L	1			EPA 200.7	0.	.010			12/13/20	17 18:04	EML
Sample: 09 Sampled By	Well S-1 Swa Ted Meriwether	ımp									San	īpled	12/11/2017	@ 11:25
Sulfate			21 mg/L	5			EPA 300.0		2.5			12/22/20	17 2:52	LJC
Boron			<0.50 mg/L	1			EPA 200.7	(	0.50			12/13/201	17 18:09	EML
Cadmium		UJ	<0,002 mg/L	1			EPA 200,7	0.	010	0.002	0.0015	12/13/201	17 18:09	EML
Iron			21 mg/L	1			EPA 200,7	0.	010	a da a tara a sa ana a sa ana ana ana ana ana ana		12/13/20	17 18:09	EML

#### **Qualifier Definitions**

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**CERTIFICATE OF ANALYSIS** 

### 7111717

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 01/01/2018 12/11/2017

#### **Quarterly Well Sampling**

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al Allone

Al Moore A.M.

David Lester, Managing Director

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Microbac Laboratories. Inc,



## HELINOIS ENVIRONALE REAKS BROTERTARD 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 III. 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 <u>January 1, 2018</u> thru <u>December 31, 2018</u>.

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.

LIST TYPE OF WASTE: Coal Combustion By Products A.

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:

<u>130,160</u> (in place cubic yards)



• Page 1

### 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

- Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
- 2. 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))

Name (print/type) Phone: (618) 964 - 2446 Inclaurine SIDowerorg Email:

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

jab\PermitExemptSurveyForm.doc

## MICROBAC<sup>®</sup>

### **CERTIFICATE OF ANALYSIS**

### L8K1281

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer #

01/07/2019

12/19/2018

11/29/2018

E5660

### Quarterly Well Sampling

Analysis	000	Qualifier	Result Unit	is [	F	Min	Max	Method		Rpt Límit	Cus Limit	MDL	Analysis I	Date	Tech
Sample: 01	Well C-1	_										San	npled	11/29/201	8@ 12:45
Sampled by Sulfate	David Richardson	1	270 mg/L		5			EPA 300.0		2.5			12/06/201	8 9:37	LJC
Boron			<0.50 mg/L		1			EPA 200.7		0.50			12/06/201	8 5:09	JGF
Cadmium			<0.002 mg/L		1			EPA 200.7		0.010	0.002	0.00050	12/08/201	8 5:09	JGF
Iron			2.3 mg/L		1			EPA 200.7		0.020			12/06/201	8 5:09	JGF
Sample: 02 Sampled By	Well C-2 David Richardsor	ı										San	npled	11/29/2010	3@ 12:55
Sulfate			240 mg/L		5			EPA 300.0		2.5			12/06/201	8 10:08	LJC
Boron			<0.50 mg/L		1			EPA 200.7		0.50			12/06/201	8 5:15	JGF
Cadmium			<0.002 mg/L		1			EPA 200.7		0.010	0.002	0.00050	12/06/201	8 5:15	JGF
Iron			12 mg/L		1			EPA 200.7		0.020			12/06/201	8 5:15	JGF
Sample: 03 Sampled By	Well C-3 David Richardson	I										San	pled	11/29/2018	t@ 13:20
Sulfate			49 mg/L		5			EPA 300.0		2.5			12/06/201	8 10:23	LJĊ
Boron			<0.50 mg/L		1			EPA 200.7		0.50			12/06/201	8 5:20	JGF
Cadmium			<0.002 mg/L		1			EPA 200.7		0.010	0.002	0.00050	12/06/201	8 5:20	JGF
Iron			0.45 mg/L		1			EPA 200.7		0.020			12/06/201	8 5:20	JGF
Sample: 04 Sampled By	Well S-2 David Richardson											Sam	pled	11/29/2018	@ 10:45
Sulfate			130 mg/L		5			EPA 300.0		2.5			12/06/2010	3 10:38	LJC
Boron			2.8 mg/L		1			EPA 200.7		0.50			12/06/2018	3 5:25	JGF
Cadmium			0.0034 mg/L		1			EPA 200.7	I	0.010	0.002	0.00050	12/06/2018	3 5:25	JGF
Iron			200 mg/L		0			EPA 200.7		0.20			12/06/2018	3 23:03	JSW
Sample: 05 Sampled By	Well S-3 David Richardson											Sam	pled 1	1/29/2018	@ 10:15
Sulfate			8.7 mg/L		5		2002277722	EPA 300,0		2.5			12/06/2018	3 10.54	LJĊ
Boron			<0.50 mg/L		I			EPA 200.7		0.50			12/06/2018	3 5:31	JGF

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### **CERTIFICATE OF ANALYSIS**

### L8K1281

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 12/19/2018 11/29/2018

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Units	DF	Min	Мах	Method	Rpt Limit	Cus Limit	MDL	Analysis	s Date	Tech
Sample: 05 Sampled By	Well S-3 David Richardsor	ſ								Sa	mpled	11/29/201	8@10:15
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/06/20	018 5:31	JGF
Iron			65 mg/L	1			EPA 200.7	0.020			12/06/20	018 5:31	JGF
Sample: 06 Sampled By	Well S-4 David Richardsor	ı								Sar	npled	11/29/201	8 @ 10:00
Sulfate			40 mg/L	5			EPA 300.0	2.5			12/06/20	018 11:56	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0,50			12/06/20	018 5:47	JGF
Cadmium			<0.002 mg/L	1			EPA 200,7	0.010	0.002	0.00050	12/06/20	018 5:47	JGF
Iron			1.5 mg/L	1			EPA 200.7	0.020			12/06/20	018 5:47	JGF
Sample: 07 Sampled By	Well S-5 David Richardson	1								San	npled	11/29/2018	3@ 12:20
Sulfate			200 mg/L	5			EPA 300.0	2.5			12/06/20	18 20:48	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0,50			12/06/20	18 5:52	JGF
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0,00050	12/06/20	18 5:52	JGF
Iron			1.8 mg/L	1			EPA 200.7	0.020			12/06/20	18 5:52	JGF
Sample: 08 Sampled By	Well S-6 David Richardson									San	npled	11/29/2018	3@ 11:45
Sulfate			56 mg/L	5			EPA 300.0	2,5			12/06/20	18 21:19	LJC
Boron			<0.50 mg/L	1			EPA 200,7	0.50			12/07/20	18 3:53	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/07/20	18 3:53	JSW
Iron			0.35 mg/L	1			EPA 200,7	0.020			12/07/20	18 3:53	JSW
Sample: 09 Sampled By	Well S-1 Swa David Richardson	mp								San	pled	11/29/2018	@ 11:15
Sulfate			20 mg/L	5			EPA 300.0	2.5			12/06/20	18 21:35	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			12/07/20	18 3:58	JSW
Cadmium			0.055 mg/L	1			EPA 200.7	0.010	0.002	0.00050	12/07/20	18 3:58	JSW
Iron			12 mg/L	1			EPA 200.7	0.020			12/07/20	18 3:58	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.



### **CERTIFICATE OF ANALYSIS**

### L8K1281

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 12/19/2018 11/29/2018

**Quarterly Well Sampling** 

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

al More

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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Microbac Laboratories, Inc.



### **CERTIFICATE OF ANALYSIS**

L8H1537

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer # 09/07/2018 09/18/2018 08/27/2018 E5660

### Quarterly Well Sampling

Analysis	000	Qualifier	Result Un	nits DF	Min	Max	Method		Rpt Limit	Cus Limit	MDL	Analysis	Date	Tech
Sample: 01	Well C-1										Sar	npled	08/27/2010	8@ 13:26
Sampled By Sulfate	David Richardsor	า	260 mg/	'L 5			EPA 300.0		2.5			09/06/20	18 17:07	LJC
Boron			<0.50 mg/	Ľ 1			EPA 200.7		0.50			08/30/20	18 18:05	JSW
Cadmium			<0.002 mg/	L 1			EPA 200.7	I	0.010	0.002	0.0015	08/30/20	18 18:05	JSW
Iron			5.7 mg/	L 1			EPA 200.7	I	0.010			08/30/20	18 18:05	JSW
Sample: 02	Well C-2										San	npled	08/27/2018	3@ 13:16
Sampled By	David Richardsor	ı												
Sulfate			160 mg/l	L 5			EPA 300.0		2.5			09/06/20	18 17:21	LJĊ
Boron			<0.50 mg/i	L 1			EPA 200.7		0.50			08/30/20	18 18:11	JSW
Cadmium			<0.002 mg/l	L 1			EPA 200.7	(	0.010	0.002	0,0015	08/30/20	18 18:11	JSW
Iron			21 mg/l	L 1			EPA 200.7	ſ	0.010			08/30/20	18 18:11	JSW
Sample: 03 Sampled By	Well C-3 David Richardsor	1									San	pled	08/27/2018	₿ <b>@ 15:2</b> 7
Sulfate			50 mg/l	L 5			EPA 300.0		2.5			09/06/20	18 17:35	LJC
Boron			<0.50 mg/i	L 1			EPA 200.7		0.50			08/30/20	18 18:16	JSW
Cadmium			0.013 mg/L	L 1			EPA 200.7	(	0.010	0.002	0.0015	08/30/20	18 18:16	JSW
Iron			0.75 mg/L	L 1			EPA 200.7	C	0.010			08/30/20 <sup>-</sup>	18 18:16	JSW
Sample: 04 Sampled By	Well S-2 David Richardson										San	pled	08/27/2018	@ 12:01
Sulfate			56 mg/L	- 5			EPA 300.0		2.5			09/06/20 <sup>-</sup>	18 18:18	LJC
Boron			0.75 mg/L	- 1			EPA 200.7		0.50			08/30/20 <sup>-</sup>	8 18:21	JSW
Cadmium			0.0068 mg/L	_ 1			EPA 200.7	c	0.010	0.002	0.0015	08/30/201	8 18:21	JSW
Iron			180 mg/L	10			EPA 200.7		0.10			08/31/201	8 17:26	JSW
Sample: 05 Sampled By	Well S-3 David Richardson										Sam	pleci	08/27/2018	@ 11:37
Sulfate	n na manana katala da katu kutika da kata da ka	M1	23 mg/L	- 5			EPA 300.0		2,5			09/06/201	8 18:32	LJC
Boron			<0.50 mg/L	. 1			EPA 200.7		0.50			08/30/201	8 18:27	JSW

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### **CERTIFICATE OF ANALYSIS**

### L8H1537

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 09/18/2018 08/27/2018

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Unit	s DF	Min	Мах	Method		Rpt Limit	Cus Limit	MDL	Analysi	is Date	Tech
Sample: 05 Sampled By	Well S-3 David Richardson	n									Sa	mpled	08/27/201	8@ 11:37
Cadmium			0.0026 mg/L	1			EPA 200.7		0.010	0.002	0.001	5 08/30/2	2018 18:27	JSW
Iron			59 mg/L	10			EPA 200.7		0.10			08/31/2	018 17:31	JSW
Sample: 06	Well S-4										Sa	mpled	08/27/201	8@ 11:17
Sampled By Sulfate	David Richardsor	1	37 ma/L	5			EPA 300.0		2.5			09/06/2	018 18:46	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0,50			08/30/2	018 18:42	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7		0.010	0.002	0.0015	6 08/30/2	018 18:42	JSW
Iron			18 mg/L	1			EPA 200.7		0.010			08/30/2	018 18:42	JSW
Sample: 07 Sampled By	Well S-5 David Richardsor	1									Sai	npled	08/27/201	8@ 15:05
Sulfate			200 mg/L	5			EPA 300.0		2.5			09/06/2	018 19:00	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			08/30/2	018 19:03	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7		0.010	0.002	0.0015	08/30/2	018 19:03	JSW
Iron			2.6 mg/L	1			EPA 200.7		0.010			08/30/2	018 19:03	JSW
Sample: 08 Sampled By	Well S-6										Sar	npled	08/27/2010	3@ 12:56
Sulfate			55 mg/L	5			EPA 300.0		2.5			09/06/2	018 19:15	LJC
Boron			<0.50 mg/L	1			EPA 200,7		0.50			08/30/2	018 19:08	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7		0.010	0.002	0.0015	08/30/2	018 19:08	JSW
Iron			12 mg/L	1			EPA 200.7		0.010			08/30/2	018 19:08	JSW
Sample: 09 Sampled By	Well S-1 Swa David Richardson	ımp									San	npled	08/27/2018	@ 12:34
Sulfate			24 mg/L	5			EPA 300.0		2.5			09/06/20	018 19:29	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0,50			08/30/20	018 19:13	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	(	0.010	0.002	0.0015	08/30/20	318 19:13	JSW
Iron			33 mg/L	1			EPA 200.7	(	0.010		n an	08/30/20	018 19:13	JSW

### **Qualifier Definitions**

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### **CERTIFICATE OF ANALYSIS**

### L8H1537

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 09/18/2018 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:

al Mone

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
 07/0

 Date Due
 07/1

 Date Received
 06/2

 Customer #
 E560

07/06/2018 07/19/2018 06/28/2018 E5660

### Quarterly Well Sampling

Analysis	000	Qualifier	Result Units	5 DF	Min	Мах	Method	Rpt Limit	Cus Limit	MDL	Analys	is Date	Tech
Sample: 01	Well C-1									Sa	mpled	06/28/2018	B@ 10:24
Sampled By	David Richardsor	ı		_									
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			07/02/2	2018 18:26	Wat
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.001	5 07/02/2	2018 18:26	JSW
Iron			4.2 mg/L	1			EPA 200.7	0.010			07/02/2	2018 18:26	JSW
Sample: 02	Well C-2									Sa	mpled	06/28/2018	3@ 10:10
Sampled By Sulfate	David Richardson	Ì	170 mg/l	5			EPA 300.0	25			06/29/2	2018 18:08	LIC
Boron			<0.50 mg/l	1			EPA 200.7	0.50			07/02/2	2018 18:31	JSW
Cadmium			<0.002 mg/l.	1			EPA 200.7	0.010	0.002	0.001	5 07/02/2	2018 18:31	JSW
Iron			15 mg/L	1			EPA 200.7	0.010			07/02/2	2018 18:31	JSW
Sample: 03 Sampled By	Well C-3 David Richardson									Sa	mpled	06/28/2018	\$@ 9:57
Sulfate			60 mg/L	5			EPA 300.0	2.5			06/29/2	2018 18:22	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.50			07/02/2	2018 18:47	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.0015	5 07/02/2	2018 18:47	JSW
Iron			2.8 mg/L	1			EPA 200.7	0.010			07/02/2	2018 18:47	JSW
Sample: 04 Sampled By	Well S-2 David Richardson									Sa	mpled	06/28/201 <b>8</b>	@ 8:51
Sulfate			54 mg/L	5			EPA 300.0	2.5			06/29/2	018 18:36	LJC
Boron			1.3 mg/L	1			EPA 200.7	0.50			07/02/2	018 18:52	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0,0015	07/02/2	018 18:52	JSW
Iron			180 mg/L	10			EPA 200.7	0.10			07/03/2	018 17:48	JSW
Sample: 05 Sampled By	Well S-3 David Richardson									Sar	npled	06/28/2018	@ 8:33
Sulfate			8.7 mg/L	5			EPA 300.0	2.5	10.13.2.5.7.2.2.1.11	owanowen die	08/29/2	018 18:50	Lje
Boron			<0.50 mg/L	1			EPA 200.7	0,50			07/02/2	018 18:58	JSW

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### **CERTIFICATE OF ANALYSIS**

### L8F1823

Southern Illinois Power Coop. Jason McLaurin

#### **Quarterly Well Sampling**

Analysis	000	Qualifier Result Uni	its DF	Min	Max	Method	R	pt Cue nit Limi	MDL	Analysis	: Date	Tech
Sample: 05 Sampled By	Well S-3 David Richardson								:	Sampled	06/28/201	8@ 8:33
Cadmium		<0.002 mg/L	. 1			EPA 200.7	0.01	0.00	2 0.00	15 07/02/20	018 18:58	JSW
Iron		67 mg/L	. 10			EPA 200,7	0.1	0		07/03/20	018 17:53	JSW
Sample: 06 Sampled By	Well S-4 David Richardson								:	Sampled	06/28/201	8@ 8:12
Sulfate		35 mg/L	. 5			EPA 300.0	2.	5		06/29/20	18 19:05	LJÇ
Boron		<0.50 mg/L	. 1			EPA 200.7	0.5	0		07/02/20	18 19:03	JSW
Cadmium		<0,002 mg/L	. 1			EPA 200.7	0.01	0.002	0.00	15 07/02/20	18 19:03	JSW
Iron		230 mg/L	10			EPA 200.7	0.1	D		07/03/20	18 17:58	JSW
Sample: 07 Sampled By	Well S-5 David Richardson								9	ampled	06/28/201	8@ 10:44
Sulfate		200 mg/L	5			EPA 300.0	2.	5		06/29/20	18 20:01	LJC
Boron		<0.50 mg/L	1			EPA 200.7	0.5	)		07/02/20	18 19:13	JSW
Cadmium		<0.002 mg/L	1			EPA 200.7	0.01	0.002	0.00	15 07/02/20	18 19:13	JSW
Iron		3.8 mg/L	1			EPA 200.7	0.01	)		07/02/20	18 19:13	JSW
Sample: 08 Sampled By	Well S-6 David Richardson								5	ampled	05/28/201	8@ 9:38
Sulfate		55 mg/L	5			EPA 300,0	2.5	5		06/29/20	18 20:16	LJĊ
Boron		<0.50 mg/L	1			EPA 200.7	0.50	)		07/02/20	18 19:19	WSL
Cadmium		<0.002 mg/L	1			EPA 200.7	0.010	0.002	0.001	15 07/02/20	18 19:19	JSW
Iron		6.1 mg/L	1			EPA 200.7	0.010	)		07/02/20	18 19:19	JSW
Sample: 09 Sampled By	Well S-1 Swar David Richardson	mp							S	ampled	06/28/2010	3@ 9:15
Sulfate		18 mg/L	5			EPA 300.0	2.5	\$		06/29/20	18 20:30	LJC
Boron		<0.50 mg/L	1			EPA 200.7	0.50	1		07/02/20	18 19:24	JSW
Cadmium		<0.002 mg/L	1			EPA 200,7	0,010	0.002	0.001	5 07/02/20	18 19:24	JSW
Iron		20 mg/L	1			EPA 200.7	0.010			07/02/20	18 19:24	JSW

### **Qualifier Definitions**

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Microbac Laboratories, Inc.

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Date Due **Date Received**  07/19/2018 06/28/2018



### **CERTIFICATE OF ANALYSIS**

L8F1823

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 07/19/2018 06/28/2018

**Quarterly Well Sampling** 

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

David Lester For 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**

### P8C0209

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer # 04/04/2018 04/11/2018 03/22/2018 E5660

#### Quarterly Well Sampling

6.68-03960a

Analysis	000	Qualifier	Result U	nits D	= Mi	n Max	Method	Rp Limi	t Cus t Limit	MDL	Analysis	Date	Tech
Sample: 01	Well C-1									Sai	npied	03/22/2010	B@ 12:44
Sampled By	David Richardso	n											
Sulfate			240 mg	J/L	5		EPA 300.0	2.5			03/28/20	18 17:55	LJC
Boron			<0.50 mg	ı/L.	1		EPA 200.7	0.50			03/27/20	18 22:46	EML
Cadmium			<0,002 mg	/L	1		EPA 200.7	0.010	0.002	0.0015	03/27/20	18 22:46	EML
Iron			0.89 mg	ı/L	1		EPA 200.7	0.010			03/27/20	18 22:46	EML
Sample: 02	Well C-2 David Richardson	D								Sar	npled	03/22/2018	3@ 12:29
Sulfate	Strid Hondrado.		240 mg	/L :	5		EPA 300,0	2,5			03/28/20	18 18:51	LJC
Boron			<0.50 mg	/L	I		EPA 200.7	0.50			03/27/20	18 22:52	EML
Cadmium			<0.002 mg	/L ·	I		EPA 200.7	0.010	0.002	0.0015	03/27/20	18 22:52	EML
iron			18 mg	/L ·	I		EPA 200.7	0.010			03/27/20	18 22:52	EML
Sample: 03 Sampled By	Well C-3 David Richardsor	'n								San	npled	03/22/2018	3@ 12:10
Sulfate			56 mg/	/L (	;		EPA 300.0	2.5			03/28/20	18 19:06	LJC
Boron			<0.50 mg/	/L -			EPA 200.7	0.50			03/27/20	18 22:57	EML
Cadmium			<0.002 mg/	/L 1			EPA 200.7	0.010	0,002	0.0015	03/27/20	18 22:57	EML
Iron			2.3 mg/	/L 1			EPA 200.7	0.010			03/27/20	18 22:57	EML
Sample: 04	Well S-2									San	pled	03/22/2018	@ 10:53
Sampled By Sulfate	David Richardsor	ו	76 ma/	/1. +			EPA 300 0	25			03/28/20	18 19.20	LIC
Boron			2.0 ma/	/L 1			EPA 200 7	0.50			03/27/20	18 23:02	EMI
Cadmium			0.0071 ma/	n_ 1			EPA 200.7	0.010	0.002	0.0015	03/27/20	18 23:02	EMI
Iron			180 mg/	/L 1	5		EPA 200.7	0,10			03/28/20	18 16:35	EML
Sample: 05 Sampled By	Well S-3 David Richardsor	1								San	ıpled	03/22/2018	@ 10:26
Sulfale			13 mg/	4	//////////////////////////////////////		EPA 300,0	2.5			03/28/20	18 19:34	LJC
Boron			<0,50 mg/	L 1			EPA 200.7	0.50			03/27/20	18 23:08	EML

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Microbac Laboratories, Inc.

MICROBAC"

Date Due

**Date Received** 

04/11/2018

03/22/2018

### **CERTIFICATE OF ANALYSIS**

P8C0209

Southern Illinois Power Coop. Jason McLaurin

**Quarterly Well Sampling** 

a

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	l	Rpt .imit	Cus Limit	MDL	Analysis	Date	Tech
Sample: 05 Sampled By	Well S-3 David Richardson	1									Sa	mpled	03/22/201	8@ 10:26
Cadmium			<0.002 mg/L	1			EPA 200.7	0.1	010	0.002	0.0015	03/27/20	18 23:08	EML
Iron			27 mg/L	1			EPA 200.7	0.6	010			03/27/20	18 23:08	EML
Sample: 06 Sampled By	Well S-4 David Richardson	ł									Sa	npled	03/22/201	8@ 9:57
Suifate			38 mg/L	5			EPA 300.0		2.5			03/28/20	18 19:48	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0	.50			03/27/20	18 23:13	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.0	10	0.002	0.0015	03/27/20	18 23:13	EML
Iron			0.66 mg/L	1			EPA 200.7	0.0	010			03/27/20	18 23:13	EML
Sample: 07 Sampled By	Well S-5 David Richardson										Sar	npled	03/22/2018	3@ 15:02
Sulfate			190 mg/L	5			EPA 300.0		2.5			03/28/20	18 20:02	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0	50			03/27/20	18 23:18	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0,0	10	0.002	0.0015	03/27/20	18 23:18	EML
Iron			2.7 mg/L	1			EPA 200.7	0.0	10			03/27/20	18 23:18	EML
Sample: 08 Sampled By	Well S-6 David Richardson										San	npled	03/22/2018	I@ 11:56
Sulfate			54 mg/L	5			EPA 300.0	:	2.5			03/28/20	18 20:16	LJĊ
Boron			<0.50 mg/L	1			EPA 200.7	0.	50			03/27/20	18 23:23	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.0	10	0.002	0.0015	03/27/20	18 23:23	EML
Iron			15 mg/L	1			EPA 200.7	0.0	10			03/27/20	18 23:23	EML
Sample: 09 Sampled By	Well S-1 Swa David Richardson	mp									San	ıpled	03/22/2018	@ 11:29
Sulfate			19 mg/L	5			EPA 300.0	:	2.5			03/28/20 <sup>-</sup>	18 20:31	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.	50			03/27/20	18 23:54	EML
Cadmium			<0.002 mg/L	1			EPA 200.7	0.0	10	0.002	0.0015	03/27/20 <sup>.</sup>	18 23:54	EML
Iron			15 mg/L	1			EPA 200.7	0.0	10			03/27/20	18 23:54	EML

### **Qualifier Definitions**

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Microbac Laboratories, Inc.



### **CERTIFICATE OF ANALYSIS**

P8C0209

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 04/11/2018 03/22/2018

**Quarterly Well Sampling** 

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE:

al littme

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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Microbac Laboratories, Inc.



### 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

 JB PRITZKER, GOVERNOR

 JOHN J. KIM, DIRECTOR

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 <u>January 1, 2019</u> thru <u>December 31, 2019</u>.

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.

LIST TYPE OF WASTE: Coal Combustion By Products A.

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:

1344247 (in place cubic yards)

2. Remaining capacity in existing units at the facility:

<u>936, 160</u> (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 Statues 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.	an da gang da kana ang kana a Manang kana ang kana a
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\* THIS LANDFILL HASN'T RELIEVED MATERIAL FOR A NUMBER OF YEARS.

4302 N. Main St., Rodford, IL 61103 (B15) 987-7760 595 S. Stare, Elgin, IL 60123 (B47) 608-3131 2125 S. First St., Champalgin, IL 61820 (217) 278-5800 2009 Mall St., Collinsville, IL 62234 (618) 346-5120 Page 1

### 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. 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))



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 Date Due Date Received Customer # 01/02/2020 01/09/2020 12/19/2019 E5660

#### Quarterly Well Sampling

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method		Rpt Limit	Cus Limit	MDL	Analysis I	Date	Tech
Sample: 01 Sampled By	Well C-1 Ted Meriwether										Sar	npied	12/14/201	9@ 10:12
Chloride			380 mg/L	5			EPA 300.0		2.5			12/24/201	9 14:32	LJC
Sulfate			300 mg/L	5			EPA 300.0		2.5			12/24/201	9 14:32	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/31/201	9 4:18	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7		0.010	0.002	0.00050	12/31/201	9 4:18	JSW
Iron			0.38 mg/L	1			EPA 200.7	i	0.020			12/31/201	9 4:18	JSW
Sample: 02 Sampled By	Well C-2 Ted Meriwether										San	npled	12/14/2019	9@ 9:57
Chlonde			3.9 mg/L	5			EPA 300.0		2.5			12/24/201	9 14:46	LJC
Sulfate			220 mg/L	5			EPA 300.0		2.5			12/24/201	9 14:46	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/31/201	9 4:24	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7		0.010	0.002	0.00050	12/31/201	9 4:24	JSW
Iron			17 mg/L	1			EPA 200.7	(	0.020			12/31/201	9 4:24	JSW
Sample: 03	Well C-3										San	pled	12/14/2019	0@ 12:29
Chloride	lou montoului		570 mg/L	5			EPA 300.0		2.5			12/24/201	9 15:00	LJC
Sulfate			66 mg/L	5			EPA 300.0		2.5			12/24/201	9 15:00	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			12/31/201	9 4:31	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	(	0.010	0.002	0.00050	12/31/201	9 4:31	JSW
lron			0.60 mg/L	1			EPA 200.7	4	0.020			12/31/201	9 4:31	JSW
Sample: 04 Sampled By	Well S-2 Ted Meriwether										San	npled	12/14/2019	0@ 11:20
Chloride			440 mg/L	5			EPA 300.0		2.5			12/24/201	9 15:13	LJC
Sulfate			150 mg/L	5			EPA 300.0		2.5			12/24/201	9 15:13	LJC
Boron			2.2 mg/L		2000-00-10-74		EPA 200.7	10251-4855-042514480240048400484004	0.50			12/31/201	9 4:50	JSW
Cadmium			0.0078 mg/L	1		******	EPA 200.7	(	0.010	0.002	0.00050	12/31/201	9 4:50	JSW
Iron			210 mg/L	50			EPA 200.7		1.0			12/31/201	9 17:09	JSW

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### **CERTIFICATE OF ANALYSIS**

### L9L0923

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 01/09/2020 12/19/2019

### **Quarterly Well Sampling**

Analysis	000	Qualifier R	esult Units	DF	Min	Max	Method		Rpt Limit	Cus Limit	MDL	Analysis	Date	Tech
Sample: 05	Well S-3										Sar	npled	12/14/2019	¢ 10:57
Sampled By	Ted Meriwether			_										
Chloride			110 mg/L	5			EPA 300.0		2.5			12/24/20	19 15:27	LJC
Sulfate			18 mg/L	5			EPA 300.0		2.5			12/24/20	19 15:27	LJC
Boron		<	0.50 mg/L	1			EPA 200.7		0.50			12/31/201	19 4:57	JSW
Cadmium		<0.	.002 mg/L	1			EPA 200.7	C	0.010	0,002	0.00050	12/31/201	19 4:57	JSW
Iron			36 mg/L	1			EPA 200.7	C	0.020			12/31/201	19 4:57	JSW
Sample: 06	Well S-4										Sar	npled	12/14/2019	@ 10:30
Chloride	ICO MOLMALINE		20 mg/L	5			EPA 300.0		2.5			12/24/201	19 15:41	LJC
Sulfate			45 mg/L	5			EPA 300.0		2.5			12/24/201	19 15:41	LJC
Boron		<(	0.50 mg/L	1			EPA 200.7		0.50			12/31/201	9 5:03	JSW
Cadmium		<0.	.002 mg/L	1			EPA 200.7	c	0.010	0.002	0.00050	12/31/201	9 5:03	JSW
Iron			2.2 mg/L	1			EPA 200.7	c	0.020			12/31/201	9 5:03	JSW
Sample: 07	Well S-5										San	1pled	12/14/2019	@ 9:43
Sampled By	Ted Meriwether													
Chloride			31 mg/L	5			EPA 300.0		2,5			12/24/201	9 15:54	LJC
Sulfate			230 mg/L	5			EPA 300.0		2.5			12/24/201	9 15:54	LJC
Boron		<(	0.50 mg/L	1			EPA 200.7		0.50			12/31/201	9 5:09	JSW
Cadmium		<0.	002 mg/L	1			EPA 200.7	c	.010	0.002	0.00050	12/31/201	9 5:09	JSW
Iron		C	0.69 mg/L	1			EPA 200.7	C	.020			12/31/201	9 5:09	JSW
Sample: 08 Sampled By	Well S-6 Ted Meriwether										San	ıpled	12/14/2019	@ 12:47
Chloride			25 mg/L	5			EPA 300.0		2.5			12/24/201	9 16:08	LJC
Sulfate			64 mg/L	5			EPA 300.0		2.5			12/24/201	9 16:08	LJC
Boron		<(	0.50 mg/L	1			EPA 200.7		0.50			12/31/201	9 5:15	JSW
Cadmium		<0.	002 mg/L	1			EPA 200.7	C	.010	0.002	0.00050	12/31/201	9 5:15	JSW
Iron			9.2 mg/L				EPA 200:7-		h020			12/31/201	0-5:16	JSW

Sample: 09 Well S-1 Swamp

Sampled By Ted Meriwether

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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 Sampled 12/14/2019@ 11:54



### **CERTIFICATE OF ANALYSIS**

### L9L0923

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 01/09/2020 12/19/2019

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Units	DF	Min M	ax Method	Rpt Limit	Cus Limit	MDL	Analysis	Date	Tech
Sample: 09	Well S-1 Swa	amp							58	mpled	12/14/2019	9@ 11:54
Sampled By	Ted Meriwether											
Chloride			7.0 mg/L	5		EPA 300.0	2.5			12/24/201	19 17:02	LJC
Sulfate			26 mg/L	5		EPA 300.0	2,5			12/24/201	19 17:02	LJC
Boron			<0.50 mg/L	1		EPA 200.7	0.50			12/31/201	9 5:22	JSW
Cadmium			0.0089 mg/L	1		EPA 200.7	0.010	0.002	0.0005	0 12/31/201	9 5:22	JSW
Iron			16 mg/L	1		EPA 200.7	0.020			12/31/201	9 5:22	JSW

**Qualifier Definitions** 

**Report Comments** 

**Reviewed and Approved By:** 

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AL MOORE Field Manager Reported: 01/02/2020 16:39

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### **CERTIFICATE OF ANALYSIS**

L910556

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959

Date Reported09Date Due10Date Received09Customer #E5

09/19/2019 10/02/2019 09/12/2019 E5660

### Quarterly Well Sampling

Analysis	000	Qualifier	Result Units	DF	Min	Мах	Method		Rpt Limit	Cus Limit	MDL	Analysis	Date	Tech
Sample: 01	Well C-1										San	pled	09/12/201	9@ 13:00
Chloride	led werweiner		300 mg/L	5			EPA 300.0		2.5			09/17/20	019 2:30	LJC
Sulfate			300 mg/L	5			EPA 300.0		2.5			09/17/20	)19 2:30	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			09/16/20	)19 18:57	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	C	.010	0.002	0.00050	09/16/20	19 18:57	JSW
Iron			0.86 mg/L	1			EPA 200.7	C	.020			09/16/20	19 18:57	JSW
Sample: 02 Sampled By	Well C-2 Ted Meriwether										San	pled	09/12/201	₽@ 13:20
Chloride			23 mg/L	5			EPA 300.0		2.5			09/17/20	19 2:44	LJC
Sulfate			120 mg/L	5			EPA 300.0		2.5			09/17/20	19 2:44	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0,50			09/16/20	19 19:04	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	C	.010	0.002	0.00050	09/16/20	19 19:04	JSW
Iron			12 mg/L	1			EPA 200.7	Ċ	.020			09/16/20	19 19:04	JSW
Sample: 03 Sampled By	Well C-3 Ted Meriwether										Sam	pled	09/12/2019	9@ 12:15
Chloride			460 mg/L	5			EPA 300.0		2.5			09/17/20	19 2:57	LJC
Sulfate			82 mg/L	5			EPA 300.0		2.5			09/17/20	19 2:57	LJC
Boron			<0.50 mg/L	1			EPA 200.7		0.50			09/16/20	19 19:10	JSW
Cadmium			0.0028 mg/L	1			EPA 200.7	C	.010	0.002	0.00050	09/16/20	19 19:10	JSW
Iron			1.3 mg/L	1			EPA 200.7	O	.020			09/16/20	19 19:10	JSW
Sample: 04 Sampled By	Well S-2 Ted Meriwether										Sam	pied	09/12/2019	9@ 11:25
Chloride			350 mg/L	5			EPA 300.0		2.5			09/17/20	19 3:11	LJC
Sulfate			88 mg/L	5			EPA 300.0		2.5			09/17/20	19 3:11	LJC
Boron			0.94 mg/L	1	ciana ana ana ana ana ana ana ana ana ana	contace brandware	EPA 200.7	animetri de la constante de la	0.50	1907. Construction	in a substantia da substant	09/16/20	19 19:16	JSW
Cadmlüm	<b>1</b>		0,0045 mg/L	1			EPA 200.7	0	.010	0.002	0.00050	09/16/20	19 19:16	JSW
Iron			200 mg/L	50			EPA 200.7		1.0			09/17/20	19 17:33	JSW

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### **CERTIFICATE OF ANALYSIS**

### L910556

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 10/02/2019 09/12/2019

### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Units	DF	Min	Мах	Method	F Lit	lpt Cus nit Limit	MDL.	Analysis	s Date	Tech
Sample: 05 Sampled By	Well S-3 Ted Meriwether									Sa	mpled	09/12/201	9@ 11:07
Boron			<0.50 mg/L	1			EPA 200.7	0.5	0		09/16/2	019 22:26	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.01	0 0.002	0.0005	0 09/16/2	019 22:26	JSW
Iron			64 mg/L	10			EPA 200.7	0.2	0		09/17/20	019 18:10	JSW
Sample: 06 Sampled By	Well S-4 Ted Meriwether									Sa	mpled	09/12/201	9@ 10:55
Chloride			22 mg/L	5			EPA 300.0	2.	5		09/17/20	019 3:25	LJC
Sulfate			43 mg/L	5			EPA 300.0	2.	5		09/17/20	019 3:25	LJC
Boron			<0.50 mg/L	1			EPA 200,7	0.5	0		09/16/20	19 22:44	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.01	0 0.002	0.00050	0 09/16/20	019 22:44	JSW
Iron			19 mg/L	1			EPA 200.7	0,02	0		09/16/20	019 22:44	JSW
Sample: 07 Sampled By	Well S-5 Ted Meriwether									Sai	mpled	09/12/2019	9@ 13:35
Chloride			34 mg/L	5			EPA 300.0	2.	5		09/17/20	19 3:38	LJC
Sulfate			230 mg/L	5			EPA 300.0	2.	5		09/17/20	19 3:38	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.5	כ		09/16/20	19 22:50	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.01	0.002	0.00050	09/16/20	19 22:50	JSW
Iron			3.0 mg/L	1			EPA 200.7	0.02	2 C		09/16/20	019 22:50	JSW
Sample: 08 Sampled By	Well S-6 Ted Meriwether									Sai	mpled	09/12/2019	0@ 12:45
Chloride			24 mg/L	5			EPA 300.0	2.	5		09/17/20	019 3:52	LJC
Sulfate			65 mg/L	5			EPA 300.0	2.	5		09/17/20	019 3:52	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.5	0		09/16/20	19 22:56	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.01	0.002	0.00050	09/16/20	019 22:56	JSW
Iron			9.1 mg/L	1			EPA 200.7	0.02	5		09/16/20	19 22:56	JSW
Sample: 09	Well S-1 Swa	mp	2010 ( -> 1000) ( -> 1	5300.0407507.07.01	1000775 000000			RD YYYTTING ADTERNA, DYYRARDDONTE A MONINELL ANN Y A A PRIMA	10.8507.970-00-71-0-10-0-0-0-0	Sai	mpled	09/12/2019	0@ 11:50
Sampled By Chloride	Ted Merlweiher		6.1 ma//	érinteritérité E			ED7 300 0	<u></u>	5	nere and in the local data	00/17/20	10 1.00	
Sulfate			0.1 mg/L	J E			EDA 200.0	Ζ.	ر د		09/17/20	19 4:00	
- allale			∠ i mg/⊾	5			EFA 300.0	2.	0		09/17/20	19 4:05	LJÇ

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### **CERTIFICATE OF ANALYSIS**

L910556

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 10/02/2019 09/12/2019

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rr Limi	t Cus t Limit	MDL	Analysis	Date	Tech
Sample: 09 Sampled By	Well S-1 Sw Ted Meriwether	amp								Sa	mpled	09/12/2019	@ 11:50
Boron			<0.50 mg/L	1			EPA 200.7	0.50			09/16/20	19 23:03	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.010	0.002	0,00050	09/16/20	19 23:03	JSW
Iron			33 mg/L	1			EPA 200.7	0.020			09/16/20	19 23:03	JSW
Sample: 10	Well S-3 Rep lab.	pull due to	sample being b	oroke in	l					Sa	mpled	09/17/2019	@ 12:30
Chloride	led Mellwether		140 mg/L	5			EPA 300.0	2,5			09/18/20	19 16:07	LJĊ
Sulfate			17 mg/L	5			EPA 300.0	2.5			09/18/20	19 16:07	LJC

### **Qualifier Definitions**

**Report Comments** 

**Reviewed and Approved By:** 

avid Richardson

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only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Field Services Tech Paducah Reported: 09/19/2019 16:34

David Richardson

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Page 3 of 14

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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 Date Due Date Received Customer # Work Purchase Order:

07/01/2019 07/15/2019 06/13/2019 E5660

#### **Special Quarterly Sampling Jun 2019**

Analysis	000	Qualifier	Resu	it Units	DF	Min	Max	Method	Rpt Limit	MDL Ana	lysis Date	Tech
Sample: 01 C-1										Sample	06/13/201	9@ 13:46
Sampled By Ted M	leriwether/N	vike Gribb	in									
pH - Field			6.05	SU	1			SM 4500 H+ B	1.00	06/	13/2019 13:46	TWM
Temperature at pH - Fie	eld		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/
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/	4/2019 22:33	JGF
Barium			37	ug/L	2			EPA 200.8	200	0.11 06/	4/2019 22:33	JGF
Beryllium			<0.15	ug/L	2			EPA 200.8	8.0	0.15 06/	4/2019 22:33	JGF
Boron			0.46	mg/L	1			EPA 200.7	0.50	0.19 06/	8/2019 6:40	JSW
Cadmium			<0.018	ug/L	2			EPA 200.8	0.54	0.018 06/	4/2019 22:33	JGF
Chromium			2.0	ug/L	2			EPA 200.8	14	0.14 06/	4/2019 22:33	JGF
Cobalt			4.8	ug/L	2			EPA 200.8	10	0.63 06/	4/2019 22:33	JGF
Copper			1.5	ug/L	2			EPA 200.8	8.6	0.70 06/	4/2019 22:33	JGF
Iron			870	ug/L	2			EPA 200.8	2000	33 06/	4/2019 22:33	JGF
Lead			1.1	ug/L	2			EPA 200.8	6.2	0.16 06/	4/2019 22:33	JGF
Manganese			180	ug/L	2			EPA 200.8	100	0.21 06/	4/2019 22:33	JGF
Nickel			23	ug/L	2			EPA 200.8	100	0.32 06/	4/2019 22:33	JGF
Selenium			33	ug/L	2			EPA 200.8	1.0	0.33 06/	4/2019 22:33	JGF
Silver		L3	<0.038	ug/L	2			EPA 200.8	7.6	0.038 06/*	4/2019 22:33	JGF
Thallium			<0.15	ug/L	2			EPA 200.8	0.94	0.15 06/*	4/2019 22:33	JGF
Vanadium			3.5	ug/L	2			EPA 200.8	10	0.38 06/*	4/2019 22:33	JGF
Zinc		L3	<13	ug/L	2			EPA 200.8	220	13 06/*	4/2019 22:33	JGF
Total Mercury by CVAA			<0.000093	me/l	1			EPA 245.1 Rev 3.0	0.00020	0.000093.08/3	0/2019 13:08	CGI
			0.0000000						0.00020	0.000000 00/2	012010 10.00	JUL

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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** 

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL Analysis Date	Tech
Sample: 01	C-1								Sampled 06/1	3/2019@ 13:46
Sampled By Total Mercury by	Ted Meriwether/M	ike Gribbin					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	3/2019 @ 14:05
Sampled By	Ted Meriwether/M	ke Gribbin	8 40 CU				RM 4500 H+ R	4.00	06/12/2010 14	05 704/44
Tomosofum et a			6.40 SU				SM 4500 H+ B	1.00	06/13/2019 14	05 TWW
Temperature at p	pH - Fleid		19.3 deg C	1			SM 2550B	10	06/13/2019 14	105 TWW
Solids, Dissolved			100 mg/L	1			SM 2540C	10	06/17/2019 17	:00 MGM/I
Chioride			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	8.6	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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L9F0808

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 07/15/2019 06/13/2019

### **Special Quarterly Sampling Jun 2019**

Analysis		ooc	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL Analys	is Date	Tech
Sample: 02	C-2									Sampled	06/13/201	9@ 14:05
Sampled By	Ted Meriw	ether/M	like Gribbin	e de la composición d								
Zinc			L3	<13 ug/L	2			EPA 200.8	220	13 06/14/2	2019 22:39	JGF
Total Mercury by	CVAA							EPA 245.1 Rev 3.0				
Mercury				<0.000093 mg/L	1				0.00020	0.000093 06/20/2	2019 13:08	CGL
Total Cyanide				<0.0020 mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020 06/18/2	2019 12:17	CGL
Sample: 03	C-3									Sampled	06/13/2019	9@ 12:30
Sampled By	Ted Meriw	ether/M	like Gribbin	r								
pH - Field				6.96 SU	1			SM 4500 H+ B	1.00	06/13/2	2019 12:30	TWM
Temperature at p	pH - Field			16.9 deg C	1			SM 2550B		06/13/2	2019 12:30	TWM
Solids, Dissolve	d			120 mg/L	1			SM 2540C	10	06/17/2	2019 17:00	MGM/I
Chloride				480 mg/L	9			EPA 300.0	4.5	1.9 06/14/2	2019 19:47	LJC
Fluoride				0.19 mg/L	1			EPA 300.0	0.50	0.060 06/14/2	2019 16:02	LJC
Nitrogen, Nitrate				0.082 mg/L	1			EPA 300.0	0.11	0.050 06/14/2	2019 16:02	LJC
Sulfate				110 mg/L	9			EPA 300.0	4.5	2.6 06/14/2	2019 19:47	LJC
Antimony				<1.6 ug/L	2			EPA 200.8	12	1.6 06/14/2	2019 22:46	JGF
Arsenic				3.3 ug/L	2			EPA 200.8	300	2.0 06/14/2	2019 22:46	JGF
Barium				200 ug/L	2			EPA 200.8	200	0.11 06/14/2	2019 22:46	JGF
Beryllium				<0.15 ug/L	2			EPA 200.8	8.0	0.15 06/14/2	2019 22:46	JGF
Boron				<0.19 mg/L	1			EPA 200.7	0.50	0.19 06/18/2	2019 6:53	JSW
Cadmium				<0.018 ug/L	2			EPA 200.8	0.54	0.018 06/14/2	2019 22:46	JGF
Chromium				2.9 ug/L	2			EPA 200.8	14	0.14 06/14/2	2019 22:46	JGF
Cobalt				7.2 ug/L	2			EPA 200.8	10	0.63 06/14/2	2019 22:46	JGF
Copper				3.0 ug/L	2			EPA 200.8	8.6	0.70 06/14/2	2019 22:46	JGF
Iron				2300 ug/L	2			EPA 200.8	2000	33 06/14/2	2019 22:46	JGF
Lead				3.1 ug/L	2			EPA 200.8	6.2	0.16 06/14/2	2019 22:46	JGF
Manganese				810 ug/L	2			EPA 200.8	100	0.21 06/14/2	2019 22:46	JGF
Nickel				10 ug/L	2			EPA 200.8	100	0.32 06/14/2	2019 22:46	JGF
Selenium				12 ug/L	2			EPA 200.8	1.0	0.33 06/14/2	2019 22:46	JGF
Silver			L3	1.3 ug/L	2			EPA 200.8	7.6	0.038 06/14/2	2019 22:46	JGF

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### PRELIMINARY CERTIFICATE OF ANALYSIS

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Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 07/15/2019 06/13/2019

#### **Special Quarterly Sampling Jun 2019**

Analysis		000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL /	Analysis Date	Т	lech
Sample: 03	C-3									Sam	pled 06/1	3/2019 @	D 12:30
Sampled By	Ted Meriv	vether/l	Mike Gribbi	in									
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
Total Mercury by	VAA							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									Samj	pied 06/13	i/2019 @	11:22
pH - Field	led Meriv	vetner/M	VIKe Gribbi	n 6.57 SU	1			SM 4500 H+ B	1.00	(	06/13/2019 11	:22	TWM
Temperature at p	pH - Field			14.7 deg C	1			SM 2550B		(	06/13/2019 11	:22	TWM
Solids, Dissolve	d			290 mg/L	1			SM 2540C	10	(	06/17/2019 17	:00 1	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 0	06/14/2019 16	:17 1	LJC
Sulfate				24 mg/L	1			EPA 300.0	0.50	0.29 (	06/14/2019 16	:17 1	LJC
Antimony				<1.6 ug/L	2			EPA 200.8	12	1.6 0	06/14/2019 22	:52 .	JGF
Arsenic				9.4 ug/L	2			EPA 200.8	300	2.0 0	6/14/2019 22	:52 .	JGF
Barium				110 ug/L	2			EPA 200.8	200	0.11 0	6/14/2019 22	52	JGF
Beryllium				<0.15 ug/L	2			EPA 200.8	8.0	0.15 0	6/14/2019 22	52 J	JGF
Boron				<0.19 mg/L	1			EPA 200.7	0.50	0.19 0	6/18/2019 7:	19 J	JSW
Cadmium				<0.018 ug/L	2			EPA 200.8	0.54	0.018 0	6/14/2019 22	52 J	JGF
Chromium				6.9 ug/L	2			EPA 200.8	14	0.14 0	6/14/2019 22	52 J	JGF
Cobalt				4.3 ug/L	2			EPA 200.8	10	0.63 0	6/14/2019 22	52 J	JGF
Copper				6.3 ug/L	2			EPA 200.8	8.6	0.70 0	6/14/2019 22:	52 J	JGF
Iron				7700 ug/L	2			EPA 200.8	2000	33 0	6/14/2019 22:	52 J	JGF
Lead				6.2 ug/L	2			EPA 200.8	6.2	0.16 0	6/14/2019 22:	52 J	JGF
Manganese				390 ug/L	2			EPA 200.8	100	0.21 0	6/14/2019 22:	52 J	JGF
Nickel				8.0 ug/L	2			EPA 200.8	100	0.32 0	6/14/2019 22:	52 J	JGF

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## PRELIMINARY CERTIFICATE OF ANALYSIS

L9F0808

Date Due

**Date Received** 

07/15/2019

06/13/2019

Southern Illinois Power Coop. Jason McLaurin

**Special Quarterly Sampling Jun 2019** 

Analysis	000	C Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL Analysis	Date	Tech
Sample: 04	S-1								Sampled	06/13/201	9@ 11:22
Sampled By	Ted Meriwethe	r/Mike Gribbin	1								
Selenium			<0.33 ug/L	2			EPA 200.8	1.0	0.33 06/14/20	19 22:52	JGF
Silver		L3	<0.038 ug/L	2			EPA 200.8	7.6	0.038 06/14/20	19 22:52	JGF
Thallium			<0.15 ug/L	2			EPA 200.8	0.94	0.15 06/14/201	19 22:52	JGF
Vanadium			13 ug/L	2			EPA 200.8	10	0.38 06/14/20	19 22:52	JGF
Zinc		L3	24 ug/L	2			EPA 200.8	220	13 06/14/201	19 22:52	JGF
Total Mercury by	CVAA						EPA 245.1 Rev 3.0				
Mercury			0.000093 mg/L	1				0.00020	0.000093 06/20/20	19 13:10	CGL
Total Cyanide			<0.0020 mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020 06/18/20	19 12:21	CGL
Sample: 05 Sampled By	S-2 Ted Meriwethe	r/Mike Gribbin							Sampled	06/13/2019	9@ 11:49
pH - Field			6.06 SU	1			SM 4500 H+ B	1.00	06/13/201	19 11:49	TWM
Temperature at	pH - Field		16.8 deg C	1			SM 2550B		06/13/201	19 11:49	TWM
Solids, Dissolve	d		190 mg/L	1			SM 2540C	10	06/17/201	9 17:00	MGM/I
Chloride			360 mg/L	7			EPA 300.0	3.5	1.5 06/15/201	9 1:35	LJC
Fluoride			0.062 mg/L	1			EPA 300.0	0.50	0.060 06/14/201	9 16:47	LJC
Nitrogen, Nitrate			<0.050 mg/L	1			EPA 300.0	0.11	0.050 06/14/201	9 16:47	LJC
Sulfate			130 mg/L	7			EPA 300.0	3.5	2.1 06/15/201	9 1:35	LJC
Antimony			<1.6 ug/L	2			EPA 200.8	12	1.6 06/14/201	9 22:58	JGF
Arsenic			<2.0 ug/L	2			EPA 200.8	300	2.0 06/14/201	9 22:58	JGF
Barium			970 ug/L	2			EPA 200.8	200	0.11 06/14/201	9 22:58	JGF
Beryllium			<0.15 ug/L	2			EPA 200.8	8.0	0.15 06/14/201	9 22:58	JGF
Boron			2.2 mg/L	1			EPA 200.7	0.50	0.19 06/18/201	9 7:25	JSW
Cadmium			<0.018 ug/L	2			EPA 200.8	0.54	0.018 06/14/201	9 22:58	JGF
Chromium			4.4 ug/L	2			EPA 200.8	14	0.14 06/14/201	9 22:58	JGF
Cobalt			1.2 ug/L	2			EPA 200.8	10	0.63 06/14/201	9 22:58	JGF
Copper			1.9 ug/L	2			EPA 200.8	8.6	0.70 06/14/201	9 22:58	JGF
Iron			140000 ug/L	2			EPA 200.8	2000	33 06/14/201	9 22:58	JGF
Lead			2.7 ug/L	2			EPA 200.8	6.2	0.16 06/14/201	9 22:58	JGF

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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** 

Analysis		000	Qualifier	Result	Units	DF	Min	Max	Method	Rpt Limit	MDL A	Analysis Date		Tech
Sample: 05	S-2										Sam	oled 06/13	3/2019	@ 11:49
Sampled By	Ted Meriv	wether/l	Mike Gribbi	n										
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
Total Mercury by	CVAA								EPA 245.1 Rev 3.0					
Mercury				<0.000093	mg/L	1				0.00020	0.000093 0	6/20/2019 13:	:11	CGL
Total Cyanide				0.0022	mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020 0	6/18/2019 12:	23	CGL
Sample: 06	S-3 Ted Meriv	vether/N	vike Gribbi								Samp	oled 06/13	/2019	@ 12:07
pH - Field			N 1967 1973	6.28	su	1			SM 4500 H+ B	1.00	C	6/13/2019 12:	:07	TWM
Temperature at	pH - Field			16.9	deg C	1			SM 2550B		c	6/13/2019 12:	:07	TWM
Solids, Dissolve	d			290	mg/L	1			SM 2540C	10	c	6/17/2019 17:	:00	MGM/I
Chloride				170	mg/L	3			EPA 300.0	1.5	0.63 0	6/15/2019 1:	51	LJC
Fluoride				0.088	mg/L	1			EPA 300.0	0.50	0.060 0	6/14/2019 17:	02	LJC
Nitrogen, Nitrate				<0.050	mg/L	1			EPA 300.0	0.11	0.050 0	6/14/2019 17:	02	LJC
Sulfate				4.7	mg/L	1			EPA 300.0	0.50	0.29 0	6/14/2019 17:	02	LJC
Antimony				<1.6	ug/L	2			EPA 200.8	12	1.6 0	6/14/2019 23:	05	JGF
Arsenic				8.9	ug/L	2			EPA 200.8	300	2.0 0	6/14/2019 23:	05	JGF
Barium				330	ug/L	2			EPA 200.8	200	0.11 0	6/14/2019 23:	05	JGF
Beryllium				<0.15	ug/L	2			EPA 200.8	8.0	0.15 0	6/14/2019 23:	05	JGF
Boron				<0.19	mg/L	1			EPA 200.7	0.50	0.19 0	6/18/2019 7:3	32	JSW
Cadmium				<0.018	ug/L	2			EPA 200.8	0.54	0.018 0	6/14/2019 23:	05	JGF
Chromium				2.9	ug/L	2			EPA 200.8	14	0.14 0	6/14/2019 23:	05	JGF
Cobalt				1.3 (	ug/L	2	240200		EPA 200.8	10	0.63 0	6/14/2019 23:	05	JGF
Copper				2.5	ug/L	2			EPA 200.8	8.6	0.70 0	6/14/2019 23:	05	JGF

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# MICROBAC\*

# 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**

Analysis	000	Qualifier	Result Units	DF	Min Max	Method	Rpt Limit	MDL Analysis Dat	e 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 2	23:05 JGF
Lead			2.6 ug/L	2		EPA 200.8	6.2	0.16 06/14/2019 2	23:05 JGF
Manganese			3500 ug/L	2		EPA 200.8	100	0.21 06/14/2019 2	23:05 JGF
Nickel			2.0 ug/L	2		EPA 200.8	100	0.32 06/14/2019 2	23:05 JGF
Selenium			3.0 ug/L	2		EPA 200.8	1.0	0.33 06/14/2019 2	23:05 JGF
Silver		L3	<0.038 ug/L	2		EPA 200.8	7.6	0.038 06/14/2019 2	23:05 JGF
Thallium			<0.15 ug/L	2		EPA 200.8	0.94	0.15 06/14/2019 2	23:05 JGF
Vanadium			4.5 ug/L	2		EPA 200.8	10	0.38 06/14/2019 2	23:05 JGF
Zinc		L3	<13 ug/L	2		EPA 200.8	220	13 06/14/2019 2	23:05 JGF
Total Mercury by	CVAA					EPA 245.1 Rev 3.0			
Mercury		<	0.000093 mg/L	1			0.00020	0.000093 06/20/2019 1	13:17 CGL
Total Cyanide			<0.0020 mg/L	1		SM 4500-CN C/E-1999	0.0050	0.0020 06/18/2019 1	2:24 CGL
Sample: 07	S-4	Mike Cribbie						Sampled 06/	13/2019@ 10:55
pH - Field	Ted Menwether/	WIKe Gribbin	6.72 SU	1		SM 4500 H+ B	1.00	06/13/2019 1	10:55 TWM
Temperature at p	oH - Field		16.4 deg C	1		SM 2550B		06/13/2019 1	0:55 TWM
Solids, Dissolved	d		160 mg/L	1		SM 2540C	10	06/17/2019 1	17:00 MGM/I
Chloride			23 mg/L	1		EPA 300.0	0.50	0.21 06/14/2019 1	8:17 LJC
Fluoride			0.14 mg/L	1		EPA 300.0	0.50	0.060 06/14/2019 1	8:17 LJC
Nitrogen, Nitrate			0.19 mg/L	1		EPA 300.0	0.11	0.050 06/14/2019 1	8:17 LJC
Sulfate			47 mg/L	1		EPA 300.0	0.50	0.29 06/14/2019 1	8:17 LJC
Antimony			<1.6 ug/L	2		EPA 200.8	12	1.6 06/14/2019 2	3:11 JGF
Arsenic			<2.0 ug/L	2		EPA 200.8	300	2.0 06/14/2019 2	3:11 JGF
Barium			34 ug/L	2		EPA 200.8	200	0.11 06/14/2019 2	3:11 JGF
Beryllium			<0.15 ug/L	2		EPA 200.8	8.0	0.15 06/14/2019 2	3:11 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 2	3:11 JGF
Chromium			2.3 ug/L	2		EPA 200.8	14	0.14 06/14/2019 2	3:11 JGF

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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**

Analysis	00	OC Qualifie	or Result Units	DF	Min	Max	Method	Rpt Limit	MDL Analys	sis Date	Tech
Sample: 07	S-4								Sampled	06/13/201	9@ 10:55
Sampled By	Ted Meriweth	er/Mike Grib	bin								
Cobalt			<0.63 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
Total Mercury by	CVAA						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 Sampled By	S-5 Ted Meriweth	er/Mike Gribl	bin						Sampled	06/13/201	9@ 13:13
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, Dissolve	d		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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## 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** 

Analysis	0	ooc	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL	Analys	is Date	Tech
Sample: 08	S-5									Sar	npled	06/13/201	9@ 13:13
Sampled By	Ted Meriwe	ther/	Mike Gribb	in									
Cadmium				<0.018 ug/L	2			EPA 200.8	0.54	0.018	06/14/2	2019 23:17	JGF
Chromium				1.4 ug/L	2			EPA 200.8	14	0.14	06/14/2	2019 23:17	JGF
Cobalt				<0.63 ug/L	2			EPA 200.8	10	0.63	06/14/2	2019 23:17	JGF
Copper				<0.70 ug/L	2			EPA 200.8	8.6	0.70	06/14/2	2019 23:17	JGF
Iron				560 ug/L	2			EPA 200.8	2000	33	06/14/2	2019 23:17	JGF
Lead				<0.16 ug/L	2			EPA 200.8	6.2	0.16	06/14/2	2019 23:17	JGF
Manganese				33 ug/L	2			EPA 200.8	100	0.21	06/14/2	2019 23:17	JGF
Nickel				4.3 ug/L	2			EPA 200.8	100	0.32	06/14/2	2019 23:17	JGF
Selenium				<0.33 ug/L	2			EPA 200.8	1.0	0.33	06/14/2	2019 23:17	JGF
Silver			L3	<0.038 ug/L	2			EPA 200.8	7.6	0.038	06/14/2	2019 23:17	JGF
Thallium				<0.15 ug/L	2			EPA 200.8	0.94	0.15	06/14/2	2019 23:17	JGF
Vanadium				<0.38 ug/L	2			EPA 200.8	10	0.38	06/14/2	2019 23:17	JGF
Zinc			L3	<13 ug/L	2			EPA 200.8	220	13	06/14/2	2019 23:17	JGF
Total Mercury by	CVAA							EPA 245.1 Rev 3.0					
Mercury				<0.000093 mg/L	1				0.00020	0.000093	06/20/2	2019 13:20	CGL
Total Cyanide				<0.0020 mg/L	1			SM 4500-CN C/E-1999	0.0050	0.0020	06/17/2	2019 14:34	CGL
Sample: 09	S-6									San	pled	06/13/201	9@ 12:57
Sampled By	Ted Meriwa	ther/N	like Gribbi	n					4.00		00/40/	040 40.57	734/84
pH - Field	in the second			6.04 SU	1			SM 4500 H+ B	1.00		06/13/2	2019 12:57	TVVM
Temperature at p	oH - Field			18.5 deg C	1			SM 2550B			06/13/2	2019 12:57	IVVM
Solids, Dissolved	d			220 mg/L	1			SM 2540C	10		06/17/2	2019 17:00	MGM/I
Chloride				25 mg/L	1			EPA 300.0	0.50	0.21	06/14/2	2019 18:47	LJC
Fluoride				0.12 mg/L	1			EPA 300.0	0.50	0.060	06/14/2	2019 18:47	LJC
Nitrogen, Nitrate				3.4 mg/L	1			EPA 300.0	0.11	0.050	06/14/2	2019 18:47	LJC
Sulfate				67 mg/L	1			EPA 300.0	0.50	0.29	06/14/2	2019 18:47	LJC
Antimony	105-10	_		<1.6 ug/L	2			EPA 200.8	12	1.6	06/14/2	2019 23:36	JGF
Arsenic				<2.0 ug/L	2			EPA 200.8	300	2.0	06/14/2	2019 23:36	JGF
Barium				55 ug/L	2			EPA 200.8	200	0.11	06/14/2	2019 23:36	JGF

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L9F0808

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 07/15/2019 06/13/2019

#### **Special Quarterly Sampling Jun 2019**

Analysis	000	Qualifier	r Result Units	DF	Min Ma	x Method	Rpt Limit	MDL Analysis Date	Tech
Sample: 09	S-6							Sampled 06/13/20	19@ 12:57
Sampled By	Ted Meriwether/	Mike Gribb	bin						
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
Total Mercury by	CVAA					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:	
Laboratory	Analysis	Method
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):**

 Certificate ID
 Agency

 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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Microbac Laboratories, Inc.



### **CERTIFICATE OF ANALYSIS**

### L9C0364

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer # 03/20/2019 03/28/2019 03/08/2019 E5660

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result U	nits DF	Min	Max	Method	Rp Limi	t Cus t Limit	MDL	Analysis	Date	Tech
Sample: 01	Well C-1									Sar	npled	03/08/2019	9@ 10:10
Sampled By	David Richardso	n	200 mg	<i>n c</i>			ED4 200 0				00/40/00	10 10-11	1.10
Sunale			300 mg	/L -			EPA 300.0	2.5			03/12/20	19 19.41	LJU
Boton			<0.50 mg	/L 1			EPA 200.7	0.50			03/16/20	19 6:24	JSW
Cadmium			<0.002 mg	/L 1			EPA 200.7	0.010	0.002	0,00050	03/16/20	19 6:24	JSW
lron			8.2 mg	/L 1			EPA 200.7	0.020			03/16/20	19 6:24	JSW
Sample: 02	Well C-2									Sar	npled	03/08/2019	@ 10:25
Sampled By	David Richardson	n											
Sulfate			270 mg	/L 5			EPA 300.0	2,5			03/12/20	19 19:56	LJC
Boron			<0.50 mg/	/L 1			EPA 200.7	0.50			03/16/20	19 6:31	JSW
Cadmium			<0.002 mg/	/L 1			EPA 200.7	0.010	0.002	0.00050	03/16/20	19 6:31	JSW
Iron			15 mg/	/L 1			EPA 200.7	0.020			03/16/20	19 6:31	JSW
Sample: 03	Well C-3									Sar	npled	03/08/2019	@ 10:40
Sampled By	David Richardso	n	70	<i>u</i>			ED4 000 0	<u>م</u> د			00140100	10 00.44	1.10
Sullate			72 mg/	/L 3			EPA 300.0	2.5			03/12/20	19 20:11	
Boron			<0.50 mg/	/L 1			EPA 200.7	0.50			03/16/20	19 6:37	JSW
Cadmium			<0.002 mg/	/L 1			EPA 200.7	0.010	0.002	0,00050	03/16/20	19 6:37	JSW
Iron			1.1 mg/	/L 1			EPA 200.7	0.020			03/16/20	19 6:37	JSW
Sample: 04	Well S-2									Sar	npled	03/08/2019	@ 11:45
Sampled By	David Richardsoi	1	110 mm	// 5			FPA 300 0	25			03/12/20	19 20 26	LIC
Boron			19 mg	 // 1			EPA 200 7	 0.50			03/16/20	10 0.44	1510/
Cadmium			0.0059 mg	/1 1			EPA 200.7	0.010	0.002	0.00050	03/16/20	19 9.44	JSW
Iron			200 mg/	/L 5(	5		EPA 200.7	1.0	0.002		03/19/20	19 21:37	JSW
			200		-								
Sample: 05	Well S-3									Sar	npled	03/08/2019	@ 11:24
Sulfate	Havid Richardson	9 	7 n	// E			EDA 200 A	ΆΕ			13145150	10 20.11	
Boron			0.50 mg/	/L 1			EPA 200.7	2.5			03/16/20	19 9:51	JSW

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#### **CERTIFICATE OF ANALYSIS**

## L9C0364

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 03/28/2019 03/08/2019

#### **Quarterly Well Sampling**

,

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	F Lì	Rpt Cus nit Limit	MDL	Analysis	Date	Tech
Sample: 05 Sampled By	Well S-3 David Richardsor	n								Sa	mpled	03/08/201	9@ 11:24
Cadmium			<0.002 mg/L	1			EPA 200.7	0.01	0 0.002	0.0005	0 03/16/20	9:51	JSW
Iron			49 mg/L	10			EPA 200.7	0.2	20		03/19/20	19 21:43	JSW
Sample: 06	Well S-4									Sa	mpled	03/08/201	9@ 11:03
Sampled By Sulfate	David Richardsor	1	41 mg/L	5			EPA 300.0	2	.5		03/12/20	19 20:56	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.5	i0		03/16/20	19 9:07	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.01	0 0.002	0.0005	0 03/16/20	19 9:07	JSW
Iron		M3	6.2 mg/L	1			EPA 200.7	0.02	0		03/16/20	19 9:07	JSW
Sample: 07 Sampled By	Well S-5 David Richardsor	ı								Sa	mpled	03/08/2019	9@ 9:55
Sulfate			230 mg/L	5			EPA 300.0	2	5		03/12/20	19 21:56	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.5	0		03/16/20	19 9;57	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.01	0 0.002	0.0005	0 03/16/20	19 9:57	JSW
Iron			2.2 mg/L	1			EPA 200.7	0.02	0		03/16/20	19 9:57	JSW
Sample: 08 Sampled By	Well S-6 David Richardsor	1								Sa	mpled	03/08/2019	9@ 12:45
Sulfate			61 mg/L	5			EPA 300.0	2.	.5		03/12/20	19 22:11	LJC
Boron			<0.50 mg/L	1			EPA 200.7	0.5	0		03/16/20	19 10:03	JSW
Cadmium			0.0037 mg/L	1			EPA 200.7	0.01	0 0.002	0.0005	0 03/16/20	19 10:03	JSW
lron			1.0 mg/L	1			EPA 200.7	0.02	0		03/16/20	19 10:03	JSW
Sample: 09 Sampled By	Well S-1 Swa David Richardson	amp								Sa	mpled	03/08/201	9@ 12:15
Sulfate			21 mg/L	5			EPA 300.0	2	5		03/12/20	19 22:26	ЫÇ
Boron			<0.50 mg/L	1			EPA 200.7	0.5	0		03/16/20	19 10:09	JSW
Cadmium			<0.002 mg/L	1			EPA 200.7	0.01	0 0.002	0.0005	0 03/16/20	19 10:09	JSW
Iron			14		annizășisinnă	àrianna an	E04 266 7	0.04			02/46/00		

#### **Qualifier Definitions**

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#### **CERTIFICATE OF ANALYSIS**

### L9C0364

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 03/28/2019 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:

0.02/07.457.05 M.M.A.

al Ame

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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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 and a stand of the stand of the standard of the standard standard standard standard standard standard standard s

IEGNOIS ENVIRONWENTAL 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

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.

LIST TYPE OF WASTE: COal Combustion By Products A.

If there is more than one type of waste, please attach a summary of each waste type and the amounts.

#### WASTE VOLUME SUMMARY Β.

IL 532 2428

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 Statues 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 LPC 536 Rev. Oct. 03 the Forms Management Center.

2125 S. First Street, Champaign, IL 61820 (217) 278-5800 1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120 9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000 595 S. State Street, Elgin, IL 60123 (847) 608-3131

2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200 412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022 4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

Page 1

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## C. PROPOSED ACTIVITIES

1. Expected amount of waste to be disposed on-site January 1, 2021 thru December 31, 2021:

(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

- Copies of all identification reports required under 35 Ill. Adm. Code 811.404.
- 2. \_\_\_\_\_ 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. MCLAURUN Name (print/type) Signature Email: Juclaurin @ Sipower. org 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



IEEMOIS 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,

Stope Anight

Hope Wright Waste Reduction and Compliance Section Compliance Unit Bureau of Land

Enclosure

HW:jab\Document2

2125 S. First Street, Champaign, IL 61820 (217) 278-5800 1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120 9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000 595 S. State Street, Elgin, IL 60123 (847) 608-3131 2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200 412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022 4302 N. Main Street, Rockford, IL 61103 (815) 987-7760 a tamini kata tamini kan kata da sa ta

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Microbac Laboratories, Inc., Louisville

## CERTIFICATE OF ANALYSIS

### L0L1503

#### Southern Illinois Power Coop.

Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959 Project Name: Quarterly Well Sampling

Project / PO Number: N/A Received: 12/23/2020 Reported: 01/14/2021

#### Analytical Testing Parameters

e 5 e

Client Sample ID: Well S-2 Sample Matrix: Ground Wate Lab Sample ID: L0L1503-01	r				Collect Collect	ed By: Tom ion Date: 12/2	W Mosley 23/2020 10:53	
Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analys
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 Subcontra	cted to: Micro	bac Labor	atories, Inc.	- Chicago	land		
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

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Microbac Laboratories, Inc., Louisville

## CERTIFICATE OF ANALYSIS

### L0L1503

Client Sample ID: Well S-3 Sample Matrix: Ground Wat Lab Sample ID: L0L1503-02	er				Collect Collect	ed By: Tom ion Date: 12/23	W Mosley 3/2020 10:36	1
Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 4500-H+ B-2011								
рН	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 Subcontra	cted to: Micro	bac Labor	atories, Inc.	- Chicago	land		
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

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Microbac Laboratories, Inc., Louisville

## CERTIFICATE OF ANALYSIS

### L0L1503

Client Sample ID: Well S-4 Sample Matrix: Ground Water Lab Sample ID: L0L1503-03					Collect Collect	ed By: Tom ion Date: 12/23	W Mosley 3/2020 10:10	
Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 4500-H+ B-2011								
рН	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 Subcontra	cted to: Micro	bac Labor	atories, Inc.	- Chicago	land		
Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994)								

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ug/L

12/31/20 0847

01/05/21 1237

BTM

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Method: EPA 200.8, Rv. 5.4 (1994)

Boron

Microbac Laboratories, Inc., Louisville

## CERTIFICATE OF ANALYSIS

### L0L1503

Client Sample ID: Well S-5 Sample Matrix: Ground Water Lab Sample ID: L0L1503-04					Collect Collect	ed By: Tom ion Date: 12/23	W Mosley 3/2020 12:41	
Field Parameters	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: SM 4500-H+ B-2011	6 56		1.00	811			12/22/20 12/1	7714
	0.50		1.00	5.0.			12/23/20 1241	1 Z.M
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 Subcontra	cted to: Micro	bac Labor	atories, Inc.	- Chicago	land		
Metals Dissolved by ICPMS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst

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ug/L

12/31/20 0847

01/05/21 1242

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Microbac Laboratories, Inc., Louisville

## CERTIFICATE OF ANALYSIS

## L0L1503

Client Sample ID:       Well S-6         Sample Matrix:       Ground Water         Lab Sample ID:       L0L1503-05					Collect Collect	ed By: Tom ion Date: 12/23	W Mosley 3/2020 11:50	
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 Iron	<1.0 <60		1.0 60	ug/L ug/L		01/12/21 1022 01/12/21 1022	01/12/21 1729 01/12/21 1729	WZL WZL
Anions by IC	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 300.0, Rv. 2.1 (1993) Chloride Sulfate	30 81		2.5 2.5	mg/L mg/L	Ohio	12/29/20 2103 12/29/20 2103	12/29/20 2103 12/29/20 2103	LJC LJC
Metals Dissolved by ICPMS	Result	Limit(s)	Dac Labor	atories, inc.	- Unicago	Prepared	Analyzed	Analyst
Method: EPA 200.8, Rv. 5.4 (1994) Boron	8.7	Linit(3)	5.0	ug/L	Note	12/31/20 0847	01/05/21 1247	BTM

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Microbac Laboratories, Inc., Louisville

## CERTIFICATE OF ANALYSIS

### L0L1503

Client Sample ID:Well S-1 SwampSample Matrix:Ground WaterLab Sample ID:L0L1503-06					Collect Collect	ed By: Tom ion Date: 12/2	W Mosley 3/2020 11:23	
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)								1.1.1
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)			- 19 A					
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
Ana	alyses Subcontra	cted to: Micro	bac Labor	atories, Inc.	- Chicago	land		
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 <b>bold</b> have exceeded a limit define Microbac Laboratories, Inc. advises the reci Federal, state or local authorities before act	ed for this project. pient of this report ing on the data.	Limits are prov to confirm such	ided for ref 1 limits and	erence but as units of conc	s regulatory entration w	limits change freq ith the appropriate	quently,	
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)

3.0

Microbac Laboratories, Inc Chicagoland		-
E-10397	Kansas Dept Health & Env. NELAP (i)	
108202	Kentucky EPPC analysis Underground Storage Tanks (k)	
90147	Kentucky Wastewater Laboratory Certification Program (j)	

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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 <<u>https://www.microbac.com/standard-terms-conditions></u>.

Reviewed and Approved By:

a P

JAROD ROOP Customer Relationship Specialist Reported: 01/14/2021 10:11

Page 7 of 18



#### **CERTIFICATE OF ANALYSIS**

L011291

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959

Date Reported Date Due Date Received Customer # 10/21/2020 10/16/2020 09/27/2020 E5660

**Quarterly Well Sampling** 

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis	Date	Tech
Sample: 01	Well C-1 Ted Meriwether								Sa	mpled	09/27/2020	0@ 10:14
pH - Field	ied mermenter		6.05 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/20	20 10:14	TWM
Solids, Dissolved	i		1100 mg/L	66666			SM 2540 C-2011	17		09/30/20	20 15:05	RXG
Cadmium, Disso	lved		<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/20	20 19:13	7800 ŀ
Iron, Dissolved			<60 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/20	20 19:13	7800 ŀ
Chloride			330 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/20	20 22:33	KTL
Sulfate			290 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/20	20 22:33	KTL
Total Recoverabl Dissolved Metals	e ; by						EPA 200.8, Rv. 5.4 (1994)					
Boron			520 ug/L	10				50	40	10/05/20	20 13:34	CGL
Sample: 02	Well C-2								Sa	npled	09/27/2020	0@ 9:50
pH - Field	ten menwenser		6.08 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/20	20 9:50	TWM
Solids, Dissolved	i		400 mg/L	1			SM 2540 C-2011	10		09/30/20	20 15:05	RXG
Cadmium, Disso	ved		<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/20	20 19:25	7800 ŀ
Iron, Dissolved			1100 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/20	20 19:25	7800 li
Chloride			15 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/20	20 22:47	KTL
Sulfate			98 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/20	20 22:47	KTL
Total Recoverabl Dissolved Metals	e by						EPA 200.8, Rv. 5.4 (1994)					
Boron			66 ug/L	5				25	20	10/05/20	20 13:38	CGL
Sample: 03	Well C-3								Sar	npled	09/27/2020	@ 11:00
Sampled By	Ted Meriwether						014 (500 14) 5 0044	4.00		00/07/00	0.44-00	7.404
PH - FIEld			6.91 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/20	20 11:00	
Codmium Discolved	uad		1500 mg/L	ן א			SM 2040 G-2011	10		40/04/202	20 15:05	7000
Caomium, Dissol	ved		<u>, , , , , , , , , , , , , , , , , , , </u>		ata ang sang sang sang sang sang sang sang		EPA 200.8, RV. 5.4 (1994)	1.0	ádese i Neszer Valiató	10/01/20	20.19:29	7800 l
iron, Dissolved			<60 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/20	20 19:29	7800 ŀ
Chloride			440 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/20	20 23:02	KTL

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Microbac Laboratories, Inc.



#### **CERTIFICATE OF ANALYSIS**

L011291

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 10/16/2020 09/27/2020

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL	Analysis	: Date	Tech
Sample: 03	Well C-3								Sai	mpied	09/27/202	0@ 11:00
Sampled By	Ted Meriwether											
Sulfate			70 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/07/20	020 23:02	KTL
Total Recoverab Dissolved Metal ICP/MS	<u>s by</u>		24.000	4			EPA 200.8, Rv. 5.4 (1994)	5.0		10/05/01	00 40.40	201
Boron			31 ug/L	ĩ				5.0	4.0	10/05/20	JZU 13:43	UGL
Sample: 04	Well S-2								Sar	npled	09/27/2020	0@ 13:15
Sampled By	Ted Meriwether											
pH - Field			6.03 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/20	20 13:15	TWM
Solids, Dissolve	d		830 mg/L	66666			SM 2540 C-2011	17		09/30/20	20 15:05	RXG
Cadmium, Disso	lved		<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/20	20 19:41	7800 l·
Iron, Dissolved			16000 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/20	20 19:41	7800 ŀ
Chloride			370 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/20	20 0:17	KTL
Sulfate			110 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/20	20 0:17	KTL
Total Recoverab Dissolved Metals	le_ s by_						EPA 200.8, Rv. 5.4 (1994)					
Boron			2300 ug/L	50				250	200	10/06/20	20 12:22	CGL
Sample: 05	Well S-3								Sar	npled	09/27/2020	@ 12:50
Sampled By	Ted Meriwether											
pH - Field			6.05 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/20	20 12:50	TWM
Solids, Dissolved	ł		540 mg/L	66666			SM 2540 C-2011	17		09/30/20	20 15:05	RXG
Cadmium, Disso	lved		<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/20	20 19:45	7800 ŀ
Iron, Dissolved			6600 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/20	20 19:45	7800 ŀ
Chloride			170 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/20	20 0:32	KTL
Sulfate			25 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/20	20 0:32	KTL.
Total Recoverabl Dissolved Metals ICP/MS	e by						EPA 200.8, Rv. 5.4 (1994)					
Boron			43 ug/L	1				5.0	4.0	10/05/20	20 13:52	CGL
Sample: 06 Sampled By	Well S-4 Ted Meriwether								San	ıpled	09/27/2020	@ 12:20

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### **CERTIFICATE OF ANALYSIS**

## L0I1291

Southern Illinois Power Coop. Jason McLaurin

.

Date Due Date Received 10/16/2020 09/27/2020

#### **Quarterly Well Sampling**

~ ~ ~

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL	Analys	is Date	Tech
Sample: 06	Well S-4								Sa	mpled	09/27/202	0@12:20
Sampled By pH - Field	Ted Meriwether		6.66 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/2	020 12:20	TWM
Solids, Dissolve	d		360 ma/L	1			SM 2540 C-2011	10		09/30/2	020 15:05	RXG
Cadmium, Disso	lived		<1.0 ug/L	1			EPA 200.8. Rv. 5.4 (1994)	1_0		10/01/2	020 19:50	7800 1
Iron, Dissolved			<60 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2	020 19:50	7800 l
Chloride			31 ma/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2	020 0:47	KTI
Sulfate			50 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2	020 0:47	KTL
Total Recoverab Dissolved Metals ICP/MS	ie_ s by_						EPA 200.8, Rv. 5.4 (1994)					
Boron		J	4.1 ug/L	1				5.0	4.0	) 10/05/2	020 13:57	CGL
Sample: 07	Well S-5								Sa	mpled	09/27/202	0@ 9:30
Sampled By	Ted Meriwether		600.011					4.00				
pri - rieku Calida, Diasalwa			6.00 5.0.	1			SM 4500-H+ B-2011	1.00		09/27/2	020 9:30	IWM
Solids, Dissolved	1		420 mg/L	1			SM 2540 C-2011	10		09/30/2	020 15:05	RXG
Cadmium, Disso	Ived		<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/2	020 19:54	7800 l
Iron, Dissolved			<60 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/2	020 19:54	7800 l
Chloride			38 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2	020 1:02	KTL
Sulfate			220 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/2	020 1:02	KTL
Total Recoverabl Dissolved Metals	e : by						EPA 200.8, Rv. 5.4 (1994)					
Boron			5.7 ug/L	1				5.0	4.0	10/05/2	020 14:02	CGL
Sample: 08	Well S-6								San	npled	09/27/2020	@ 12:00
Sampled By	Ted Meriwether											
pH - Field			6.10 S.U.	1			SM 4500-H+ B-2011	1.00		09/27/20	020 12:00	TWM
Solids, Dissolved			220 mg/L	1.25			SM 2540 C-2011	12		09/30/20	020 15:05	RXG
Cadmium, Dissol	ved		<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0		10/01/20	020 19:58	7800 ŀ
Iron, Dissolved			<60 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60		10/01/20	020 19:58	78001
Chloride			35 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/20	020 1:17	KTL
Suifate			64 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	2.5		10/08/20	020 1:17	KTL

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#### **CERTIFICATE OF ANALYSIS**

## L011291

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 10/16/2020 09/27/2020

#### **Quarterly Well Sampling**

\* , &·

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	MDL Analysis D	late Tech
Sample: 08	Well S-6								Sampled (	09/27/2020@12:00
Sampled By	Ted Meriwether									
Total Recoverab Dissolved Metals	<u>le</u> s by						EPA 200.8, Rv. 5.4 (1994)			
Boron			<4.0 ug/L	1				5.0	4.0 10/05/2020	) 14:15 CGL
Sample: 09	Well S-1 Sw	amp							Sampled (	)9/27/2020@ 11:35
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	i		190 mg/L	66 <del>6</del> 6f			SM 2540 C-2011	17	09/30/2020	) 15:05 RXG
Cadmium, Disso	lved		<1.0 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	1.0	10/01/2020	0 20:02 7800
Iron, Dissolved			440 ug/L	1			EPA 200.8, Rv. 5.4 (1994)	60	10/01/2020	20:02 7800
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
Total Recoverabl Dissolved Metals	e s.by						EPA 200.8, Rv. 5.4 (1994)			
Boron			18 ug/L	1				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**

## L0I1291

Jason McLaurin	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 a	t 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 Dissolv	ved 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) Kentucky Wastewater Laboratory Certification Program (j) 90147

**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 Date Due Date Received Customer # 02/22/2021 06/29/2020 06/22/2020 E5660

Quarterly Well Sampling

Analysis	000	Qualifier Res	ult Units	DF	Min	Max	Method	Rpt Limit		Analysis I	Date	Tech
Sample: 01	Well C-1								San	npled	06/22/2020	@ 10:07
Sampled By Chloride	David Richardson	) 3	20 mg/l	5			EPA 300.0, Rv. 2.1 (1993)	10		06/23/202	20 17:21	LJC
Sulfate		2	90 ma/l	5			EPA 300.0, Rv. 2.1 (1993)	10		06/23/202	0 17:21	
Boron by EPA 60	110D	- 0 6	29 mg/i	1			EPA 6010D	0 100		06/26/202	0 15:17	KHI
Iron by EPA 6010	מה	0.7	10 mg/l	1			EPA 6010D	0.200		06/26/202	0 15:17	KHL
Cadmium by EP	A 6020	•••	io mgiz				EPA 6020	0.200		••		
Cadmium	<u> 1.7787</u>	<0.0006	00 mg/L	1			0.	.000600		06/26/202	0 13:37	JYH
Sample: 02 Sampled By	Well C-2 David Richardson								San	ıpled	06/22/2020	@ 9:57
Chioride		:	24 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10		06/23/202	0 17:35	LJC
Sulfate		10	60 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10		06/23/202	0 17:35	LJC
Boron by EPA 60	10D	<0.10	00 mg/L	1			EPA 6010D	0.100		06/26/202	0 15:28	KHL
Iron by EPA 6010	סנ	11	.4 mg/L	1			EPA 6010D	0.200		06/26/202	0 15:28	KHL
Cadmium by EP/	<u>A 6020</u>						EPA 6020					
Cadmium		<0.00060	)0 mg/L	1			0.	.000600		06/26/202	0 13:41	JAH
Sample: 03	Well C-3								Sam	pled	06/22/2020	@ 11:30
Sampled By Chloride	David Richardson	44	10 ma/L	5			EPA 300.0, Rv. 2.1 (1993)	10		06/23/202	0 17:49	LJC
Sulfate		8	32 ma/L	5			EPA 300.0. Rv. 2.1 (1993)	10		06/23/202	0 17:49	LJC
Boron by EPA 60	10D	<0.1(	0 ma/L	1			EPA 6010D	0.100		06/26/202	0 15:39	KHL
Iron by EPA 6010	D	3.0	07 mg/L	1			EPA 6010D	0.200		06/26/202	0 15:39	KHL
Cadmium by EPA	A 6020		Ť				EPA 6020					
Cadmium		<0.00060	)0 mg/L	1			0.	000600		06/26/202	0 13:44	JYH
Sample: 04	Well S-2								Sam	pled	06/22/2020	@ 10:50
Sampled By	David Richardson	~	•••				EDN 800 0 E - 5 4 (4000)	40		001001000	0 40.55	
Chioride		3:	ou mg/⊾	5	texter and a		EPA 300.0, KV. 2.1 (1993)	10		00/23/202	0 10:00	
	445	( 	⊭ mg/L	5			EPA 300.0, KV. 2.1 (1993)	10		00/23/202	010:00	
Boron by EPA 60	100	1.6	oz mg/L	1			EPA 6010D	0.100		00/20/202	0 15:43	ΛΠL

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#### **CERTIFICATE OF ANALYSIS**

#### L0F1201

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 06/29/2020 06/22/2020

#### **Quarterly Well Sampling**

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Analysis	000	Qualifier	Result U	nits	DF	Min	Max	Method	Rpt Limit	Analysi	s Date	Tech
Sample: 04 Sampled By D	Well S-2 Pavid Richardson	n								Sampled	06/22/2020	0@ 10:50
Iron by EPA 6010D	)	-	195 mg	/L	1			EPA 6010D	0.200	06/26/2	020 15:43	KHL
Cadmium by EPA (	<u>5020</u>							EPA 6020				
Cadmium		<0	.000600 mg	/L	1				0.000600	06/26/2	020 14:02	JYH
Sample: 05	Well S-3									Sampled	05/22/2020	@ 10:34
Sampled By D	avid Richardson	า							<i>(</i> <b>^</b>	00/00/0		
Chlonde			80 mg,	/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2	020 19:10	LJC
Suitate			18 mg/	/L	5			EPA 300.0, RV. 2.1 (1993)	10	06/23/2	J20 19:10	LJC
Boron by EPA 6010	םנ		<0.100 mg/	/L	1			EPA 6010D	0.100	06/26/2	020 15:47	KHL
Iron by EPA 6010D			63.7 mg/	/L.	1			EPA 6010D	0.200	06/26/2	020 15:47	KHL
Cadmium by EPA 6	<u>5020</u>	-0	000600	a	4			EPA 6020	0.000600	06/06/00	100 14:06	NH
Cadmidni		<b>~</b> 0.	ooooo ing/	<b>L</b>	ŀ				0.000600	00/20/20	14:06	JTH
Sample: 06	Well S-4									Sampled	06/22/2020	@ 10:20
Sampled By Da	avid Richardsor	1	20 mai	'n	F			EDA 200 0 Du 3 1 (1002)	10	00100100	100 10-04	
Childre			50 mg/	h	5			EPA 300.0, Rv. 2.1 (1993)	10	00/23/21	120 19.24	
	-		51 mg/	L.	о 4			EPA 300.0, RV. 2.1 (1993)	01	00/23/20	120 19.24	
Boron by EPA 6010			<0.100 mg/	L.	1			EPA 6010D	0.100	06/26/20	20 15:50	KHL
Iron by EPA 6010D			7.60 mg/	L	1			EPA 6010D	0.200	06/26/20	20 15:50	KHL
Cadmium by EPA 6	020	-0	000600	1	1			EPA 6020	0,00000	ردا عدا عم	120 14-10	IVH
Çadınıdırı		<b>~</b> 0.	oooooo mgr	L	I				3.00000	00/20/20	120 14.10	JIN
Sample: 07	Nell S-5									Sampled	06/22/2020	@ 9:40
Chloride			37 mg/	L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/20	20 19:38	LJC
Sulfate			220 mg/	L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/20	20 19:38	LJC
Boron by EPA 6010	D		<0.100 mg/	Ļ	1			EPA 6010D	0.100	06/26/20	20 15:54	KHL
Iron by EPA 6010D			3.50 mg/	L	1			EPA 6010D	0.200	06/26/20	20 15:54	KHL
Cadmium by EPA 6	020		Ū					EPA 6020				
Cadmium		<0.0	000600 mg/l	Ĺ.	1			C	0.000600	06/26/20	20 14:13	ЈҮН
Sample: 08 V	Vell S-6									Sampled	06/22/2020	@ 11:47

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#### **CERTIFICATE OF ANALYSIS**

L0F1201

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 06/29/2020 06/22/2020

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Da	te Tech
Sample: 08 Sampled By	Well S-6 David Richardson	n							Sampled 06,	/22/2020 @ 11:47
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 6	010D		<0.100 mg/L	1			EPA 6010D	0.100	06/26/2020	15:58 KHL
Iron by EPA 601	0D		2.41 mg/L	1			EPA 6010D	0.200	06/26/2020 <sup>-</sup>	15:58 KHL
Cadmium by EP	A 6020						EPA 6020			
Cadmium			:0.000600 mg/L	1			0.	.000600	06/26/2020	l4:17 JYH
Sample: 09 Sampled By	Well S-1 Swa David Richardsor	amp າ							Sampled 06/	22/2020@ 11:10
Chloride			21 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 2	20:06 LJC
Suifate			34 mg/L	5			EPA 300.0, Rv. 2.1 (1993)	10	06/23/2020 2	20:06 LJC
Boron by EPA 60	010D		<0.100 mg/L	1			EPA 6010D	0.100	06/26/2020 1	6:02 KHL
Iron by EPA 601	0D		15.1 mg/L	1			EPA 6010D	0.200	06/26/2020 1	6:02 KHL
Cadmium by EP.	<u>A 6020</u>						EPA 6020			
Cadmium		<	0.000600 mg/L	1			0.	000600	06/26/2020 1	4:21 JYH

#### **Qualifier Definitions**

The following analyses were subcontracted to a qualified laboratory: Laboratory Marietta

Analysis Cadmium by EPA 6020 Iron by EPA 6010D Boron by EPA 6010D Method EPA 6020 EPA 6010D EPA 6010D

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**CERTIFICATE OF ANALYSIS** 

## L0F1201

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 06/29/2020 06/22/2020

**Quarterly Well Sampling** 

Report Comments

**Reviewed and Approved By:** 

avid Richardson

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David Richardson Field Services Tech Paducah Reported: 02/22/2021 12:27

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Page 4 of 20



#### **CERTIFICATE OF ANALYSIS**

L0C1448

Southern Illinois Power Coop. Jason McLaurin 11543 Lake of Egypt Road Marion, IL 62959 Date Reported Date Due Date Received Customer # 04/17/2020 04/15/2020 03/26/2020 E5660

Analysis         OC         Qualifier         Result Units         DF         Min         Max         Method         Rpt Limit         Analysis Date         Tech           Sample: 01         Well C-1 Sample: 0200000000000000000000000000000000000	Quarte	rly Well Samplin	g									
Sample: 21 Well C-1         Sample By Tom W Mosley           Arsenic           Colspan="2">Colspan="2">Colspan="2"         Sample Colspan="2">Sample Colspan="2"         Sample Colspan="2" <t< th=""><th>Analysis</th><th>000</th><th>Cualifie</th><th>r Result Units</th><th>DF</th><th>Min</th><th>Max</th><th>Method</th><th>Rpt Limit</th><th>A</th><th>nalysis Date</th><th>Tech</th></t<>	Analysis	000	Cualifie	r Result Units	DF	Min	Max	Method	Rpt Limit	A	nalysis Date	Tech
Sampled By Arsenio         <0.050 mg/L         1         EPA 6010D         0.050         04/01/202 17:38         JSW           Barium         0.012 mg/L         0.5         EPA 6010D         0.0050         04/01/2020 17:38         JSW           Baryillum         <0.0050 mg/L	Sample:	01 Well C-1		ė.						Samp	led 03/26	/2020@ 9:30
Arsenic         -0.050 mg/L         1         EPA 6010D         0.050         04/01/2020 17:38         JSW           Barviim         0.012 mg/L         0.5         EPA 6010D         0.0050         04/01/2020 17:38         JSW           Barviillum         <0.0050 mg/L	Sampled	d By Tom W Mosley	,	· .								
Barium         0.012 mg/L         0.5         EPA 6010D         0.0050         0.401/2020 17.38         JSW           Beryllium         <0.0050 mg/L	Arsenic	. •		<0.050 mg/L	1			EPA 6010D	0.050	0	4/01/2020 17:	38 JSW
Beryllium         <         <          EPA 6010D         0.0050         0.4/01/2020 17.38         JSW           Boron         0.43 mg/L         0.5         EPA 6010D         0.25         0.4/01/2020 17.38         JSW           Chromlum         <0.0050 mg/L	Barium	•		0.012 mg/L	0.5			EPA 6010D	0.0050	0	4/01/2020 17:	38 JSW
Boron         0.43 mg/L         0.5         EPA 6010D         0.25         0.401/2020 17:38         JSW           Chromium         <0.0500 mg/L	Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	0	4/01/2020 17:	38 JSW
Chromium         <0.0050 mg/L         0.5         EPA 6010D         0.0050         0.401/2020 17:38         JSW           Cobalt         <0.010 mg/L	Boron			0.43 mg/L	0.5			EPA 6010D	0.25	0	4/01/2020 17:	38 JSW
Coball         <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         0.0050         04/01/2020         17:38         JSW           Selenim         <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           Choide         350 mg/L         9         EPA 300.0 RV.2.1 (1993)         4.5         04/01/2020         6:25         JGF           Suifate         300 mg/L         1         EPA 300.0	Chromium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	0	4/01/2020 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         0.0050         04/01/2020 17:38         JSW           Selenium         <0.025 mg/L         0.5         EPA 6010D         0.010         04/01/2020 17:38         JSW           Thallum         <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           Choide         350 mg/L         9         EPA 300.0, Rv. 2.1 (1993)         4.5         04/01/2020 6:25         JGF           Fluoride         <0.00 mg/L         1         EPA 300.0, Rv. 2.1 (1993)         0.50         04/01/2020 6:25         JGF           Mitrogen, Nitrate	Cobalt			<0.010 mg/L	0.5			EPA 6010D	0.010	0.	4/01/2020 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	Соррег			<0.010 mg/L	0.5			EPA 6010D	0.010	04	4/01/2020 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	Iron			0.43 mg/L	0.5			EPA 6010D	0.010	0	4/01/2020 17:	38 JSW
Marganese         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	Lead			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04	4/01/2020 17:	38 JSW
Nickel       0.019 mg/L       0.5       EPA 6010D       0.010       0.4/01/2020 17:38       JSW         Selenium       <0.025 mg/L	Manganese	e		0.092 mg/L	0.5			EPA 6010D	0.0050	04	4/01/2020 17:	38 JSW
Selenium         <0.025 mg/L         0.5         EPA 6010D         0.025         04/01/2020 17:38         JSW           Thallum         <0.025 mg/L	Nickel			0.019 mg/L	0.5			EPA 6010D	0.010	04	4/01/2020 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	Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04	4/01/2020 17:	38 JSW
Zinc       <0.025 mg/L	Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025	04	4/01/2020 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	Zinc			<0.025 mg/L	0.5			EPA 6010D	0.025	04	4/01/2020 17:	38 JSW
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	Chloride	-		350 mg/L	9			EPA 300.0, Rv. 2.1 (1993)	4.5	04	4/01/2020 6:2	5 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. Antimony by EPA 6020       <0.000200 mg/L	Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03	3/31/2020 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	Nitrogen, N	itrate	H1	<0.11 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03	3/31/2020 17:	33 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         Antimony by EPA 6020       EPA 6020       EPA 6020       EPA 6020       0.00100       04/16/2020 11:00       JYH         Cadmium by EPA 6020       EPA 6020       EPA 6020       EPA 6020       0.000600       04/16/2020 11:00       JYH         Cadmium by EPA 6020	Sulfate			300 mg/L	9			EPA 300.0, Rv. 2.1 (1993)	4.5	04	1/01/2020 6:2	5 JGF
EPA 6020         Antimony by EPA 6020       EPA 6020         Antimony       <0.00100 mg/L	Mercury, To	otal 245.1 for Water		<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04	1/03/2020 12: <sup>.</sup>	16 TMM
Antimony       <0.00100 mg/L	samples NF Antimony by	PDES App. V EPA 6020		-				EPA 6020				
Cadmium by EPA 6020         EPA 6020           Cadmium by EPA 6020            Cadmium         <0.000600 mg/L	Antimony			<0.00100 mg/L	1			2.7.0020	0.00100	04	i/16/2020 11:(	HYL 00
Cadmium         <0.000600 mg/L         1         0.000600         04/16/2020 11:00         JYH           Sample: 02         Well C-2         sampled By         sampled By         03/26/2020 @ 9:44           Sampled By         Tom W Mosley           0.050         04/01/2020 17:45         JSW	Cadmium b	V EPA 6020						EPA 6020				
Sample: 02         Well C-2         Sampled By         Sampled By         Tom W Mosley           Arsenic         <0.050 mg/L	Cadmium			<0.000600 mg/L	1			(	0.000600	04	1/16/2020 11:0	HYL 0
Sampled By Sampled By Arsenic         Sampled         03/26/2020 (# 9:44           Arsenic         <0.050 mg/L	Sample: (	) 2 Well C-2										
Arsenic <0.050 mg/L 1 EPA 6010D 0.050 04/01/2020 17:45 JSW	Sampled	By Tom W Mosley								Sample	ad 03/26/2	2020 @ 9:44
	Arsenic			<0.050 mg/L	1			EPA 6010D	0.050	04	1/01/2020 17:4	5 JSW
Banum 0.024 mg/L 0.5 EPA 6010D 0.0050 04/01/2020 17:45 JSW	Barium			0.024 mg/L	0.5			EPA 6010D	0.0050	04	/01/2020 17:4	5 JSW

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#### **CERTIFICATE OF ANALYSIS**

### L0C1448

Southern Illinois P	ower Co	pop.		Date	20					
Jason McLaurin						Date	Received	03/26/20	)20	
Quarterly Well Sampling							·			
Analysis OOC	Qualifie	r Result	Units DF	Min	Max	Method	Rpt Elimit	Analysis I	Date	Tech
Sample: 02 Well C-2 Sampled By Tom W Mosley								Sampled	03/26/2020	@ 9:44
3eryllium		<b>&lt;0.0050</b> г	ng/L. 0.5			EPA 6010D	0.0050	04/01/202	0 17:45	JSW
Boron		<0.25 r	ng/L 0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/01/202	0 17:45	JSW
loron	:	<0.25 r	ng/L 0.5			EPA 6010D	0.25	04/01/202	0 17:45	JSW
admium		<0.0050 n	ng/L 0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/01/202	0 17:45	JSW
Chromium		<0.0050 л	ng/L 0.5			EPA 6010D	0.0050	04/01/202	0 17:45	JSW
Cobalt		0.022 л	1g/L 0.5			EPA 6010D	0.010	04/01/202	0 17:45	JSW
Copper		<0.010 n	ng/L 0.5			EPA 6010D	0.010	04/01/202	0 17:45	JSW
non		7.6 n	ng/L 0.5			EPA 200.7, Rv. 4.4 (1994)	0.010	04/01/202	0 17:45	JSW
юп		7.6 л	ng/L. 0.5			EPA 6010D	0.010	04/01/202	0 17:45	JSW
ead		<0.0050 n	ng/L 0.5			EPA 6010D	0.0050	04/01/202	0 17:45	JSW
langanese		24 n	ıg/L 10			EPA 6010D	0.10	04/03/202	0 16:00	JSW
lickel		<0.010 n	ng/L 0.5			EPA 6010D	0.010	04/01/202	0 17:45	JSW
elenium		<0.025 n	ng/L 0.5			EPA 6010D	0.025	04/01/202	0 17:45	JSW
hallium		0.031 п	ıg/L 0.5			EPA 6010D	0.025	04/01/202	0 17:45	JSW
inc		<0.025 n	ıg/L 0.5			EPA 6010D	0.025	04/01/202	0 17:45	JSW
hloride		2.4 п	ng/L 1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/202	0 17:47	JGF
luoride		<0.50 m	ng/L 1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/202	0 17:47	JGF
itrogen, Nitrate	H1	2.9 п	ıg/L 1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/31/202	0 17:47	JGF
ulfate		280 n	ig/L 1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020	) 17:47	JGF
tercury, Total 245.1 for Water amples NPDES App.	:	<0.000200 m	ıg/L. 1			EPA 245.1, Rv. 3 (1994) 0	.000200	04/03/2020	) 12:26	тмм
ntimony by EPA 6020		<0.00100 m	ia/L 1			EPA 0020	0.00100	04/16/202	) 11:04	JYH
admium by EPA 6020			· · · ·			EPA 6020		011101404		
admium		<0.000600 m	g/L 1			0	.000600	04/16/2020	0 11:04	JYH
Sample: 03 Well C-3 Sampled By Tom W Mosley								Sampled (	)3/26/2020	@ 12:00
nio		~0.050 m	g/L 1			EPA-6010D	0:060	04/01/202(	) 17:52	JSW
arium		0.18 m	g/L 0.5			EPA 6010D	0.0050	04/01/2020	) 17:52	JSW

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### **CERTIFICATE OF ANALYSIS**

### L0C1448

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 04/15/2020 03/26/2020

#### **Quarterly Well Sampling**

Analysis	000	Qualifier	Result Units	DF	Min	Max	Method	Rpt Limit	Ana	ysis Date	Tech
Sample: 03 Sampled By	Well C-3 Tom W Masley								Sampled	03/26/20	)20@12:00
Beryllium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/0	1/2020 17:52	2 JSW
Boron			<0.25 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04/0	1/2020 17:52	2 JSW
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25	04/0	1/2020 17:52	2 JSW
Cadmium			<0.0050 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/0	1/2020 17:52	JSW
Chromium			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/0	1/2020 17:52	s JSM
Cobalt			<0.010 mg/L	0.5			EPA 6010D	0.010	04/0	1/2020 17:52	2 JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010	04/0	1/2020 17:52	JSW
iron			2.0 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.010	04/0	1/2020 17:52	JSW
Iron			2.0 mg/L	0.5			EPA 6010D	0.010	04/0	1/2020 17:52	JSW
Lead			<0.0050 mg/L	0.5			EPA 6010D	0.0050	04/0	1/2020 17:52	JSW
Manganese			0.37 mg/L	0.5			EPA 6010D	0.0050	04/0	1/2020 17:52	JSW
Nickel			<0.010 mg/L	0.5			EPA 6010D	0.010	04/0	1/2020 17:52	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/0	1/2020 17:52	JSW
Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025	04/0	1/2020 17:52	JSW
Zinc			<0.025 mg/L	0.5			EPA 6010D	0.025	04/0	1/2020 17:52	JSW
Chloride			500 mg/L	13			EPA 300.0, Rv. 2.1 (1993)	6.5	04/0	1/2020 7:40	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/3	1/2020 18:01	JGF
Nitrogen, Nitrate		H1	<0.11 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11	03/3	1/2020 18:01	JGF
Sulfate			93 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/3	1/2020 18:01	JGF
Mercury, Total 24 samples NPDES	45.1 for Water App.	<	-0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994) 0.	.000200	04/0	3/2020 12:29	ТММ
Antimony by CFF	10020		<0.00100 ma/L	1			EFA 0020	0.00100	04/1	6/2020 11:07	ЛХН
Cadmium by EPA	<u>\ 6020</u>		one for mgr	•			EPA 6020	0.00100	• 11 •		
Cadmium			0.00113 mg/L	1			0.	.000600	04/1	6/2020 11:07	JAH
Sample: 04	Well S-2		1						Sampled	03/26/20	20@ 10:58
Sampled By	Tom W Mosley		· .								
Arsenic			<0.050 mg/l.	1			EPA 6010D	0.050	04/0	1/2020 17:58	JSW
Barium			0.94 mg/L	0.5			EPA 6010D	0.0050	04/0	1/2020 17:58	JSW

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### L0C1448

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 04/15/2020 03/26/2020

#### **Quarterly Well Sampling**

Analysis	000	Qualifie	r Resu	lt Units	DF	Min	Max	Method	Rpt Limit	An	alysis Date	Tech
Sample: 04 Sampled By	Well S-2 Tom W Mosley									Sample	<b>d</b> 03/26/20	D20@ 10:58
Beryllium	-		<0.0050	) mg/L	0.5			EPA 6010D	0.0050	04	01/2020 17:58	3 JSW
Boron			2.	mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.25	04	01/2020 17:58	3 JSW
Boron			2.1	mg/L	0.5			EPA 6010D	0.25	04	01/2020 17:58	B JSW
Cadmium			0.005	3 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050	04/	01/2020 17:58	3 JSW
Chromium			0.0066	s mg/L	0.5			EPA 6010D	0.0050	04/	01/2020 17:58	3 JSW
Cobalt		[	<0.010	mg/L	0.5			EPA 6010D	0.010	04/	01/2020 17:58	3 JSW
Copper			<0.010	mg/L	0.5			EPA 6010D	0.010	04/	01/2020 17:58	3 JSW
Iron			350	) mg/L	10			EPA 200.7, Rv. 4.4 (1994)	0.20	04/	03/2020 16:06	3 JSW
Iron			350	mg/L	10			EPA 6010D	0.20	04/	03/2020 16:06	3 JSW
Lead			0.012	mg/L	0.5			EPA 6010D	0.0050	04/	01/2020 17:58	3 JSW
Manganese			33	mg/L	10			EPA 6010D	0.10	04/	03/2020 16:06	s 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	i 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 samples NPDES / Antimony by EPA	5.1 for Water \pp. 6020		<0.000200	mg/L	1			EPA 245.1, Rv. 3 (1994) 0.	.000200	04/	)3/2020 12:31	ТММ
Antimony			<0.00100	mg/L	1			(	0.00100	04/	16/2020 11:11	JYH
Cadmium by EPA	<u>6020</u>							EPA 6020				
Cadmium			<0.000600	mg/L	1			0.	.000600	04/	16/2020 11:11	JYH
Sample: 05 Sampled By T	Well S-3 forn W Mosley									Sampled	03/26/20	20@ 10:40
ningnin Darium			()(() ()>	mgitanan ma''				EFA 50100	0 0050	∩4/I	unzuzu-18:05	JSW
Danum		:	U.28	mg/L	0.5			EPA 6010D	0.0050	04/0	71/2020 18:05	1211

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#### **CERTIFICATE OF ANALYSIS**

#### L0C1448

Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 04/15/2020 03/26/2020

#### **Quarterly Well Sampling**

Analysis	000	Qualifie	r Resu	it Units	DF	Min	Мах	Method	Rpt Limit	Analysis Da	te Tech
Sample: 05 We Sampled By Tom V	II S-3 W Mosley									Sampled 03	/25/2020@ 10:40
Beryllium			<0.0050	) mg/L	0.5			EPA 6010D	0.0050	04/01/2020	18:05 JSW
Boron			<0.25	i mg/L	0.5			EPA 200.7, Rv. 4.4 (1994	) 0.25	04/01/2020	18:05 JSW
Boron			<0.25	i 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	i8:29 JGF
Suifate			3,7	mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	03/31/2020 1	8:29 JGF
Mercury, Total 245.1 for samples NPDES App.	r Water		<0.000200	mg/L	1			EPA 245.1, Rv. 3 (1994)	0.000200	04/03/2020 1	2:34 TMM
Antimony by EFA 0020			<0.00100	ma/L	1			EFA 0020	0.00100	04/16/2020 1	1-14 JYH
Cadmium by FPA 6020					•			FPA 6020	0.00100	04,10/2020	
Cadmium			<0.000600	mg/L	1				0.000600	04/16/2020 1	1:14 JYH
Sample: 06 Wel Sampled By Tom W	I <b>I S-4</b> V Mosley			: :						Sampled 03/	26/2020 @ 10:20
Arsenic			<b>~0.05</b> 0	mg/L	1			EPA-6010D		04/01/2020 1	8:11JSW
Barium			0.020	mg/L	0.5			EPA 6010D	0.0050	04/01/2020 1	8:11 JSW

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## L0C1448

Southern Illinois Power Coop. Jason McLaurin

\*

Date Due Date Received 04/15/2020 03/26/2020

#### **Quarterly Well Sampling**

•

Analysis	000	Qualifie	er Result Units	DF	Min	Max	Method	Rpt Limit	Analysis Date	Tech
Sample: 06	Well S-4								Sampled 03/26/202	20@ 10:20
Sampled By Bervilium	Tom W Mosley		<0.0050 mg/l	0.5				0.0050	04/01/2020 18:11	ISW
Boron			<0.25 mg/i	0.5			EPA 200 7 Rv 4 4 (1994)	0.0000	04/01/2020 18:11	ISW
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25	04/01/2020 18:11	ISW
Cadmium			<0.0050 mg/l	0.5			EPA 200 7 Ry 4 4 (1994)	0.0050	04/01/2020 18:11	JSW
Chromium			<0.0050 mg/l	0.5			EPA 6010D	0.0000	04/01/2020 18:11	JSW
Cobalt			<0.010 mg/i	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 ma/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	JŚW
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		H1	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 24 samples NPDES	5.1 for Water App.		<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994) 0	0.000200	04/03/2020 12:36	тмм
Antimony by EPA	6020		<0.00100 mp/l	4			EPA 6020	0.00100	04/16/2020 11:22	
Codmium by ED/	6020		<0.00100 mg/L	I			ED4 6000	0.00100	04/16/2020 11:32	<b>J</b> 1H
Cadmium	10020		<0.000600 mg/L	1			EFA 6020 0	.000600	04/16/2020 11:32	JYH
Sample: 07 Sampled By	Well S-5 Tom W Mosley								Sampled 03/26/2020	0@10:00
Areenic			<0.060 mg/L				EPA 6010D	0.080	04/01/2020 18:36	J&W
Barium			0.041 mg/L	0.5			EPA 6010D	0.0050	04/01/2020 18:36	JSW

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Southern Illinois Power Coop. Jason McLaurin

Date Due Date Received 04/15/2020 03/26/2020

#### **Quarterly Well Sampling**

Analysis	000	Qualifie	er Result Units	DF	Min	Мах	Method	Rpt Limit	Analysis Da	nte	Tech
Sample: 07 Sampled By	Well S-5								Sampled 0	3/26/2020	@ 10:00
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	Wal
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	Wal
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 24 samples NPDES	45.1 for Water App.		<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994) 0	.000200	04/03/2020	12:39	ТММ
Cadmium OV LP	40020		<0.000600 mg/L	1			EFA 6020 0	.000600	04/16/2020	11:36	JAH
Sample: 08 Sampled By	Well S-6 Tom W Mosley								Sampled 03,	/26/2020	@ 12:20
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	J\$W
Beryllium			<0.0050 mg/L	0.5			EFA 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	000	Qualifie	r Result Unit	s DF	Min	Мах	Method	Rpt Limit	Analysis D	ate	Tech
Sample: 08	Well S-6								Sampled 0	3/26/2020	0@ 12:20
Sampled By Boron	Tom W Mosley		<0.25 ma/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	Wat
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	Wal
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 24	45.1 for Water		<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994) 0	.000200	04/03/2020	12:41	тмм
Antimony by EP/	Арр. <u>\ 6020</u>						EPA 6020				
Antimony			<0.00100 mg/L	1				0.00100	04/16/2020	11:39	ЧАГ
Cadmium by EP/	<u> 6020</u>						EPA 6020				
Cadmium			<0.000600 mg/L	1			0	.000600	04/16/2020	11:39	JYH
Sample: 09 Sampled By	Well S-1 Swa Tom W Mosley	amp							Sampled 03	/26/2020	@ 11:30
Arsenic	-		0.12 mg/L	1			EPA 6010D	0.050	04/01/2020	19:00	JSW
Barlum			1.5 mg/L	0.5			EPA 6010D	0.0050	04/01/2020	19:00	WSL
Beryllium			0:0081-mg/L	0.6		indéritérinan.	EPA 6010D	-0.0050	04/01/2020	10:00	JGW
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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### **Quarterly Well Sampling**

Analysis	000	Qualifie	r Result Units	DF	Min	Max	Method	Rpt Limit		Analysis I	Date	Tech
Sample: 09 Sampled By	Well S-1 Sw Tom W Mosley	/amp							San	pied	03/26/2020	)@ 11:30
Boron			<0.25 mg/L	0.5			EPA 6010D	0.25		04/01/202	20 19:00	JSW
Cadmium			0.0092 mg/L	0.5			EPA 200.7, Rv. 4.4 (1994)	0.0050		04/01/202	20 19:00	JSW
Chromium			0.069 mg/L	0.5			EPA 6010D	0.0050		04/01/202	0 19:00	JSW
Cobalt			0.054 mg/L	0.5			EPA 6010D	0.010		04/01/202	0 19:00	JSW
Copper			<0.010 mg/L	0.5			EPA 6010D	0.010		04/01/202	0 19:00	JSW
Iron			54 mg/L	250			EPA 200.7, Rv. 4.4 (1994)	5.0		04/03/202	0 16:31	JSW
Iron			54 mg/L	250			EPA 6010D	5.0		04/03/202	0 16:31	JSW
Lead			0.080 mg/L	0.5			EPA 6010D	0.0050		04/01/202	0 19:00	JSW
Manganese			2.3 mg/L	0.5			EPA 6010D	0.0050		04/01/202	0 19:00	JSW
Nickel			0.067 mg/L	0.5			EPA 6010D	0.010		04/01/202	0 19:00	JSW
Selenium			<0.025 mg/L	0.5			EPA 6010D	0.025		04/01/202	0 19:00	JSW
Thallium			<0.025 mg/L	0.5			EPA 6010D	0.025		04/01/202	0 19:00	JSW
Zinc			0.31 mg/L	0.5			EPA 6010D	0.025		04/01/202	0 19:00	JSW
Chloride			6.2 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	1	03/31/202 <sup>/</sup>	0 20:35	JGF
Fluoride			<0.50 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.50	1	03/31/202/	0 20:35	JGF
Nitrogen, Nitrate		H1	<0.11 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0.11		)3/31/202	0 20:35	JGF
Sulfate			27 mg/L	1			EPA 300.0, Rv. 2.1 (1993)	0,50		)3/31/202	0 20:35	JGF
Mercury, Total 24 samples NPDES	5.1 for Water App.		<0.000200 mg/L	1			EPA 245.1, Rv. 3 (1994) 0.	.000200	I	)4/03/2020	0 15:16	тмм
Antimony by EPA	6020	D4	<0.00500 mall	F			EPA 6020	0.00500		141461000	0 11.43	174
Cadmium by EDA	6020		<0.00000 mgrL	5			EDA 6020	0.00000	,	INTO ZUZI	0 11:43	חזט
Cadmium by ECA	10020	D1	0.00993 mg/l	5			EFA 0020	0 00300		34/16/2020	0 11 43	IYH
		2.	eleccoo mg/L	•			·		,	A TOLOL	0 11.40	

#### **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

Date Due Date Received 04/15/2020 03/26/2020

**Quarterly Well Sampling** 

The following analyses were subcontracted to a qualified laboratory: <u>Laboratory</u> Marietta

Analysis Cadmium by EPA 6020 Antimony by EPA 6020 Mercury, Total 245.1 for Water samples NPDES App. Method EPA 6020 EPA 6020 EPA 245.1, Rv. 3 (1994)

Report Comments

### **Reviewed and Approved By:**

avid Richardson

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.

David Richardson Pield Services Teck Paducah Reported: 04/17/2020 15:02

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Page 10 of 26