ANNUAL CCR GROUNDWATER MONITORING & CORRECTIVE ACTION REPORT

Peg's Hill Landfill

January 31, 2024

Reporting Year – 2023

EAST KENTUCKY POWER COOPERATIVE

A Touchstone Energy® Cooperative

Executive Summary

This annual report documents the status of the groundwater monitoring and corrective action program for the Peg's Hill Coal Combustion Residual (CCR) Landfill (herein "Peg's Hill Landfill", "Landfill", or "the Unit"), located at EKPC's H.L. Spurlock Station, pursuant to 40 Code of Federal Regulations (CFR) §257.90(e). Table 1-1 provides an overview of the status of the groundwater monitoring and corrective action program for the Unit during the reporting period.

Table 1-1 Overview of the Status of the Groundwater Monitoring & Corrective Action Program for the Unit

Information Required by 40 CFR §257.90(e)(6)	Unit Information
Identify whether the unit was operating at the start of the reporting period under the detection monitoring program or the assessment monitoring program.	Not applicable. Unit had not been fully constructed and no CCR waste had been placed as of January 1, 2023. Only background, or baseline, sampling was being conducted.
Identify whether the unit was operating at the end of the reporting period under the detection monitoring program or the assessment monitoring program.	Detection Monitoring. Construction of Phase 1 was completed, and CCR waste placement began on October 2, 2023.
If applicable, list all Appendix III (statistically significant increases (SSIs) pursuant to §257.94(e) and the associated monitoring location(s).	Not Applicable
If applicable, provide date when the assessment monitoring program was initiated.	Not Applicable
If applicable, list all Appendix IV statistically significant levels (SSLs) pursuant to §257.95(g) and the associated monitoring location(s).	Not Applicable
If applicable, provide the date when the assessment of corrective measures was initiated.	Not Applicable
If applicable, provide the date when the public meeting was held for the assessment of corrective measures.	Not Applicable
If applicable, provide the date when the assessment of corrective measures was completed.	Not Applicable
If applicable, provide the date when a remedy was selected pursuant to §257.97.	Not Applicable
If applicable, provide the date when remedial activities were initiated or identify if they are ongoing.	Not Applicable

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1.0 Introduction

On April 17, 2015, the EPA issued the final version of the federal Coal Combustion Residual (CCR) Rule to regulate the disposal of CCR materials generated at coal-fired units. The CCR Rule is administered as part of the Resource Conservation and Recovery Act (RCRA, 42 United States Code [U.S.C.] §6901 et seq.) using the Subtitle D approach.

East Kentucky Power Cooperative (EKPC) is subject to the CCR Rule and as such must prepare an annual groundwater monitoring and corrective action report for all CCR Units per 40 Code of Federal Regulations (CFR) §257.90(e). The annual report must document the status of the groundwater monitoring and corrective action program for the CCR Unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve problems, and project key activities for the upcoming year.

This document has been prepared to meet those requirements for the Peg's Hill CCR Landfill at H.L. Spurlock Power Station (Spurlock) located near Maysville, Kentucky. This report covers the 2023 reporting period, from January 1, 2023 through December 31, 2023.

2.0 CCR Rule Compliance

In accordance with 40 CFR §257.90(e), EKPC is required to, at a minimum, provide the following information, to the extent available:

- A map, aerial image, or diagram showing the CCR unit and all background and downgradient monitoring wells/locations that are a part of the groundwater monitoring system, including identification numbers;
- Identify any monitoring wells/locations that were installed and/or decommissioned during the reporting period, along with a narrative description of why those actions were taken;
- Monitoring data obtained under §257.90 through §257.98, including a summary of the number of samples collected, the dates sampling occurred, and which program those samples were required by;
- A narrative description of any transition between monitoring programs (dates, circumstances, and identifying constituents detected at a SSI over background levels); and
- Other information required to be included in the annual report as specified in §257.90 through §257.98, such as:
    - Alternative monitoring frequency
    - Alternate Source Demonstrations
    - Assessment monitoring concentrations
    - Demonstrations of additional time to complete the assessment of corrective measures due to site-specific conditions; and
    - A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the unit that contains all the information specified by §257.90(e)(6).

Other information being provided in this report includes, but is not limited to:

- Groundwater elevation data; and
- Laboratory analytical reports and quantification limits.

3.0 Facility Information

Peg's Hill CCR Landfill at Spurlock is located adjacent to (i.e., north of) the existing Spurlock Station CCR Landfill which is along South Ripley Road in Mason County. The site is located approximately five miles northwest of Maysville, Kentucky, and on the United States Geological Survey's Maysville West, Kentucky topographic map. The moderately rolling to hilly topography of the project area is typical for this region unless along a stream where erosion creates steeper slopes. Topographic relief across the Peg's Hill site is approximately 360 ft., with a natural topographic high of nearly 900 ft. above mean sea level (AMSL) occurring along the western portion of Peg's Hill, and with a topographic low in the valley bottom at approximately 540 ft. AMSL just downgradient of the Landfill footprint. The Landfill is located within a stream valley, and is situated in a tributary to Lawrence Creek. Peg's Hill CCR Landfill has its own certified groundwater monitoring network that is used to monitor groundwater under the CCR Rule. **Appendix A**, prepared by Kenvirons, Inc. (Kenvirons), shows the Peg's Hill Landfill property and the groundwater monitoring system. Monitoring wells PH-MW-1 and PH-MW-2 are background monitoring locations in an adjacent valley, and wells PH-MW-3A, PH-MW-4, and PH-MW-5 are downgradient monitoring locations. The background wells are located in the adjacent valley because they are more representative of background conditions for the compliance wells than upgradient wells within the same valley. The background wells are completed in the same stratigraphic horizon (the Kope Formation), and at similar depths (shallow, more highly fractured bedrock), as the compliance wells. If shallow monitoring wells were installed upgradient of the landfill, they would be screened in a different (overlying) stratigraphic horizon than the downgradient wells, which is not recommended. If deeper upgradient wells were installed in the Kope Formation, they would be screened in a more saline zone and therefore would not be representative of background conditions for the downgradient wells. Hence, background wells were located in an adjacent valley in a similar hydrogeologic setting and screened in the shallow Kope Formation to be representative of background conditions.

4.0 Status of Groundwater Monitoring and Corrective Action Program

During the 2023 reporting period, the CCR Unit transitioned from baseline groundwater monitoring to detection monitoring. Construction of the Peg's Hill Landfill Phase 1 began in November 2022 and was completed at the beginning of October 2023. The final baseline (background) sampling event occurred on September 28, 2023. The Phase 1A Construction Progress Report (CPR) was approved by the Kentucky Department of Waste Management (KDWM) on September 29, 2023, and waste placement within Peg's Hill Landfill commenced on October 2, 2023. The initial semi-annual sampling event for 2023 was conducted on October 30, 2023, which initiated detection monitoring of the CCR Unit pursuant to 40 CFR §257.94.

In order to comply with the requirements of detection monitoring at the Landfill, EKPC will conduct semi-annual sampling and utilize a mix of inter-well and intra-well statistical approaches for Appendix III constituents. This statistical approach was certified in 2023 as part of a re-evaluation of statistical methodology and background limits to enhance the Peg's Hill monitoring network's ability to detect a release from the CCR Unit, based on the collection of additional pre-disposal background data.

5.0 Summary of Key Actions Completed

This Section provides a narrative of the key actions completed at the CCR Unit during the reporting period.

5.1 Groundwater Monitoring Activities

The CCR Rule requires reporting of monitoring data obtained under 40 CFR §257.90 through §257.98 during the reporting year, including a summary of the number of samples collected, the dates sampling occurred, and which program those samples were required by (background, detection, or assessment). **Table 5-1** summarizes those sampling events that occurred during the reporting period.

As discussed in Section 4.0, construction of the first phase of Peg's Hill Landfill was completed in 2023, and placement of waste commenced on October 2, 2023. Background monthly sampling was conducted throughout the first part of 2023, until the placement of waste commenced on October 2, 2023. On October 30, 2023, the initial detection monitoring event occurred. All laboratory analytical results received in 2023 (consisting of background sampling data, as described below) are summarized in **Table B-1** in **Appendix B**, while the laboratory analytical reports are included in **Appendix C.**

The sampling results from October, November, and December 2022 background sampling events were not available as of December 31, 2022, and were not included in the 2022 annual report. Those analytical results were received in early 2023 and are therefore included in this 2023 annual report, along with data from background sampling that occurred during 2023. The summary of the analytical results for the background sampling events and the May ASD sampling event are found in **Appendix C.**

The May 2, 2023 sampling event occurred at the request of Geosyntec Consultants, Inc. (Geosyntec) in connection with the preparation of an Alternative Source Demonstration (ASD) for EKPC's Spurlock Landfill, which is immediately adjacent to Peg's Hill Landfill. As part of the Spurlock Landfill ASD, groundwater samples were collected from background wells PH-MW-01 and PH-MW-02 at Peg's Hill Landfill to characterize background conditions in a similar hydrogeologic setting without the presence of a CCR landfill and/or CCR waste. Although not required to be collected as part of the detection monitoring program for Peg's Hill Landfill, those sampling results are being reported here because they were nevertheless obtained from the Peg's Hill Landfill groundwater monitoring system.

Laboratory results for the initial detection monitoring event (October 30, 2023) were not received before December 31, 2023. Therefore, those results will be included in the 2024 annual report. Groundwater flow maps and velocity calculations from these events are included in **Appendix D**.

Table 5-1: Annual Sampling & Analysis Summary

Collection Date	Number of Samples Collected	Location of Collected Samples	Monitoring Program
01/30/23	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Background
02/28/23	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Background

03/28/23	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Background
04/27/23	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Background
05/02/23	2	PH-MW-01, PH-MW-02	Spurlock Landfill ASD
06/01/23	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Background
06/27/23	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Background
07/28/23	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Background
08/24/23	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Background
09/28/23	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Background
10/30/23*	5	PH-MW-01, PH-MW-02, PH-MW-03A, PH-MW-04, & PH-MW-05	Detection

* The laboratory analytical results for these sampling events were not available on or before December 31, 2023, and therefore those sampling results are not included in this report.

5.2 Statistical Analysis and Statistically Significant Increase(s)

Pursuant to 40 CFR §257.93(h)(2), within 90 days after completing sampling and analysis, the owner or operator must determine whether there has been an SSI over background for any Appendix III constituent at each monitoring location.

The laboratory analysis of the October 30, 2023 detection monitoring event (i.e., initial semi-annual detection monitoring event of 2023) was not completed on or before December 31, 2023, and is therefore not included in this report. The laboratory results and statistical analysis for the initial semi-annual detection monitoring event in 2023 will be reported in the 2024 annual report.

6.0 Problems Encountered and Actions Taken

This section describes any problems encountered with the groundwater monitoring program during the reporting period and the actions taken in response.

No significant problems were encountered in the groundwater monitoring program for the Peg's Hill Landfill in 2023.

7.0 Key Activities Projected for 2024

EKPC will continue semi-annual detection monitoring in 2024.

Additionally, EKPC continues to evaluate the existing groundwater monitoring systems at its CCR units to identify opportunities for continuous improvement. EKPC will provide updates on these efforts in the 2024 Groundwater Monitoring and Corrective Action annual reports for its CCR units.

APPENDIX A – Groundwater Monitoring Locations Map

PH-MW-02

PH-MW-01

S. Ripley Road

Mary Ingles Highway

PH-MW-04

PH-MW-05

POND 2A

Haul Road

PH-MW-3A

Phase 1
(Constructed)

Pegs Hill Landfill

S. Ripley Road

Spurlock Landfill

LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky + Pond 2A Record Contours.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

SITE LAYOUT

KENVIRONS
Civil & Environmental Engineers

Project:	2014075
Checked By:	STO
Date:	01-22-24
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GMWCA

N:\P\2014075\PHLF SITE PLAN\02_PHLF GENERAL SITE LAYOUT.dwg, SITE, 1/22/2024 1:20:38 PM, MAS

APPENDIX B – Summary of Analytical Results

Spurlock Peg's Hill

Annual Reporting Year 2023
Table B-1: Summary of Analytical Results

Appendix 3 Constituents

Well ID	Sample Date	Event Type	GW Elevation (ft. MSL)	Boron (µg/L)		Calcium (µg/L)		Chloride (mg/L)		Fluoride (mg/L)		pH (S.U.)	Sulfate (mg/L)		TDS (mg/L)
PH-MW-01	10/27/2022	Background	701.54	1700		269000	D	99.6	D	< 0.10		6.16	285	D	1950
PH-MW-01	11/22/2022	Background	701.44	1770		259000	D	177	D	0.10		6.29	319	D	2020
PH-MW-01	12/29/2022	Background	701.58	1750		266000	D	145	D	< 0.10		6.17	328	D	1960
PH-MW-01	1/30/2023	Background	701.87	1430		335000	D	98.4		< 0.10		6.16	326	D	1840
PH-MW-01	2/28/2023	Background	701.90	1390		342000	D	76.3		< 0.10		6.15	317	D	1810
PH-MW-01	3/28/2023	Background	702.07	1140		329000	D	67.7		0.10		6.09	301	D	1740
PH-MW-01	4/27/2023	Background	702.43	1040		353000	D	34.5		< 0.10		6.05	241		1680
PH-MW-01	5/2/2023	ASD	701.28	1220		316000	D	53.7	D			6.10	246	D	
PH-MW-01	6/2/2023	Background	701.60	1360		346000	D	65.2	D	< 0.10		6.18	271	D	1710
PH-MW-01	6/27/2023	Background	701.37	1550		326000	D	125	D	< 0.10		6.13	277	D	1780
PH-MW-01	7/28/2023	Background	701.08	1630		328000	D	172	D	< 0.10		6.13	317	D	2080
PH-MW-01	8/24/2023	Background	701.58	1260		328000	D	84.0		0.11		6.14	308	D	1700
PH-MW-01	9/28/2023	Background	701.44	1350		322000	D	88.4	D	0.11		6.15	297	D	1730
PH-MW-02	10/27/2022	Background	545.44	1220		39300	D	273	D	0.39		7.56	33.7	D	1010
PH-MW-02	11/22/2022	Background	545.48	1260		27100	D	313	D	0.14		7.54	32.8		1050
PH-MW-02	12/29/2022	Background	546.20	1280		37300	D	305	D	0.43		7.53	33.4		994
PH-MW-02	1/30/2023	Background	546.51	1370		31500	D	327	D	0.47		7.71	34.2		1110
PH-MW-02	2/28/2023	Background	546.51	1390		32800	D	321	D	0.41		7.67	33.6		1060
PH-MW-02	3/28/2023	Background	546.38	1370		30600	D	324	D	0.51		7.66	32.6		1130
PH-MW-02	4/27/2023	Background	546.32	1580		30100	D	321		0.52		7.67	32.4		1190
PH-MW-02	5/2/2023	ASD	544.89	1390		29700	D	298	D			7.43	32.4		
PH-MW-02	6/2/2023	Background	546.10	1450		33800	D	278	D	0.51		7.71	33.7		964
PH-MW-02	6/27/2023	Background	545.83	1210		40900	D	246	D	0.42		7.64	32.4		786
PH-MW-02	7/28/2023	Background	546.02	1160		40400	D	245	D	0.43		7.62	31.7		964
PH-MW-02	8/24/2023	Background	546.15	1140		40200	D	249	D	0.46		7.6	32.9		940
PH-MW-02	9/28/2023	Background	545.91	1190		34300	D	263	D	0.41		7.69	31.1		932
PH-MW-03A	10/27/2022	Background	584.98	3230	D	17700	D	330	D	1.4		7.92	203	D	1410
PH-MW-03A	11/22/2022	Background	584.90	3230	D	16100	D	339	D	1.6		7.87	197		1360
PH-MW-03A	12/29/2022	Background	585.37	3260	D	13100	D	331	D	1.7		7.92	179		1270
PH-MW-03A	1/30/2023	Background	585.31	3040		12600		333	D	1.7		7.86	172		1330
PH-MW-03A	2/28/2023	Background	585.07	3200		12200		332	D	1.7		7.77	166		1240
PH-MW-03A	3/28/2023	Background	584.71	2970		12300		333	D	1.7		7.70	157		1310
PH-MW-03A	4/27/2023	Background	584.57	3370		12300		332		1.6		7.90	149		1350
PH-MW-03A	6/1/2023	Background	584.38	3340		11900	D	336	D	1.6	D	7.89	145	D	1270
PH-MW-03A	6/27/2023	Background	583.82	3090		11400		318	D	1.6		7.81	130	D	1070
PH-MW-03A	7/28/2023	Background	583.66	2750		11700		309	D	1.6		7.97	116		1240
PH-MW-03A	8/24/2023	Background	583.55	2920		11100		323	D	1.7		7.71	108		1140
PH-MW-03A	9/28/2023	Background	583.60	2710		10100	D	331	D	1.7		7.84	94.7		1180
PH-MW-04	10/27/2022	Background	523.38	719		157000	D	15.4		0.20		6.20	179	D	970
PH-MW-04	11/22/2022	Background	522.63	690		87200	D	17.5		0.24		6.32	189		962
PH-MW-04	12/29/2022	Background	523.24	737		146000	D	17.2		0.23		6.23	183		910
PH-MW-04	1/30/2023	Background	522.96	789		170000	D	18.5		0.24		6.23	187		936
PH-MW-04	2/28/2023	Background	521.61	860		173000	D	20.0		0.22		6.30	206	D	944
PH-MW-04	3/28/2023	Background	520.31	814		165000	D	21.8		0.32		6.30	238	D	1090
PH-MW-04	4/27/2023	Background	519.65	945		186000	D	21.7		0.29		6.31	289		1140
PH-MW-04	6/1/2023	Background	519.11	946		178000	D	23.2	D	0.30		6.35	326	D	1120
PH-MW-04	6/27/2023	Background	517.27	1110		217000	D	34.3	D	0.28		6.32	327	D	1260
PH-MW-04	7/28/2023	Background	516.01	973		252000	D	42.2		0.25		6.27	483	D	1700
PH-MW-04	8/24/2023	Background	515.25	931		268000	D	30.0		0.25		6.42	544	D	1560
PH-MW-04	9/28/2023	Background	516.54	892		242000	D	25.2	D	0.26		6.43	472	D	1380
PH-MW-05	10/27/2022	Background	527.71	246		92000	D	10.8		0.17		7.25	149	D	564
PH-MW-05	11/22/2022	Background	527.61	244		71400	D	11.2		0.17		7.26	150		540
PH-MW-05	12/29/2022	Background	528.07	263		79900	D	10.9		0.16		7.19	155		546
PH-MW-05	1/30/2023	Background	528.12	241		114000	D	10.5		0.16		7.20	172		598
PH-MW-05	2/28/2023	Background	527.71	254		109000	D	10.9		0.14		7.18	159		556
PH-MW-05	3/28/2023	Background	527.67	223		113000	D	11.1		0.18		7.25	181	D	688
PH-MW-05	4/27/2023	Background	527.11	269		108000	D	11.3		0.17		7.15	174		682
PH-MW-05	6/1/2023	Background	527.42	224		113000	D	10.3		0.17		7.22	212	D	664
PH-MW-05	6/27/2023	Background	527.14	237		115000	D	10.9		0.17		7.18	198	D	534
PH-MW-05	7/28/2023	Background	527.37	192		125000	D	10.3		0.17		7.14	192		770
PH-MW-05	8/24/2023	Background	527.07	210		116000	D	10.8		0.19		7.18	190		590
PH-MW-05	9/28/2023	Background	526.71	230		105000	D	11.1	D	0.19		7.20	166		570

Result Notes :	J - Estimated Value NA - Not available	R - Unusable (Quality Control Failure) D - Result reported from dilution	
Result Units :	mg/L - milligram per liter ft. MSL - feet above mean sea level	µg/L - microgram per liter pCi/L - picocurie per liter	S.U. - Standard Units
Event Type Abbreviations :	A3 - Appendix III Constituents for Detection Monitoring ASD - Alternative Source Demonstration	A4 - Appendix IV Constituents for Assessment Monitoring	
Event Type Constituents :	Background - A3 and A4 Assessment - A3 (All) and A4 (Detected in annual screen).	Detection - A3	Annual Screen - A4 ASD - Tested A3 and A4 parameters

Spurlock Peg's Hill

Annual Reporting Year 2023
Table B-1: Summary of Analytical Results

Appendix 4 Constituents

Well ID	Sample Date	Event Type	GW Elevation (ft. MSL)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Fluoride (µg/L)	Lead (µg/L)	Lithium (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Radium (pCi/L)	Selenium (µg/L)	Thallium (µg/L)
PH-MW-01	10/27/2022	Background	701.54	< 1.0	< 1.0	48.4	< 1.0	< 0.25	< 1.0	3.3	< 0.10	< 1.0	95.0	< 0.0200 D	< 1.0	1.92	1.8	< 0.10
PH-MW-01	11/22/2022	Background	701.44	< 1.0	< 1.0	47.3	< 1.0	< 0.25	< 1.0	3.5	0.10	< 1.0	97.2	< 0.0200 D	< 1.0	2.46	< 2.0	< 0.10
PH-MW-01	12/29/2022	Background	701.58	< 1.0	< 1.0	50.4	< 1.0	< 0.25	< 1.0	8.3	< 0.10	< 1.0	100	< 0.0200 D	< 1.0	0.372	1.6	< 0.10
PH-MW-01	1/30/2023	Background	701.87	< 1.0	< 1.0	48.7	< 1.0	< 0.25	< 1.0	4.4	< 0.10	< 2.0 D	85.4	< 0.0200 D	< 1.0	1.40	< 1.0	< 0.10 D
PH-MW-01	2/28/2023	Background	701.90	< 1.0	< 1.0	53.0	< 1.0	< 0.25	< 1.0	4.3	< 0.10	< 1.0	74.4	< 0.0200 D	< 1.0	0.899	< 1.0	< 0.10
PH-MW-01	3/28/2023	Background	702.07	< 1.0	< 1.0	52.3	< 1.0	< 0.25	< 1.0	3.4	0.10	< 1.0	69.9	< 0.0200 D	< 1.0	0.360	< 1.0	< 0.10
PH-MW-01	4/27/2023	Background	702.43	< 1.0	< 1.0	59.2	< 1.0	< 0.25	< 1.0	2.5	< 0.10	< 1.0	66.0	< 0.0200 D	< 1.0	0.913	< 1.0	< 0.10
PH-MW-01	5/2/2023	ASD	701.28										73.6					
PH-MW-01	6/2/2023	Background	701.60	< 1.0	< 1.0	53.9	< 1.0	< 0.25	< 1.0	3.8	< 0.10	< 1.0	72.3	< 0.0200 D	< 1.0	2.08	< 1.0	< 0.10
PH-MW-01	6/27/2023	Background	701.37	< 1.0	< 1.0	46.7	< 1.0	< 0.25	< 1.0	4.1	< 0.10	< 1.0	82.6	< 0.0200 D	< 1.0	1.97	< 1.0	< 0.10
PH-MW-01	7/28/2023	Background	701.08	< 1.0	< 1.0	44.4	< 1.0	< 0.25	< 1.0	8.0	< 0.10	< 2.0 D	86.0	< 0.0200 D	< 1.0	3.32	< 1.0	< 0.20 D
PH-MW-01	8/24/2023	Background	701.58	< 1.0	< 1.0	41.7	< 1.0	< 0.25	< 1.0	5.9	0.11	< 1.0	77.5	< 0.0200 D	< 1.0	2.81	< 1.0	< 0.10
PH-MW-01	9/28/2023	Background	701.44	< 1.0	< 1.0	39.1	< 1.0	< 0.25	< 1.0	6.1	0.11	< 1.0	75.0	< 0.0200 D	< 1.0	1.17	< 1.0	< 0.10
PH-MW-02	10/27/2022	Background	545.44	< 1.0	1.5	76.9	< 1.0	< 0.25	< 1.0	< 1.0	0.39	< 1.0	87.1	< 0.0050 D	1.5	1.15	< 1.0	< 0.10
PH-MW-02	11/22/2022	Background	545.48	< 1.0	1.4	73.8	< 1.0	< 0.25	< 1.0	< 1.0	0.14	< 1.0	89.9	< 0.0050 D	1.5	0.477	< 2.0	< 0.10
PH-MW-02	12/29/2022	Background	546.20	< 1.0	1.8	77.3	< 1.0	< 0.25	< 1.0	< 1.0	0.43	< 1.0	93.6	< 0.0050 D	1.6	0.465	1.2	< 0.10
PH-MW-02	1/30/2023	Background	546.51	< 1.0	1.5	67.8	< 1.0	< 0.25	< 1.0	< 1.0	0.47	< 1.0	94.7	< 0.0050 D	1.9	0.384	1.8	< 0.10
PH-MW-02	2/28/2023	Background	546.51	< 1.0	1.5	68.8	< 1.0	< 0.25	< 1.0	< 1.0	0.41	< 1.0	83.4	< 0.0050 D	1.6	1.51	< 1.0	< 0.10
PH-MW-02	3/28/2023	Background	546.38	< 1.0	1.4	65.8	< 1.0	< 0.25	< 1.0	< 1.0	0.51	< 1.0	89.9	< 0.0050 D	1.8	1.48	< 1.0	< 0.10
PH-MW-02	4/27/2023	Background	546.32	< 1.0	1.6	71.6	< 1.0	< 0.25	< 1.0	< 1.0	0.52	< 1.0	101	< 0.0050 D	2.0	1.22	< 1.0	< 0.10
PH-MW-02	5/2/2023	ASD	544.89										90.4					
PH-MW-02	6/2/2023	Background	546.10	< 1.0	1.6	76.6	< 1.0	< 0.25	< 1.0	< 1.0	0.51	< 1.0	85.3	< 0.0050 D	1.7	0.879	< 1.0	< 0.10
PH-MW-02	6/27/2023	Background	545.83	< 1.0	< 1.0	73.6	< 1.0	< 0.25	< 1.0	< 1.0	0.42	< 1.0	74.0	< 0.0050 D	1.3	1.32	< 1.0	< 0.10
PH-MW-02	7/28/2023	Background	546.02	< 1.0	< 1.0	65.8	< 1.0	< 0.25	< 1.0	< 1.0	0.43	< 1.0	71.6	< 0.0050 D	1.4	1.34	< 1.0	< 0.10
PH-MW-02	8/24/2023	Background	546.15	< 1.0	< 1.0	64.4	< 1.0	< 0.25	< 1.0	< 1.0	0.46	< 1.0	71.7	< 0.0050 D	1.4	2.01	< 1.0	< 0.10
PH-MW-02	9/28/2023	Background	545.91	< 1.0	1.4	57.9	< 1.0	< 0.25	< 1.0	< 1.0	0.41	< 1.0	73.6	< 0.0050 D	1.6	0.753	< 1.0	< 0.10
PH-MW-03A	10/27/2022	Background	584.98	< 1.0	< 1.0	45.7	< 1.0	< 0.25	< 1.0	< 1.0	1.4	< 1.0	96.9	< 0.0050 D	31.0	0.528	< 1.0	< 0.10
PH-MW-03A	11/22/2022	Background	584.90	< 1.0	< 1.0	42.3	< 1.0	< 0.25	< 1.0	< 1.0	1.6	< 1.0	89.3	< 0.0050 D	27.5	0.290	< 2.0	< 0.10
PH-MW-03A	12/29/2022	Background	585.37	< 1.0	< 1.0	44.1	< 1.0	< 0.25	< 1.0	< 1.0	1.7	< 1.0	94.5	< 0.0050 D	30.6	1.38	1.1	< 0.10
PH-MW-03A	1/30/2023	Background	585.31	< 1.0	< 1.0	42.9	< 1.0	< 0.25	< 1.0	< 1.0	1.7	< 1.0	90.6	< 0.0050 D	26.2	0.511	1.0	< 0.10
PH-MW-03A	2/28/2023	Background	585.07	< 1.0	< 1.0	45.0	< 1.0	< 0.25	< 1.0	< 1.0	1.7	< 1.0	85.1	< 0.0050 D	25.8	0.782	< 1.0	< 0.10
PH-MW-03A	3/28/2023	Background	584.71	< 1.0	< 1.0	47.6	< 1.0	< 0.25	< 1.0	< 1.0	1.7	< 1.0	84.5	< 0.0050 D	25.6	0.0353	< 1.0	< 0.10
PH-MW-03A	4/27/2023	Background	584.57	< 1.0	< 1.0	49.9	< 1.0	< 0.25	< 1.0	< 1.0	1.6	< 1.0	92.4	< 0.0050 D	23.8	0.229	< 1.0	< 0.10
PH-MW-03A	6/1/2023	Background	584.38	< 1.0	< 1.0	51.8	< 1.0	< 0.25	< 1.0	< 1.0	1.6 D	< 1.0	86.4	< 0.0050 D	22.6	0.682	< 1.0	< 0.10
PH-MW-03A	6/27/2023	Background	583.82	< 1.0	< 1.0	50.2	< 1.0	< 0.25	< 1.0	< 1.0	1.6	< 1.0	84.4	< 0.0050 D	21.3	0.931	< 1.0	< 0.10
PH-MW-03A	7/28/2023	Background	583.66	< 1.0	< 1.0	44.8	< 1.0	< 0.25	< 1.0	< 1.0	1.6	< 1.0	76.9	< 0.0050 D	22.3	1.17	< 1.0	< 0.10
PH-MW-03A	8/24/2023	Background	583.55	< 1.0	< 1.0	49.4	< 1.0	< 0.25	< 1.0	< 1.0	1.7	< 1.0	82.4	< 0.0050 D	21.2	0.914	< 1.0	< 0.10
PH-MW-03A	9/28/2023	Background	583.60	< 1.0	< 1.0	45.8	< 1.0	< 0.25	< 1.0	< 1.0	1.7	< 1.0	69.7	< 0.0050 D	22.4	0.672	< 1.0	< 0.10
PH-MW-04	10/27/2022	Background	523.38	< 1.0	< 1.0	76.9	< 1.0	< 0.25	< 1.0	1.3	0.20	< 1.0	38.9	< 0.0200 D	< 1.0	1.23	< 1.0	< 0.10
PH-MW-04	11/22/2022	Background	522.63	< 1.0	< 1.0	73.0	< 1.0	< 0.25	< 1.0	1.1	0.24	< 1.0	33.3	< 0.0200 D	< 1.0	0.563	< 2.0	< 0.10
PH-MW-04	12/29/2022	Background	523.24	< 1.0	< 1.0	75.8	< 1.0	< 0.25	< 1.0	1.4	0.23	< 1.0	40.0	< 0.0200 D	< 1.0	0.693	< 1.0	< 0.10
PH-MW-04	1/30/2023	Background	522.96	< 1.0	< 1.0	78.2	< 1.0	< 0.25	< 1.0	1.0	0.24	< 1.0	32.7	< 0.0200 D	< 1.0	1.11	< 1.0	< 0.10
PH-MW-04	2/28/2023	Background	521.61	< 1.0	< 1.0	80.4	< 1.0	< 0.25	< 1.0	1.1	0.22	< 1.0	31.5	< 0.0200 D	< 1.0	0.666	< 1.0	< 0.10
PH-MW-04	3/28/2023	Background	520.31	< 1.0	< 1.0	67.6	< 1.0	< 0.25	< 1.0	1.1	0.32	< 1.0	32.7	< 0.0200 D	< 1.0	0.846	< 1.0	< 0.10
PH-MW-04	4/27/2023	Background	519.65	< 1.0	< 1.0	75.5	< 1.0	< 0.25	< 1.0	< 1.0	0.29	< 1.0	36.1	< 0.0200 D	< 1.0	0.118	< 1.0	< 0.10
PH-MW-04	6/1/2023	Background	519.11	< 1.0	< 1.0	72.8	< 1.0	< 0.25	< 1.0	< 1.0	0.30	< 1.0	35.2	< 0.0200 D	< 1.0	0.470	< 1.0	< 0.10
PH-MW-04	6/27/2023	Background	517.27	< 1.0	< 1.0	71.6	< 1.0	< 0.25	< 1.0	2.3	0.28	< 1.0	44.0	< 0.0200 D	< 1.0	0.770	< 1.0	< 0.10
PH-MW-04	7/28/2023	Background	516.01	< 1.0	< 1.0	57.7	< 1.0	< 0.25	< 1.0	14.1	0.25	< 2.0 D	48.7	< 0.0200 D	< 1.0	0.428	< 1.0	< 0.10
PH-MW-04	8/24/2023	Background	515.25	< 1.0	< 1.0	53.3	< 1.0	< 0.25	< 1.0	9.2	0.25	< 1.0	51.0	< 0.0200 D	< 1.0	0.569	< 1.0	0.21
PH-MW-04	9/28/2023	Background	516.54	< 1.0	< 1.0	49.9	< 1.0	< 0.25	< 1.0	< 1.0	0.26	< 1.0	43.0	< 0.0200 D	< 1.0	0.728	< 1.0	< 0.10
PH-MW-05	10/27/2022	Background	527.71	< 1.0	< 1.0	76.5	< 1.0	< 0.25	< 1.0	< 1.0	0.17	< 1.0	29.3	< 0.0050 D	< 1.0	0.550	< 1.0	< 0.10
PH-MW-05	11/22/2022	Background	527.61	< 1.0	< 1.0	73.2	< 1.0	< 0.25	< 1.0	< 1.0	0.17	< 1.0	29.3	< 0.0050 D	< 1.0	0.599	< 2.0	< 0.10
PH-MW-05	12/29/2022	Background	528.07	< 1.0	< 1.0	77.2	< 1.0	< 0.25	< 1.0	< 1.0	0.16	< 1.0	30.8	< 0.0050 D	< 1.0	1.11	< 1.0	< 0.10
PH-MW-05	1/30/2023	Background	528.12	< 1.0	< 1.0	79.3	< 1.0	< 0.25	< 1.0	< 1.0	0.16	< 1.0	22.3	< 0.0050 D	< 1.0	1.13	< 1.0	< 0.10
PH-MW-05	2/28/2023	Background	527.71	< 1.0	< 1.0	89.0	< 1.0	< 0.25	< 1.0	< 1.0	0.14	< 1.0	21.3	< 0.0050 D	< 1.0	0.568	< 1.0	< 0.10
PH-MW-05	3/28/2023	Background	527.67	< 1.0	< 1.0	76.2	< 1.0	< 0.25	< 1.0	< 1.0	0.18	< 1.0	20.6	< 0.0050 D	< 1.0	1.39	< 1.0	< 0.10
PH-MW-05	4/27/2023	Background	527.11	< 1.0	< 1.0	84.9	< 1.0	< 0.25	< 1.0	< 1.0	0.17	< 1.0	23.5	< 0.0050 D	< 1.0	0.371	< 1.0	< 0.10
PH-MW-05	6/1/2023	Background	527.42	< 1.0	< 1.0	98.0	< 1.0	< 0.25	< 1.0	< 1.0	0.17	< 1.0	24.3	< 0.0050 D	< 1.0	0	< 1.0	< 0.10
PH-MW-05	6/27/2023	Background	527.14	< 1.0	< 1.0	84.0	< 1.0	< 0.25	< 1.0	< 1.0	0.17	< 1.0	24.0	< 0.0050 D	< 1.0	0.646	< 1.0	< 0.10
PH-MW-05	7/28/2023	Background	527.37	< 1.0	< 1.0	69.1	< 1.0	< 0.25	< 1.0	< 1.0	0.17	< 1.0	21.6	< 0.0050 D	< 1.0	0.623	< 1.0	< 0.10
PH-MW-05	8/24/2023	Background	527.07	< 1.0	< 1.0	66.6	< 1.0	< 0.25	< 1.0	< 1.0	0.19	< 1.0	22.3	< 0.0050 D	< 1.0	1.32	< 1.0	< 0.10
PH-MW-05	9/28/2023	Background	526.71	< 1.0	< 1.0	58.9	< 1.0	< 0.25	< 1.0	< 1.0	0.19	< 1.0	21.4	< 0.0050 D	< 1.0	1.64	< 1.0	< 0.10

Result Notes :	J - Estimated Value	R - Unusable (Quality Control Failure)	
	H - Holding time exceeded	B - Analyte detected in method blank	
	NA - Not available	D - Result reported from dilution	
Result Units :	mg/L - milligram per liter	µg/L - microgram per liter	S.U. - Standard Units
	ft. MSL - feet above mean sea level	pCi/L - picocurie per liter	
Event Type Abbreviations :	A3 - Appendix III Constituents for Detection Monitoring	A4 - Appendix IV Constituents for Assessment Monitoring	
	ASD - Alternative Source Demonstration		
Event Type Constituents :	Background - A3 and A4	Detection - A3	Annual Screen - A4
	Assessment - A3 (All) and A4 (Detected in annual screen).		ASD - Tested A3 and A4 parameters

APPENDIX C – Laboratory Analytical Reports

EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/25/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	10/27/2022
Well ID No:	PH-MW-01	Sample Collection Time:	11:34 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.54	MSL		10/27/2022	11:34 AM	BTB
Turbidity	2.32	NTU	SM 2130, B-2001	10/27/2022	11:34 AM	BTB
Conductivity	2555	µS/cm	SM 2510, B-2011	10/27/2022	11:34 AM	BTB
Temperature	39.92	°F	SM 2550, B-2010	10/27/2022	11:34 AM	BTB
Oxidation-Reduction Potential	110.3	mV	SM 2580, B-2011	10/27/2022	11:34 AM	BTB
pH	6.16	S.U.	SM 4500-H+, B-2011	10/27/2022	11:34 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	10/27/2022	11:34 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201014

Sample Received Date:	10/28/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:04 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Barium	48.4		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Boron	1700		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Calcium	269000	D	µg/L	28000	50000	EPA 200.8, Rev. 5.4 (1994)	1/12/2023	2:54 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Cobalt	3.3		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Lithium	95.0		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Selenium	1.8		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:40 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	11/7/2022	9:44 AM	JD
Chloride	99.6	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	10/28/2022	11:48 AM	JD
Fluoride	< 0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/28/2022	2:57 PM	JD
Sulfate	285	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	10/28/2022	11:48 AM	JD
Solids, Total Dissolved	1950		mg/L		50.0	SM 2540, C-2011	10/28/2022	11:33 AM	JD

Pace

Lab Identification #: 30535782001

Sample Received Date:	11/4/2022	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:20 AM	Sample Received By:	TH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	1.11 ± 0.580 (0.571)		pCi/L			EPA 903.1	11/21/2022	4:34 PM	CLM
Radium-228	0.810 ± 0.446 (0.804)		pCi/L			EPA 904.0	11/21/2022	3:49 PM	JJS1
Total Radium Calculation	1.92 ± 1.03 (1.38)		pCi/L			Total Radium Calculation	11/22/2022	7:01 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

10:10 AM 01/20/2023

Eric Hamilton - QA/QC Chemist

11:52 AM 01/24/2023

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A Touchstone Energy Cooperative

EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/25/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	10/27/2022
Well ID No:	PH-MW-02	Sample Collection Time:	1:11 PM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	545.44	MSL		10/27/2022	1:11 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	10/27/2022	1:11 PM	BTB
Conductivity	1621	µS/cm	SM 2510, B-2011	10/27/2022	1:11 PM	BTB
Temperature	42.08	°F	SM 2550, B-2010	10/27/2022	1:11 PM	BTB
Oxidation-Reduction Potential	-80.1	mV	SM 2580, B-2011	10/27/2022	1:11 PM	BTB
pH	7.56	S.U.	SM 4500-H+, B-2011	10/27/2022	1:11 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	10/27/2022	1:11 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201015

Sample Received Date:	10/28/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:04 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Arsenic	1.5		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Barium	76.9		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Boron	1220		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Calcium	39300	D	µg/L	5600	10000	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	7:17 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Lithium	87.1		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Molybdenum	1.5		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:52 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	11/7/2022	9:50 AM	JD
Chloride	273	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	10/28/2022	12:06 PM	JD
Fluoride	0.39		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/28/2022	3:16 PM	JD
Sulfate	33.7	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	10/28/2022	12:06 PM	JD
Solids, Total Dissolved	1010		mg/L		50.0	SM 2540, C-2011	10/28/2022	11:33 AM	JD

Pace

Lab Identification #: 30535782002

Sample Received Date:	11/4/2022	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:20 AM	Sample Received By:	TH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.684 ± 0.620 (0.913)		pCi/L			EPA 903.1	11/21/2022	4:34 PM	CLM
Radium-228	0.462 ± 0.362 (0.710)		pCi/L			EPA 904.0	11/21/2022	3:50 PM	JJS1
Total Radium Calculation	1.15 ± 0.982 (1.62)		pCi/L			Total Radium Calculation	11/22/2022	7:01 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

10:10 AM 01/20/2023

Eric Hamilton - QA/QC Chemist

11:52 AM 01/24/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/25/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-03A
AKGW No.:
Well Depth (Ft.): 40
Well Elevation (Ft. MSL): 614.98
Gradient: Down

Sample Collection Date: 10/27/2022
Sample Collection Time: 2:34 PM
Sample Collected By: BTB
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	584.98	MSL		10/27/2022	2:34 PM	BTB
Turbidity	1.02	NTU	SM 2130, B-2001	10/27/2022	2:34 PM	BTB
Conductivity	2678	µS/cm	SM 2510, B-2011	10/27/2022	2:34 PM	BTB
Temperature	44.24	°F	SM 2550, B-2010	10/27/2022	2:34 PM	BTB
Oxidation-Reduction Potential	79.9	mV	SM 2580, B-2011	10/27/2022	2:34 PM	BTB
pH	7.92	S.U.	SM 4500-H+, B-2011	10/27/2022	2:34 PM	BTB
Oxygen, dissolved	1.18	mg/L	SM 4500-O	10/27/2022	2:34 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201016

Sample Received Date: 10/28/2022
Sample Received Time: 10:04 AM
Sample Receipt Temperatures (°C): < 6
Sample Received By: TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Barium	45.7		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Boron	3230	D	µg/L	18.1	125	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	7:21 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Calcium	17700	D	µg/L	2800	5000	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	7:21 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Lithium	96.9		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Molybdenum	31.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	5:56 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	11/7/2022	9:57 AM	JD
Chloride	330	D	mg/L	2.4	5.0	EPA 300.0 Rev 2.1 (1993)	10/28/2022	12:25 PM	JD
Fluoride	1.4		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/28/2022	3:35 PM	JD
Sulfate	203	D	mg/L	2.4	10.0	EPA 300.0 Rev 2.1 (1993)	10/28/2022	12:25 PM	JD
Solids, Total Dissolved	1410		mg/L		50.0	SM 2540, C-2011	10/28/2022	11:33 AM	JD

Pace

Lab Identification #: 30535782003

Sample Received Date: 11/4/2022
Sample Received Time: 9:20 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: TH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.456 ± 0.368 (0.206)		pCi/L			EPA 903.1	11/21/2022	4:34 PM	CLM
Radium-228	0.0722 ± 0.351 (0.801)		pCi/L			EPA 904.0	11/21/2022	3:50 PM	JJS1
Total Radium Calculation	0.528 ± 0.719 (1.01)		pCi/L			Total Radium Calculation	11/22/2022	7:01 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.
Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
10:10 AM 01/20/2023

Eric Hamilton - QA/QC Chemist
11:52 AM 01/24/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/25/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	10/27/2022
Well ID No:	PH-MW-04	Sample Collection Time:	5:22 PM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	523.38	MSL		10/27/2022	5:22 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	10/27/2022	5:22 PM	BTB
Conductivity	1340	µS/cm	SM 2510, B-2011	10/27/2022	5:22 PM	BTB
Temperature	45.14	°F	SM 2550, B-2010	10/27/2022	5:22 PM	BTB
Oxidation-Reduction Potential	195.9	mV	SM 2580, B-2011	10/27/2022	5:22 PM	BTB
pH	6.20	S.U.	SM 4500-H+, B-2011	10/27/2022	5:22 PM	BTB
Oxygen, dissolved	3.15	mg/L	SM 4500-O	10/27/2022	5:22 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201017

Sample Received Date:	10/28/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:04 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Barium	76.9		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Boron	719		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Calcium	157000	D	µg/L	14000	25000	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	7:25 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Cobalt	1.3		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Lithium	38.9		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:00 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	11/7/2022	10:03 AM	JD
Chloride	15.4		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	10/28/2022	3:53 PM	JD
Fluoride	0.20		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/28/2022	3:53 PM	JD
Sulfate	179	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	10/28/2022	12:44 PM	JD
Solids, Total Dissolved	970		mg/L		50.0	SM 2540, C-2011	10/28/2022	11:33 AM	JD

Pace

Lab Identification #: 30535782004

Sample Received Date:	11/4/2022	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:20 AM	Sample Received By:	TH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.2 ± 0.474 (1.06)		pCi/L			EPA 903.1	11/21/2022	4:34 PM	CLM
Radium-228	1.23 ± 0.532 (0.895)		pCi/L			EPA 904.0	11/21/2022	3:50 PM	JJS1
Total Radium Calculation	1.23 ± 1.01 (1.96)		pCi/L			Total Radium Calculation	11/22/2022	7:01 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

10:10 AM 01/20/2023

Eric Hamilton - QA/QC Chemist

11:52 AM 01/24/2023

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Report Date: 1/25/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	10/27/2022
Well ID No:	PH-MW-05	Sample Collection Time:	3:50 PM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	527.71	MSL		10/27/2022	3:50 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	10/27/2022	3:50 PM	BTB
Conductivity	779	µS/cm	SM 2510, B-2011	10/27/2022	3:50 PM	BTB
Temperature	43.70	°F	SM 2550, B-2010	10/27/2022	3:50 PM	BTB
Oxidation-Reduction Potential	222.2	mV	SM 2580, B-2011	10/27/2022	3:50 PM	BTB
pH	7.25	S.U.	SM 4500-H+, B-2011	10/27/2022	3:50 PM	BTB
Oxygen, dissolved	7.21	mg/L	SM 4500-O	10/27/2022	3:50 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201018

Sample Received Date:	10/28/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:04 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Barium	76.5		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Boron	246		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Calcium	92000	D	µg/L	11200	20000	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	7:29 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Lithium	29.3		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:04 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	11/7/2022	10:06 AM	JD
Chloride	10.8		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	10/28/2022	4:12 PM	JD
Fluoride	0.17		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/28/2022	4:12 PM	JD
Sulfate	149	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	10/28/2022	1:03 PM	JD
Solids, Total Dissolved	564		mg/L		50.0	SM 2540, C-2011	10/28/2022	11:33 AM	JD

Pace

Lab Identification #: 30535782005

Sample Received Date:	11/4/2022	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:20 AM	Sample Received By:	TH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.0 ± 0.498 (1.08)		pCi/L			EPA 903.1	11/21/2022	4:48 PM	CLM
Radium-228	0.550 ± 0.388 (0.761)		pCi/L			EPA 904.0	11/21/2022	3:50 PM	JJS1
Total Radium Calculation	0.550 ± 0.886 (1.84)		pCi/L			Total Radium Calculation	11/22/2022	7:01 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

10:10 AM 01/20/2023

Eric Hamilton - QA/QC Chemist

11:52 AM 01/24/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/13/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	11/22/2022
Well ID No:	PH-MW-01	Sample Collection Time:	9:28 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.44	MSL		11/22/2022	9:28 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	11/22/2022	9:28 AM	BTB
Conductivity	2792	µS/cm	SM 2510, B-2011	11/22/2022	9:28 AM	BTB
Temperature	44.06	°F	SM 2550, B-2010	11/22/2022	9:28 AM	BTB
Oxidation-Reduction Potential	84.4	mV	SM 2580, B-2011	11/22/2022	9:28 AM	BTB
pH	6.29	S.U.	SM 4500-H+, B-2011	11/22/2022	9:28 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	11/22/2022	9:28 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201107

Sample Received Date:	11/28/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:24 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Barium	47.3		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Boron	1770		µg/L	3.6	10.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Calcium	259000	D	µg/L	28000	50000	EPA 200.8, Rev. 5.4 (1994)	1/12/2023	3:17 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	3:30 PM	JD
Cobalt	3.5		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Lithium	97.2		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Selenium	< 2.0		µg/L	0.5	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:12 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	12/1/2022	12:14 PM	JD
Chloride	177	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	12/14/2022	1:56 AM	JD
Fluoride	0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	12/14/2022	7:47 PM	JD
Sulfate	319	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	12/14/2022	1:56 AM	JD
Solids, Total Dissolved	2020		mg/L		50.0	SM 2540, C-2011	11/29/2022	2:23 PM	JD

Pace

Lab Identification #: 30543724001

Sample Received Date:	12/6/2022	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:15 AM	Sample Received By:	PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.750 ± 0.636 (0.972)		pCi/L			EPA 903.1	12/28/2022	2:03 PM	GDH
Radium-228	1.71 ± 0.549 (0.709)		pCi/L			EPA 904.0	12/22/2022	2:36 PM	JJS1
Total Radium Calculation	2.46 ± 1.19 (1.68)		pCi/L			Total Radium Calculation	12/28/2022	7:14 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

01:56 PM 01/13/2023

Eric Hamilton - QA/QC Chemist

02:09 PM 01/13/2023

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A Touchstone Energy Cooperative

EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/13/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	11/22/2022
Well ID No:	PH-MW-02	Sample Collection Time:	11:40 AM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	545.48	MSL		11/22/2022	11:40 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	11/22/2022	11:40 AM	BTB
Conductivity	1844	µS/cm	SM 2510, B-2011	11/22/2022	11:40 AM	BTB
Temperature	53.96	°F	SM 2550, B-2010	11/22/2022	11:40 AM	BTB
Oxidation-Reduction Potential	-111.3	mV	SM 2580, B-2011	11/22/2022	11:40 AM	BTB
pH	7.54	S.U.	SM 4500-H+, B-2011	11/22/2022	11:40 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	11/22/2022	11:40 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201108

Sample Received Date:	11/28/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:24 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Arsenic	1.4		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Barium	73.8		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Boron	1260		µg/L	3.6	10.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Calcium	27100	D	µg/L	14000	25000	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	6:35 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	3:34 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Lithium	89.9		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Molybdenum	1.5		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Selenium	< 2.0		µg/L	0.5	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:16 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	12/1/2022	12:17 PM	JD
Chloride	313	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	12/14/2022	2:15 AM	JD
Fluoride	0.14		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	12/14/2022	8:06 PM	JD
Sulfate	32.8		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	12/13/2022	8:26 PM	JD
Solids, Total Dissolved	1050		mg/L		50.0	SM 2540, C-2011	11/29/2022	2:23 PM	JD

Pace

Lab Identification #: 30543724002

Sample Received Date:	12/6/2022	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:15 AM	Sample Received By:	PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0504 ± 0.262 (0.543)		pCi/L			EPA 903.1	12/28/2022	2:03 PM	GDH
Radium-228	0.427 ± 0.326 (0.635)		pCi/L			EPA 904.0	12/22/2022	2:36 PM	JJS1
Total Radium Calculation	0.477 ± 0.588 (1.18)		pCi/L			Total Radium Calculation	12/28/2022	7:14 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

01:56 PM 01/13/2023

Eric Hamilton - QA/QC Chemist

02:09 PM 01/13/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/13/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-03A
AKGW No.:
Well Depth (Ft.): 40
Well Elevation (Ft. MSL): 614.98
Gradient: Down

Sample Collection Date: 11/22/2022
Sample Collection Time: 3:19 PM
Sample Collected By: BTB
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	584.90	MSL		11/22/2022	3:19 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	11/22/2022	3:19 PM	BTB
Conductivity	3012	µS/cm	SM 2510, B-2011	11/22/2022	3:19 PM	BTB
Temperature	51.44	°F	SM 2550, B-2010	11/22/2022	3:19 PM	BTB
Oxidation-Reduction Potential	169.5	mV	SM 2580, B-2011	11/22/2022	3:19 PM	BTB
pH	7.87	S.U.	SM 4500-H+, B-2011	11/22/2022	3:19 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	11/22/2022	3:19 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201109

Sample Received Date: 11/28/2022
Sample Received Time: 1:24 PM
Sample Receipt Temperatures (°C): < 6
Sample Received By: JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	3:38 PM	JD
Barium	42.3		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Boron	3230	D	µg/L	7.2	50.0	EPA 200.8, Rev. 5.4 (1994)	1/12/2023	3:29 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Calcium	16100	D	µg/L	1120	2000	EPA 200.8, Rev. 5.4 (1994)	1/12/2023	3:29 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	3:38 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Lithium	89.3		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Molybdenum	27.5		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Selenium	< 2.0		µg/L	0.5	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:21 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	12/1/2022	12:20 PM	JD
Chloride	339	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	12/14/2022	2:34 AM	JD
Fluoride	1.6		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	12/15/2022	4:59 PM	JD
Sulfate	197		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	12/13/2022	8:45 PM	JD
Solids, Total Dissolved	1360		mg/L		50.0	SM 2540, C-2011	11/29/2022	2:23 PM	JD

Pace

Lab Identification #: 30543724003

Sample Received Date: 12/6/2022
Sample Received Time: 10:15 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.101 ± 0.343 (0.662)		pCi/L			EPA 903.1	12/28/2022	2:03 PM	GDH
Radium-228	0.189 ± 0.270 (0.579)		pCi/L			EPA 904.0	12/22/2022	2:37 PM	JJS1
Total Radium Calculation	0.290 ± 0.613 (1.24)		pCi/L			Total Radium Calculation	12/28/2022	7:14 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.
Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
01:56 PM 01/13/2023

Eric Hamilton - QA/QC Chemist
02:09 PM 01/13/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/13/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	11/22/2022
Well ID No:	PH-MW-04	Sample Collection Time:	12:59 PM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	522.63	MSL		11/22/2022	12:59 PM	BTB
Turbidity	1.13	NTU	SM 2130, B-2001	11/22/2022	12:59 PM	BTB
Conductivity	1473	µS/cm	SM 2510, B-2011	11/22/2022	12:59 PM	BTB
Temperature	59.18	°F	SM 2550, B-2010	11/22/2022	12:59 PM	BTB
Oxidation-Reduction Potential	216.6	mV	SM 2580, B-2011	11/22/2022	12:59 PM	BTB
pH	6.32	S.U.	SM 4500-H+, B-2011	11/22/2022	12:59 PM	BTB
Oxygen, dissolved	2.45	mg/L	SM 4500-O	11/22/2022	12:59 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201110

Sample Received Date:	11/28/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:24 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Barium	73.0		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Boron	690		µg/L	3.6	10.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Calcium	87200	D	µg/L	14000	25000	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	6:43 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	3:42 PM	JD
Cobalt	1.1		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Lithium	33.3		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Selenium	< 2.0		µg/L	0.5	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:25 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	12/1/2022	12:23 PM	JD
Chloride	17.5		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	12/13/2022	12:37 AM	JD
Fluoride	0.24		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	12/15/2022	5:18 PM	JD
Sulfate	189		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	12/13/2022	11:04 PM	JD
Solids, Total Dissolved	962		mg/L		50.0	SM 2540, C-2011	11/29/2022	2:23 PM	JD

Pace

Lab Identification #: 30543724004

Sample Received Date:	12/6/2022	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:15 AM	Sample Received By:	PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.1 ± 0.316 (0.757)		pCi/L			EPA 903.1	12/28/2022	2:03 PM	GDH
Radium-228	0.563 ± 0.335 (0.612)		pCi/L			EPA 904.0	12/22/2022	2:37 PM	JJS1
Total Radium Calculation	0.563 ± 0.651 (1.37)		pCi/L			Total Radium Calculation	12/28/2022	7:14 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

01:56 PM 01/13/2023

Eric Hamilton - QA/QC Chemist

02:09 PM 01/13/2023

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Report Date: 1/13/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	11/22/2022
Well ID No:	PH-MW-05	Sample Collection Time:	2:06 PM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	527.61	MSL		11/22/2022	2:06 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	11/22/2022	2:06 PM	BTB
Conductivity	835	µS/cm	SM 2510, B-2011	11/22/2022	2:06 PM	BTB
Temperature	52.16	°F	SM 2550, B-2010	11/22/2022	2:06 PM	BTB
Oxidation-Reduction Potential	250.2	mV	SM 2580, B-2011	11/22/2022	2:06 PM	BTB
pH	7.26	S.U.	SM 4500-H+, B-2011	11/22/2022	2:06 PM	BTB
Oxygen, dissolved	6.84	mg/L	SM 4500-O	11/22/2022	2:06 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201111

Sample Received Date:	11/28/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:24 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Barium	73.2		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Boron	244		µg/L	3.6	10.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Calcium	71400	D	µg/L	14000	25000	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	6:48 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	3:46 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Lithium	29.3		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	3:46 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Selenium	< 2.0		µg/L	0.5	2.0	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	12/30/2022	7:29 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	12/1/2022	12:26 PM	JD
Chloride	11.2		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	12/13/2022	12:56 AM	JD
Fluoride	0.17		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	12/15/2022	5:37 PM	JD
Sulfate	150		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	12/13/2022	11:22 PM	JD
Solids, Total Dissolved	540		mg/L		50.0	SM 2540, C-2011	11/29/2022	2:23 PM	JD

Pace

Lab Identification #: 30543724005

Sample Received Date:	12/6/2022	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:15 AM	Sample Received By:	PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.2 ± 0.393 (0.886)		pCi/L			EPA 903.1	12/28/2022	2:17 PM	GDH
Radium-228	0.599 ± 0.354 (0.655)		pCi/L			EPA 904.0	12/22/2022	2:37 PM	JJS1
Total Radium Calculation	0.599 ± 0.747 (1.54)		pCi/L			Total Radium Calculation	12/28/2022	7:14 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

01:56 PM 01/13/2023

Eric Hamilton - QA/QC Chemist

02:09 PM 01/13/2023

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A Touchstone Energy Cooperative

EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/27/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	12/29/2022
Well ID No:	PH-MW-01	Sample Collection Time:	10:50 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.58	MSL		12/29/2022	10:50 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	12/29/2022	10:50 AM	BTB
Conductivity	2792	µS/cm	SM 2510, B-2011	12/29/2022	10:50 AM	BTB
Temperature	50.72	°F	SM 2550, B-2010	12/29/2022	10:50 AM	BTB
Oxidation-Reduction Potential	57.2	mV	SM 2580, B-2011	12/29/2022	10:50 AM	BTB
pH	6.17	S.U.	SM 4500-H+, B-2011	12/29/2022	10:50 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	12/29/2022	10:50 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201216

Sample Received Date:	12/30/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:00 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Barium	50.4		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Boron	1750		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Calcium	266000	D	µg/L	28000	50000	EPA 200.8, Rev. 5.4 (1994)	1/12/2023	2:58 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Cobalt	8.3		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Lithium	100		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Selenium	1.6		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:21 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	1/19/2023	8:25 AM	JD
Chloride	145	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	1/13/2023	3:05 PM	JD
Fluoride	< 0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	1/13/2023	6:14 PM	JD
Sulfate	328	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	1/13/2023	3:05 PM	JD
Solids, Total Dissolved	1960		mg/L		50.0	SM 2540, C-2011	1/4/2023	3:02 PM	JD

Pace

Lab Identification #: 30551664001

Sample Received Date:	1/5/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:05 AM	Sample Received By:	TH

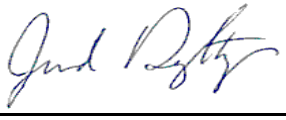
Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.1± 0.394 (0.895)		pCi/L			EPA 903.1	1/20/2023	2:06 PM	CLM
Radium-228	0.372± 0.338 (0.682)		pCi/L			EPA 904.0	1/13/2023	3:45 PM	JJS1
Total Radium Calculation	0.372± 0.732 (1.58)		pCi/L			Total Radium Calculation	1/23/2023	3:14 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :



Jared Daugherty - Chemist

12:47 PM 01/27/2023

Eric Hamilton - QA/QC Chemist

12:51 PM 01/27/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/27/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	12/29/2022
Well ID No:	PH-MW-02	Sample Collection Time:	12:38 PM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	546.20	MSL		12/29/2022	12:38 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	12/29/2022	12:38 PM	BTB
Conductivity	1869	µS/cm	SM 2510, B-2011	12/29/2022	12:38 PM	BTB
Temperature	54.86	°F	SM 2550, B-2010	12/29/2022	12:38 PM	BTB
Oxidation-Reduction Potential	-161.5	mV	SM 2580, B-2011	12/29/2022	12:38 PM	BTB
pH	7.53	S.U.	SM 4500-H+, B-2011	12/29/2022	12:38 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	12/29/2022	12:38 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201217

Sample Received Date:	12/30/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:00 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Arsenic	1.8		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Barium	77.3		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Boron	1280		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Calcium	37300	D	µg/L	5600	10000	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	8:00 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Lithium	93.6		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Molybdenum	1.6		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Selenium	1.2		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:25 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	1/19/2023	8:28 AM	JD
Chloride	305	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	1/13/2023	3:24 PM	JD
Fluoride	0.43		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	1/13/2023	6:33 PM	JD
Sulfate	33.4		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	1/13/2023	6:33 PM	JD
Solids, Total Dissolved	994		mg/L		50.0	SM 2540, C-2011	1/4/2023	3:02 PM	JD

Pace

Lab Identification #: 30551664002

Sample Received Date:	1/5/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:05 AM	Sample Received By:	TH

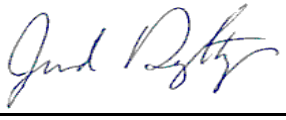
Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.000 ± 0.493 (0.988)		pCi/L			EPA 903.1	1/20/2023	2:06 PM	CLM
Radium-228	0.465 ± 0.367 (0.725)		pCi/L			EPA 904.0	1/13/2023	3:45 PM	JJS1
Total Radium Calculation	0.465 ± 0.860 (1.71)		pCi/L			Total Radium Calculation	1/23/2023	3:14 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :



Jared Daugherty - Chemist

12:47 PM 01/27/2023

Eric Hamilton - QA/QC Chemist

12:51 PM 01/27/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/27/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-03A
AKGW No.:
Well Depth (Ft.): 40
Well Elevation (Ft. MSL): 614.98
Gradient: Down

Sample Collection Date: 12/29/2022
Sample Collection Time: 3:59 PM
Sample Collected By: BTB
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	585.37	MSL		12/29/2022	3:59 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	12/29/2022	3:59 PM	BTB
Conductivity	2888	µS/cm	SM 2510, B-2011	12/29/2022	3:59 PM	BTB
Temperature	53.60	°F	SM 2550, B-2010	12/29/2022	3:59 PM	BTB
Oxidation-Reduction Potential	-62.2	mV	SM 2580, B-2011	12/29/2022	3:59 PM	BTB
pH	7.92	S.U.	SM 4500-H+, B-2011	12/29/2022	3:59 PM	BTB
Oxygen, dissolved	1.32	mg/L	SM 4500-O	12/29/2022	3:59 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201218

Sample Received Date: 12/30/2022
Sample Received Time: 10:00 AM
Sample Receipt Temperatures (°C): < 6
Sample Received By: JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Barium	44.1		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Boron	3260	D	µg/L	18.1	125	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	8:03 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Calcium	13100	D	µg/L	2800	5000	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	8:03 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Lithium	94.5		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Molybdenum	30.6		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Selenium	1.1		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:29 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	1/19/2023	8:31 AM	JD
Chloride	331	D	mg/L	2.4	5.0	EPA 300.0 Rev 2.1 (1993)	1/13/2023	3:43 PM	JD
Fluoride	1.7		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	1/13/2023	6:52 PM	JD
Sulfate	179		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	1/13/2023	6:52 PM	JD
Solids, Total Dissolved	1270		mg/L		50.0	SM 2540, C-2011	1/4/2023	3:02 PM	JD

Pace

Lab Identification #: 30551664003

Sample Received Date: 1/5/2023
Sample Received Time: 10:05 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: TH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.293 ± 0.502 (0.880)		pCi/L			EPA 903.1	1/20/2023	2:23 PM	CLM
Radium-228	1.09 ± 0.522 (0.918)		pCi/L			EPA 904.0	1/13/2023	3:46 PM	JJS1
Total Radium Calculation	1.38 ± 1.02 (1.80)		pCi/L			Total Radium Calculation	1/23/2023	3:14 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.
Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
12:47 PM 01/27/2023

Eric Hamilton - QA/QC Chemist
12:51 PM 01/27/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/27/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-04
AKGW No.: 8006-4557
Well Depth (Ft.): 37.32
Well Elevation (Ft. MSL): 548.56
Gradient: Down

Sample Collection Date: 12/29/2022
Sample Collection Time: 1:59 PM
Sample Collected By: BTB
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	523.24	MSL		12/29/2022	1:59 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	12/29/2022	1:59 PM	BTB
Conductivity	1434	µS/cm	SM 2510, B-2011	12/29/2022	1:59 PM	BTB
Temperature	58.28	°F	SM 2550, B-2010	12/29/2022	1:59 PM	BTB
Oxidation-Reduction Potential	136.7	mV	SM 2580, B-2011	12/29/2022	1:59 PM	BTB
pH	6.23	S.U.	SM 4500-H+, B-2011	12/29/2022	1:59 PM	BTB
Oxygen, dissolved	2.91	mg/L	SM 4500-O	12/29/2022	1:59 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201219

Sample Received Date: 12/30/2022
Sample Received Time: 10:00 AM
Sample Receipt Temperatures (°C): < 6
Sample Received By: JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Barium	75.8		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Boron	737		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Calcium	146000	D	µg/L	14000	25000	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	8:07 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Cobalt	1.4		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Lithium	40.0		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:53 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	1/19/2023	8:35 AM	JD
Chloride	17.2		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	1/13/2023	7:11 PM	JD
Fluoride	0.23		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	1/13/2023	7:11 PM	JD
Sulfate	183		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	1/13/2023	7:11 PM	JD
Solids, Total Dissolved	910		mg/L		50.0	SM 2540, C-2011	1/4/2023	3:02 PM	JD

Pace

Lab Identification #: 30551664004

Sample Received Date: 1/5/2023
Sample Received Time: 10:05 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: TH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.159 ± 0.313 (0.571)		pCi/L			EPA 903.1	1/20/2023	2:23 PM	CLM
Radium-228	0.534 ± 0.390 (0.767)		pCi/L			EPA 904.0	1/13/2023	3:46 PM	JJS1
Total Radium Calculation	0.693 ± 0.703 (1.34)		pCi/L			Total Radium Calculation	1/23/2023	3:14 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.
Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
12:47 PM 01/27/2023

Eric Hamilton - QA/QC Chemist
12:51 PM 01/27/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/27/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	12/29/2022
Well ID No:	PH-MW-05	Sample Collection Time:	3:00 PM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	528.07	MSL		12/29/2022	3:00 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	12/29/2022	3:00 PM	BTB
Conductivity	852	µS/cm	SM 2510, B-2011	12/29/2022	3:00 PM	BTB
Temperature	54.32	°F	SM 2550, B-2010	12/29/2022	3:00 PM	BTB
Oxidation-Reduction Potential	216.9	mV	SM 2580, B-2011	12/29/2022	3:00 PM	BTB
pH	7.19	S.U.	SM 4500-H+, B-2011	12/29/2022	3:00 PM	BTB
Oxygen, dissolved	6.99	mg/L	SM 4500-O	12/29/2022	3:00 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2201220

Sample Received Date:	12/30/2022	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:00 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Barium	77.2		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Boron	263		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Calcium	79900	D	µg/L	11200	20000	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	8:11 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Lithium	30.8		µg/L	6.2	25.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	1/9/2023	6:57 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	1/19/2023	8:38 AM	JD
Chloride	10.9		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	1/13/2023	7:30 PM	JD
Fluoride	0.16		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	1/13/2023	7:30 PM	JD
Sulfate	155		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	1/13/2023	7:30 PM	JD
Solids, Total Dissolved	546		mg/L		50.0	SM 2540, C-2011	1/4/2023	3:02 PM	JD

Pace

Lab Identification #: 30551664005

Sample Received Date:	1/5/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:05 AM	Sample Received By:	TH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0530 ± 0.312 (0.637)		pCi/L			EPA 903.1	1/20/2023	2:23 PM	CLM
Radium-228	1.06 ± 0.458 (0.761)		pCi/L			EPA 904.0	1/13/2023	3:46 PM	JJS1
Total Radium Calculation	1.11 ± 0.770 (1.40)		pCi/L			Total Radium Calculation	1/23/2023	3:14 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

12:47 PM 01/27/2023

Eric Hamilton - QA/QC Chemist

12:51 PM 01/27/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	01/30/2023
Well ID No:	PH-MW-01	Sample Collection Time:	11:12 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.87	MSL		01/30/2023	11:12 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	01/30/2023	11:12 AM	BTB
Conductivity	2493	µS/cm	SM 2510, B-2011	01/30/2023	11:12 AM	BTB
Temperature	48.74	°F	SM 2550, B-2010	01/30/2023	11:12 AM	BTB
Oxidation-Reduction Potential	135.9	mV	SM 2580, B-2011	01/30/2023	11:12 AM	BTB
pH	6.16	S.U.	SM 4500-H+, B-2011	01/30/2023	11:12 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	01/30/2023	11:12 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300133

Sample Received Date:	02/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	8:10 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/14/2023	2:32 PM	JD
Barium	48.7		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Boron	1430		µg/L	3.6	6.5	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Calcium	335000	D	µg/L	14000	30000	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	1:35 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Cobalt	4.4		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Lead	< 2.0	D	µg/L	1.1	2.0	EPA 200.8, Rev. 5.4 (1994)	2/14/2023	12:56 PM	JD
Lithium	85.4		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:39 PM	JD
Thallium	< 0.10	D	µg/L	0.07	0.10	EPA 200.8, Rev. 5.4 (1994)	2/14/2023	12:56 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	2/16/2023	11:50 AM	JD
Chloride	98.4		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	2/1/2023	10:18 PM	JD
Fluoride	< 0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	2/1/2023	10:18 PM	JD
Sulfate	326	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	2/1/2023	7:09 PM	JD
Solids, Total Dissolved	1840		mg/L		50.0	SM 2540, C-2011	2/2/2023	12:04 PM	JD

Pace

Lab Identification #: 30562145001

Sample Received Date:	2/13/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:05 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.392 ± 0.455 (0.734)		pCi/L			EPA 903.1	2/26/2023	2:06 PM	GDH
Radium-228	1.01 ± 0.413 (0.637)		pCi/L			EPA 904.0	2/22/2023	11:50 AM	VAL
Total Radium Calculation	1.40 ± 0.868 (1.37)		pCi/L			Total Radium Calculation	2/28/2023	3:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

07:35 AM 03/24/2023

Eric Hamilton - QA/QC Chemist

03:27 PM 03/28/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	01/30/2023
Well ID No:	PH-MW-02	Sample Collection Time:	1:04 PM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	546.51	MSL		01/30/2023	1:04 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	01/30/2023	1:04 PM	BTB
Conductivity	2116	µS/cm	SM 2510, B-2011	01/30/2023	1:04 PM	BTB
Temperature	50.54	°F	SM 2550, B-2010	01/30/2023	1:04 PM	BTB
Oxidation-Reduction Potential	-150.1	mV	SM 2580, B-2011	01/30/2023	1:04 PM	BTB
pH	7.71	S.U.	SM 4500-H+, B-2011	01/30/2023	1:04 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	01/30/2023	1:04 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300134

Sample Received Date:	02/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	8:10 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Arsenic	1.5		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/14/2023	1:00 PM	JD
Barium	67.8		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Boron	1370		µg/L	3.6	6.5	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Calcium	31500	D	µg/L	2800	6000	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	1:39 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Lithium	94.7		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Molybdenum	1.9		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Selenium	1.8		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:43 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	2/16/2023	11:53 AM	JD
Chloride	327	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	2/1/2023	7:28 PM	JD
Fluoride	0.47		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	2/1/2023	10:37 PM	JD
Sulfate	34.2		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	2/1/2023	10:37 PM	JD
Solids, Total Dissolved	1110		mg/L		50.0	SM 2540, C-2011	2/2/2023	12:04 PM	JD

Pace

Lab Identification #: 30562145001

Sample Received Date:	2/13/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:05 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.000 ± 0.427 (0.886)		pCi/L			EPA 903.1	2/26/2023	2:06 PM	GDH
Radium-228	0.384 ± 0.299 (0.579)		pCi/L			EPA 904.0	2/22/2023	11:50 AM	VAL
Total Radium Calculation	0.384 ± 0.726 (1.47)		pCi/L			Total Radium Calculation	2/28/2023	3:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

07:35 AM 03/24/2023

Eric Hamilton - QA/QC Chemist

03:27 PM 03/28/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	01/30/2023
Well ID No:	PH-MW-03A	Sample Collection Time:	4:35 PM
AKGW No.:		Sample Collected By:	BTB
Well Depth (Ft.):	40	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	614.98	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	585.31	MSL		01/30/2023	4:35 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	01/30/2023	4:35 PM	BTB
Conductivity	2907	µS/cm	SM 2510, B-2011	01/30/2023	4:35 PM	BTB
Temperature	47.84	°F	SM 2550, B-2010	01/30/2023	4:35 PM	BTB
Oxidation-Reduction Potential	-18.5	mV	SM 2580, B-2011	01/30/2023	4:35 PM	BTB
pH	7.86	S.U.	SM 4500-H+, B-2011	01/30/2023	4:35 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	01/30/2023	4:35 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300135

Sample Received Date:	02/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	8:10 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/14/2023	1:04 PM	JD
Barium	42.9		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Boron	3040		µg/L	3.6	6.5	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Calcium	12600		µg/L	560	1200	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Lithium	90.6		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Molybdenum	26.2		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Selenium	1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:47 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	2/16/2023	11:57 AM	JD
Chloride	333	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	2/1/2023	7:47 PM	JD
Fluoride	1.7		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	2/1/2023	10:56 PM	JD
Sulfate	172		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	2/1/2023	10:56 PM	JD
Solids, Total Dissolved	1330		mg/L		50.0	SM 2540, C-2011	2/2/2023	12:04 PM	JD

Pace

Lab Identification #: 30562145001

Sample Received Date:	2/13/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:05 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.000 ± 0.365 (0.758)		pCi/L			EPA 903.1	2/26/2023	2:06 PM	GDH
Radium-228	0.511 ± 0.332 (0.621)		pCi/L			EPA 904.0	2/22/2023	11:50 AM	VAL
Total Radium Calculation	0.511 ± 0.697 (1.38)		pCi/L			Total Radium Calculation	2/28/2023	3:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

07:35 AM 03/24/2023

Eric Hamilton - QA/QC Chemist

03:27 PM 03/28/2023

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Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	01/30/2023
Well ID No:	PH-MW-04	Sample Collection Time:	2:23 PM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	522.96	MSL		01/30/2023	2:23 PM	BTB
Turbidity	2	NTU	SM 2130, B-2001	01/30/2023	2:23 PM	BTB
Conductivity	1429	µS/cm	SM 2510, B-2011	01/30/2023	2:23 PM	BTB
Temperature	55.58	°F	SM 2550, B-2010	01/30/2023	2:23 PM	BTB
Oxidation-Reduction Potential	178.6	mV	SM 2580, B-2011	01/30/2023	2:23 PM	BTB
pH	6.23	S.U.	SM 4500-H+, B-2011	01/30/2023	2:23 PM	BTB
Oxygen, dissolved	2.98	mg/L	SM 4500-O	01/30/2023	2:23 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300136

Sample Received Date:	02/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	8:10 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/14/2023	1:07 PM	JD
Barium	78.2		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Boron	789		µg/L	3.6	6.5	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Calcium	170000	D	µg/L	11200	24000	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	1:54 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Cobalt	1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Lithium	32.7		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:51 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	2/16/2023	12:00 PM	JD
Chloride	18.5		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	2/1/2023	11:15 PM	JD
Fluoride	0.24		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	2/1/2023	11:15 PM	JD
Sulfate	187		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	2/1/2023	11:15 PM	JD
Solids, Total Dissolved	936		mg/L		50.0	SM 2540, C-2011	2/2/2023	12:04 PM	JD

Pace

Lab Identification #: 30562145001

Sample Received Date:	2/13/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:05 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.527 ± 0.363 (0.388)		pCi/L			EPA 903.1	2/26/2023	2:06 PM	GDH
Radium-228	0.581 ± 0.379 (0.732)		pCi/L			EPA 904.0	2/22/2023	11:50 AM	VAL
Total Radium Calculation	1.11 ± 0.742 (1.12)		pCi/L			Total Radium Calculation	2/28/2023	3:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

07:35 AM 03/24/2023

Eric Hamilton - QA/QC Chemist

03:27 PM 03/28/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	01/30/2023
Well ID No:	PH-MW-05	Sample Collection Time:	3:18 PM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	528.12	MSL		01/30/2023	3:18 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	01/30/2023	3:18 PM	BTB
Conductivity	901	µS/cm	SM 2510, B-2011	01/30/2023	3:18 PM	BTB
Temperature	45.32	°F	SM 2550, B-2010	01/30/2023	3:18 PM	BTB
Oxidation-Reduction Potential	267.9	mV	SM 2580, B-2011	01/30/2023	3:18 PM	BTB
pH	7.20	S.U.	SM 4500-H+, B-2011	01/30/2023	3:18 PM	BTB
Oxygen, dissolved	6.74	mg/L	SM 4500-O	01/30/2023	3:18 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300137

Sample Received Date:	02/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	8:10 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/14/2023	1:11 PM	JD
Barium	79.3		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Boron	241		µg/L	3.6	6.5	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Calcium	114000	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	1:57 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Lithium	22.3		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	2/10/2023	2:55 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	2/16/2023	12:03 PM	JD
Chloride	10.5		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	2/1/2023	11:34 PM	JD
Fluoride	0.16		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	2/1/2023	11:34 PM	JD
Sulfate	172		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	2/1/2023	11:34 PM	JD
Solids, Total Dissolved	598		mg/L		50.0	SM 2540, C-2011	2/2/2023	12:04 PM	JD

Pace

Lab Identification #: 30562145001

Sample Received Date:	2/13/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:05 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.418 ± 0.391 (0.554)		pCi/L			EPA 903.1	2/26/2023	2:06 PM	GDH
Radium-228	0.715 ± 0.418 (0.778)		pCi/L			EPA 904.0	2/22/2023	11:50 AM	VAL
Total Radium Calculation	1.13 ± 0.809 (1.33)		pCi/L			Total Radium Calculation	2/28/2023	3:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

07:35 AM 03/24/2023

Eric Hamilton - QA/QC Chemist

03:27 PM 03/28/2023

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Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	02/28/2023
Well ID No:	PH-MW-01	Sample Collection Time:	10:25 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.90	MSL		02/28/2023	10:25 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	02/28/2023	10:25 AM	BTB
Conductivity	2534	µS/cm	SM 2510, B-2011	02/28/2023	10:25 AM	BTB
Temperature	53.42	°F	SM 2550, B-2010	02/28/2023	10:25 AM	BTB
Oxidation-Reduction Potential	142.7	mV	SM 2580, B-2011	02/28/2023	10:25 AM	BTB
pH	6.15	S.U.	SM 4500-H+, B-2011	02/28/2023	10:25 AM	BTB
Oxygen, dissolved	1.05	mg/L	SM 4500-O	02/28/2023	10:25 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300175

Sample Received Date:	03/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:15 PM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Barium	53.0		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Boron	1390		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Calcium	342000	D	µg/L	14000	25000	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	12:28 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Cobalt	4.3		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Lithium	74.4		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:49 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	3/13/2023	11:09 AM	JD
Chloride	76.3		mg/L	0.2	2.0	EPA 300.0 Rev 2.1 (1993)	3/17/2023	5:37 PM	JD
Fluoride	< 0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/17/2023	5:37 PM	JD
Sulfate	317	D	mg/L	1.2	20.0	EPA 300.0 Rev 2.1 (1993)	3/24/2023	11:27 AM	JD
Solids, Total Dissolved	1810		mg/L		50.0	SM 2540, C-2011	3/2/2023	6:25 AM	JD

Pace

Lab Identification #: 30567788001

Sample Received Date:	3/7/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	11:10 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.000 ± 0.435 (0.904)		pCi/L			EPA 903.1	3/14/2023	1:24 PM	GDH
Radium-228	0.899 ± 0.465 (0.835)		pCi/L			EPA 904.0	3/13/2023	12:52 PM	JGH
Total Radium Calculation	0.899 ± 0.900 (1.74)		pCi/L			Total Radium Calculation	3/15/2023	3:58 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

08:32 AM 03/29/2023

Eric Hamilton - QA/QC Chemist

09:17 AM 04/04/2023

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Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	02/28/2023
Well ID No:	PH-MW-02	Sample Collection Time:	11:58 AM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	546.51	MSL		02/28/2023	11:58 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	02/28/2023	11:58 AM	BTB
Conductivity	2020	µS/cm	SM 2510, B-2011	02/28/2023	11:58 AM	BTB
Temperature	55.40	°F	SM 2550, B-2010	02/28/2023	11:58 AM	BTB
Oxidation-Reduction Potential	-148.8	mV	SM 2580, B-2011	02/28/2023	11:58 AM	BTB
pH	7.67	S.U.	SM 4500-H+, B-2011	02/28/2023	11:58 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	02/28/2023	11:58 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300176

Sample Received Date:	03/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:15 PM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Arsenic	1.5		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Barium	68.8		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Boron	1390		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Calcium	32800	D	µg/L	2800	5000	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	12:32 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Lithium	83.4		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Molybdenum	1.6		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:53 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	3/13/2023	11:12 AM	JD
Chloride	321	D	mg/L	1.2	10.0	EPA 300.0 Rev 2.1 (1993)	3/24/2023	11:27 AM	11.46
Fluoride	0.41		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/17/2023	5:55 PM	JD
Sulfate	33.6		mg/L	0.24	4.0	EPA 300.0 Rev 2.1 (1993)	3/17/2023	5:55 PM	JD
Solids, Total Dissolved	1060		mg/L		50.0	SM 2540, C-2011	3/2/2023	6:25 AM	JD

Pace

Lab Identification #: 30567788002

Sample Received Date:	3/7/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	11:10 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.609 ± 0.551 (0.813)		pCi/L			EPA 903.1	3/14/2023	1:24 PM	GDH
Radium-228	0.896 ± 0.584 (1.13)		pCi/L			EPA 904.0	3/13/2023	12:52 PM	JGH
Total Radium Calculation	1.51 ± 1.14 (1.94)		pCi/L			Total Radium Calculation	3/15/2023	3:58 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

08:32 AM 03/29/2023

Eric Hamilton - QA/QC Chemist

09:17 AM 04/04/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	02/28/2023
Well ID No:	PH-MW-03A	Sample Collection Time:	3:17 PM
AKGW No.:		Sample Collected By:	BTB
Well Depth (Ft.):	40	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	614.98	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	585.07	MSL		02/28/2023	3:17 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	02/28/2023	3:17 PM	BTB
Conductivity	2778	µS/cm	SM 2510, B-2011	02/28/2023	3:17 PM	BTB
Temperature	54.50	°F	SM 2550, B-2010	02/28/2023	3:17 PM	BTB
Oxidation-Reduction Potential	29.8	mV	SM 2580, B-2011	02/28/2023	3:17 PM	BTB
pH	7.77	S.U.	SM 4500-H+, B-2011	02/28/2023	3:17 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	02/28/2023	3:17 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300177

Sample Received Date:	03/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:15 PM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Barium	45.0		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Boron	3200		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Calcium	12200		µg/L	560	1000	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Lithium	85.1		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Molybdenum	25.8		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	1:57 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	3/13/2023	11:15 AM	JD
Chloride	332	D	mg/L	1.2	10.0	EPA 300.0 Rev 2.1 (1993)	3/24/2023	11:46 AM	12.05
Fluoride	1.7		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/17/2023	6:14 PM	JD
Sulfate	166		mg/L	0.24	4.0	EPA 300.0 Rev 2.1 (1993)	3/17/2023	6:14 PM	JD
Solids, Total Dissolved	1240		mg/L		50.0	SM 2540, C-2011	3/2/2023	6:25 AM	JD

Pace

Lab Identification #: 30567788003

Sample Received Date:	3/7/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	11:10 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.224 ± 0.603 (1.12)		pCi/L			EPA 903.1	3/14/2023	1:24 PM	GDH
Radium-228	0.558 ± 0.461 (0.933)		pCi/L			EPA 904.0	3/13/2023	12:53 PM	JGH
Total Radium Calculation	0.782 ± 1.06 (2.05)		pCi/L			Total Radium Calculation	3/15/2023	3:58 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

08:32 AM 03/29/2023

Eric Hamilton - QA/QC Chemist

09:17 AM 04/04/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	02/28/2023
Well ID No:	PH-MW-04	Sample Collection Time:	1:10 PM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	521.61	MSL		02/28/2023	1:10 PM	BTB
Turbidity	1.98	NTU	SM 2130, B-2001	02/28/2023	1:10 PM	BTB
Conductivity	1431	µS/cm	SM 2510, B-2011	02/28/2023	1:10 PM	BTB
Temperature	57.92	°F	SM 2550, B-2010	02/28/2023	1:10 PM	BTB
Oxidation-Reduction Potential	206.1	mV	SM 2580, B-2011	02/28/2023	1:10 PM	BTB
pH	6.30	S.U.	SM 4500-H+, B-2011	02/28/2023	1:10 PM	BTB
Oxygen, dissolved	3.29	mg/L	SM 4500-O	02/28/2023	1:10 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300178

Sample Received Date:	03/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:15 PM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Barium	80.4		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Boron	860		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Calcium	173000	D	µg/L	11200	20000	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	12:40 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Cobalt	1.1		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Lithium	31.5		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:00 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	3/13/2023	11:18 AM	JD
Chloride	20.0		mg/L	0.2	2.0	EPA 300.0 Rev 2.1 (1993)	3/17/2023	6:33 PM	JD
Fluoride	0.22		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/17/2023	6:33 PM	JD
Sulfate	206	D	mg/L	1.2	20.0	EPA 300.0 Rev 2.1 (1993)	3/24/2023	12:23 PM	JD
Solids, Total Dissolved	944		mg/L		50.0	SM 2540, C-2011	3/2/2023	6:25 AM	JD

Pace

Lab Identification #: 30567788004

Sample Received Date:	3/7/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	11:10 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.346 ± 0.361 (0.509)		pCi/L			EPA 903.1	3/14/2023	1:24 PM	GDH
Radium-228	0.320 ±0.0448(0.964)		pCi/L			EPA 904.0	3/13/2023	12:54 PM	JGH
Total Radium Calculation	0.666 ± 0.809 (1.47)		pCi/L			Total Radium Calculation	3/15/2023	3:58 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

08:32 AM 03/29/2023

Eric Hamilton - QA/QC Chemist

09:17 AM 04/04/2023

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Report Date: 4/12/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	02/28/2023
Well ID No:	PH-MW-05	Sample Collection Time:	2:06 PM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	527.71	MSL		02/28/2023	2:06 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	02/28/2023	2:06 PM	BTB
Conductivity	858	µS/cm	SM 2510, B-2011	02/28/2023	2:06 PM	BTB
Temperature	55.94	°F	SM 2550, B-2010	02/28/2023	2:06 PM	BTB
Oxidation-Reduction Potential	287.6	mV	SM 2580, B-2011	02/28/2023	2:06 PM	BTB
pH	7.18	S.U.	SM 4500-H+, B-2011	02/28/2023	2:06 PM	BTB
Oxygen, dissolved	7	mg/L	SM 4500-O	02/28/2023	2:06 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300179

Sample Received Date:	03/01/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:15 PM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Barium	89.0		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Boron	254		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Calcium	109000	D	µg/L	5600	10000	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	12:43 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Lithium	21.3		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	3/15/2023	2:04 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	3/13/2023	11:21 AM	JD
Chloride	10.9		mg/L	0.2	2.0	EPA 300.0 Rev 2.1 (1993)	3/17/2023	6:52 PM	JD
Fluoride	0.14		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/17/2023	6:52 PM	JD
Sulfate	159		mg/L	0.24	4.0	EPA 300.0 Rev 2.1 (1993)	3/17/2023	6:52 PM	JD
Solids, Total Dissolved	556		mg/L		50.0	SM 2540, C-2011	3/2/2023	6:25 AM	JD

Pace

Lab Identification #: 30567788005

Sample Received Date:	3/7/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	11:10 AM	Sample Received By:	PACE

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.000 ±0.0487(1.01)		pCi/L			EPA 903.1	3/14/2023	1:24 PM	GDH
Radium-228	0.568 ± 0.439 (0.874)		pCi/L			EPA 904.0	3/13/2023	12:54 PM	JGH
Total Radium Calculation	0.568 ± 0.926 (1.88)		pCi/L			Total Radium Calculation	3/15/2023	3:58 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

08:35 AM 03/27/2023

Eric Hamilton - QA/QC Chemist

03:27 PM 03/28/2023

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Report Date: 4/21/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	03/28/2023
Well ID No:	PH-MW-01	Sample Collection Time:	11:20 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	736.38	MSL		03/28/2023	11:20 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	03/28/2023	11:20 AM	BTB
Conductivity	2434	µS/cm	SM 2510, B-2011	03/28/2023	11:20 AM	BTB
Temperature	53.96	°F	SM 2550, B-2010	03/28/2023	11:20 AM	BTB
Oxidation-Reduction Potential	155.3	mV	SM 2580, B-2011	03/28/2023	11:20 AM	BTB
pH	6.09	S.U.	SM 4500-H+, B-2011	03/28/2023	11:20 AM	BTB
Oxygen, dissolved	1.05	mg/L	SM 4500-O	03/28/2023	11:20 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300231

Sample Received Date:	03/29/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:10 PM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Barium	52.3		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Boron	1140		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Calcium	329000	D	µg/L	14000	30000	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	10:23 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Cobalt	3.4		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Lithium	69.9		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:20 AM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	4/7/2023	9:02 AM	JD
Chloride	67.7		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	3/30/2023	2:03 PM	JD
Fluoride	0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/30/2023	2:03 PM	JD
Sulfate	301	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	3/30/2023	5:12 PM	JD
Solids, Total Dissolved	1740		mg/L		50.0	SM 2540, C-2011	3/30/2023	12:33 PM	JD

Pace

Lab Identification #: 30576221001

Sample Received Date:	4/5/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:35 AM	Sample Received By:	ZA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.322 ± 0.591 (1.05)		pCi/L			EPA 903.1	4/16/2023	2:28 PM	GDH
Radium-228	0.0382 ± 0.304 (0.702)		pCi/L			EPA 904.0	4/14/2023	11:10 AM	VAL
Total Radium Calculation	0.360 ± 0.895 (1.75)		pCi/L			Total Radium Calculation	4/17/2023	4:33 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

03:32 PM 04/20/2023

Eric Hamilton - QA/QC Chemist

04:06 PM 04/20/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/21/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	03/28/2023
Well ID No:	PH-MW-02	Sample Collection Time:	1:03 PM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	570.93	MSL		03/28/2023	1:03 PM	BTB
Turbidity	1	NTU	SM 2130, B-2001	03/28/2023	1:03 PM	BTB
Conductivity	2058	µS/cm	SM 2510, B-2011	03/28/2023	1:03 PM	BTB
Temperature	58.28	°F	SM 2550, B-2010	03/28/2023	1:03 PM	BTB
Oxidation-Reduction Potential	-139.7	mV	SM 2580, B-2011	03/28/2023	1:03 PM	BTB
pH	7.66	S.U.	SM 4500-H+, B-2011	03/28/2023	1:03 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	03/28/2023	1:03 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300232

Sample Received Date:	03/29/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:10 PM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Arsenic	1.4		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Barium	65.8		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Boron	1370		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Calcium	30600	D	µg/L	2800	6000	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	10:27 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Lithium	89.9		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Molybdenum	1.8		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:24 AM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	4/7/2023	9:05 AM	JD
Chloride	324	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	3/30/2023	5:31 PM	JD
Fluoride	0.51		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/30/2023	2:22 PM	JD
Sulfate	32.6		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	3/30/2023	2:22 PM	JD
Solids, Total Dissolved	1130		mg/L		50.0	SM 2540, C-2011	3/30/2023	12:33 PM	JD

Pace

Lab Identification #: 30576221002

Sample Received Date:	4/5/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:35 AM	Sample Received By:	ZA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.785 ± 0.705 (1.07)		pCi/L			EPA 903.1	4/16/2023	2:28 PM	GDH
Radium-228	0.692 ± 0.341 (0.574)		pCi/L			EPA 904.0	4/14/2023	11:14 AM	VAL
Total Radium Calculation	1.48 ± 1.05 (1.64)		pCi/L			Total Radium Calculation	4/17/2023	4:33 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

03:32 PM 04/20/2023

Eric Hamilton - QA/QC Chemist

04:06 PM 04/20/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/21/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-03A
AKGW No.:
Well Depth (Ft.): 40
Well Elevation (Ft. MSL): 614.98
Gradient: Down

Sample Collection Date: 03/28/2023
Sample Collection Time: 4:52 PM
Sample Collected By: BTB
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	614.97	MSL		03/28/2023	4:52 PM	BTB
Turbidity	1.09	NTU	SM 2130, B-2001	03/28/2023	4:52 PM	BTB
Conductivity	2818	µS/cm	SM 2510, B-2011	03/28/2023	4:52 PM	BTB
Temperature	54.68	°F	SM 2550, B-2010	03/28/2023	4:52 PM	BTB
Oxidation-Reduction Potential	4.4	mV	SM 2580, B-2011	03/28/2023	4:52 PM	BTB
pH	7.70	S.U.	SM 4500-H+, B-2011	03/28/2023	4:52 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	03/28/2023	4:52 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300233

Sample Received Date: 03/29/2023
Sample Received Time: 1:10 PM
Sample Receipt Temperatures (°C): < 6
Sample Received By: TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Barium	47.6		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Boron	2970		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Calcium	12300		µg/L	560	1200	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Lithium	84.5		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Molybdenum	25.6		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:27 AM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	4/7/2023	9:08 AM	JD
Chloride	333	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	3/30/2023	5:49 PM	JD
Fluoride	1.7		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/30/2023	2:41 PM	JD
Sulfate	157		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	3/30/2023	2:41 PM	JD
Solids, Total Dissolved	1310		mg/L		50.0	SM 2540, C-2011	3/30/2023	12:33 PM	JD

Pace

Lab Identification #: 30576221003

Sample Received Date: 4/5/2023
Sample Received Time: 10:35 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: ZA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.6 ± 0.714 (1.66)		pCi/L			EPA 903.1	4/16/2023	2:28 PM	GDH
Radium-228	0.0355 ± 0.233 (0.544)		pCi/L			EPA 904.0	4/14/2023	11:14 AM	VAL
Total Radium Calculation	0.0353 ± 0.947 (2.20)		pCi/L			Total Radium Calculation	4/17/2023	4:33 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.
Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
03:32 PM 04/20/2023

Eric Hamilton - QA/QC Chemist
04:06 PM 04/20/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/21/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	03/28/2023
Well ID No:	PH-MW-04	Sample Collection Time:	2:17 PM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	548.56	MSL		03/28/2023	2:17 PM	BTB
Turbidity	1.68	NTU	SM 2130, B-2001	03/28/2023	2:17 PM	BTB
Conductivity	1484	µS/cm	SM 2510, B-2011	03/28/2023	2:17 PM	BTB
Temperature	59.54	°F	SM 2550, B-2010	03/28/2023	2:17 PM	BTB
Oxidation-Reduction Potential	163.2	mV	SM 2580, B-2011	03/28/2023	2:17 PM	BTB
pH	6.30	S.U.	SM 4500-H+, B-2011	03/28/2023	2:17 PM	BTB
Oxygen, dissolved	3.33	mg/L	SM 4500-O	03/28/2023	2:17 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300234

Sample Received Date:	03/29/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:10 PM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Barium	67.6		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Boron	814		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Calcium	165000	D	µg/L	11200	24000	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	10:42 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Cobalt	1.1		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Lithium	32.7		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:31 AM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	4/7/2023	9:11 AM	JD
Chloride	21.8		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	3/30/2023	3:00 PM	JD
Fluoride	0.32		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/30/2023	3:00 PM	JD
Sulfate	238	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	3/30/2023	6:08 PM	JD
Solids, Total Dissolved	1090		mg/L		50.0	SM 2540, C-2011	3/30/2023	12:33 PM	JD

Pace

Lab Identification #: 30576221004

Sample Received Date:	4/5/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:35 AM	Sample Received By:	ZA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0712 ± 0.503 (1.00)		pCi/L			EPA 903.1	4/16/2023	2:28 PM	GDH
Radium-228	0.775 ± 0.333 (0.508)		pCi/L			EPA 904.0	4/14/2023	11:14 AM	VAL
Total Radium Calculation	0.846 ± 0.836 (1.51)		pCi/L			Total Radium Calculation	4/17/2023	4:33 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

03:32 PM 04/20/2023

Eric Hamilton - QA/QC Chemist

04:06 PM 04/20/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 4/21/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	03/28/2023
Well ID No:	PH-MW-05	Sample Collection Time:	3:22 PM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	560.32	MSL		03/28/2023	3:22 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	03/28/2023	3:22 PM	BTB
Conductivity	886	µS/cm	SM 2510, B-2011	03/28/2023	3:22 PM	BTB
Temperature	59.00	°F	SM 2550, B-2010	03/28/2023	3:22 PM	BTB
Oxidation-Reduction Potential	271.7	mV	SM 2580, B-2011	03/28/2023	3:22 PM	BTB
pH	7..25	S.U.	SM 4500-H+, B-2011	03/28/2023	3:22 PM	BTB
Oxygen, dissolved	8.2	mg/L	SM 4500-O	03/28/2023	3:22 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300235

Sample Received Date:	03/29/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	1:10 PM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Barium	76.2		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Boron	223		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Calcium	113000	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	10:46 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Lithium	20.6		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	4/10/2023	11:35 AM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	4/7/2023	9:14 AM	JD
Chloride	11.1		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	3/30/2023	3:19 PM	JD
Fluoride	0.18		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	3/30/2023	3:19 PM	JD
Sulfate	181	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	3/30/2023	6:27 PM	JD
Solids, Total Dissolved	688		mg/L		50.0	SM 2540, C-2011	3/30/2023	12:33 PM	JD

Pace

Lab Identification #: 30576221005

Sample Received Date:	4/5/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:35 AM	Sample Received By:	ZA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.706 ± 0.676 (1.03)		pCi/L			EPA 903.1	4/16/2023	2:45 PM	GDH
Radium-228	0.686 ± 0.337 (0.561)		pCi/L			EPA 904.0	4/14/2023	11:14 AM	VAL
Total Radium Calculation	1.39 ± 1.01 (1.59)		pCi/L			Total Radium Calculation	4/17/2023	4:33 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

03:32 PM 04/20/2023

Eric Hamilton - QA/QC Chemist

04:06 PM 04/20/2023

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Report Date: 6/16/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	04/27/2023
Well ID No:	PH-MW-01	Sample Collection Time:	9:42 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	702.43	MSL		04/27/2023	9:42 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	04/27/2023	9:42 AM	BTB
Conductivity	2151	µS/cm	SM 2510, B-2011	04/27/2023	9:42 AM	BTB
Temperature, deg. F	52.70	°F	SM 2550, B-2010	04/27/2023	9:42 AM	BTB
Oxidation-Reduction Potential	273.8	mV	SM 2580, B-2011	04/27/2023	9:42 AM	BTB
pH	6.05	S.U.	SM 4500-H+, B-2011	04/27/2023	9:42 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	04/27/2023	9:42 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300285

Sample Received Date:	04/28/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:00 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Barium	59.2		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Boron	1040		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Calcium	353000	D	µg/L	14000	30000	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	11:26 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Cobalt	2.5		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Lithium	66.0		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	2:26 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:04 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	5/12/2023	9:51 AM	JD
Chloride	34.5		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	5/10/2023	2:36 PM	JD
Fluoride	< 0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	5/10/2023	2:36 PM	JD
Sulfate	241		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	5/10/2023	11:26 AM	JD
Solids, Total Dissolved	1680		mg/L		50.0	SM 2540, C-2011	4/28/2023	11:03 AM	JD

Pace

Lab Identification #: 30586870001

Sample Received Date:	5/10/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	11:25 AM	Sample Received By:	JA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0780 ± 0.666 (1.30)		pCi/L			EPA 903.1	6/1/2023	2:34 PM	CLM
Radium-228	0.835 ± 0.422 (0.734)		pCi/L			EPA 904.0	5/26/2023	2:35 PM	VAL
Total Radium Calculation	0.913 ± 1.09 (2.03)		pCi/L			Total Radium Calculation	6/1/2023	4:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

03:15 PM 06/09/2023

Eric Hamilton - QA/QC Chemist

09:06 AM 06/16/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 6/16/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	04/27/2023
Well ID No:	PH-MW-02	Sample Collection Time:	11:13 AM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	546.32	MSL		04/27/2023	11:13 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	04/27/2023	11:13 AM	BTB
Conductivity	2101	µS/cm	SM 2510, B-2011	04/27/2023	11:13 AM	BTB
Temperature, deg. F	57.38	°F	SM 2550, B-2010	04/27/2023	11:13 AM	BTB
Oxidation-Reduction Potential	-147.6	mV	SM 2580, B-2011	04/27/2023	11:13 AM	BTB
pH	7.67	S.U.	SM 4500-H+, B-2011	04/27/2023	11:13 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	04/27/2023	11:13 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300286

Sample Received Date:	04/28/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:00 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Arsenic	1.6		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Barium	71.6		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Boron	1580		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Calcium	30100	D	µg/L	2240	4800	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	11:38 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Lithium	101		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	2:31 PM	JD
Molybdenum	2.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:07 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	5/12/2023	9:54 AM	JD
Chloride	321		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	5/10/2023	11:45 AM	JD
Fluoride	0.52		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	5/10/2023	2:54 PM	JD
Sulfate	32.4		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	5/10/2023	2:54 PM	JD
Solids, Total Dissolved	1190		mg/L		50.0	SM 2540, C-2011	4/28/2023	11:03 AM	JD

Pace

Lab Identification #: 30586870002

Sample Received Date:	5/10/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	11:25 AM	Sample Received By:	JA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.691 ± 0.486 (0.620)		pCi/L			EPA 903.1	6/1/2023	2:34 PM	CLM
Radium-228	0.528 ± 0.373 (0.712)		pCi/L			EPA 904.0	5/26/2023	2:36 PM	VAL
Total Radium Calculation	1.22 ± 0.859 (1.33)		pCi/L			Total Radium Calculation	6/1/2023	4:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

03:15 PM 06/09/2023

Eric Hamilton - QA/QC Chemist

09:06 AM 06/16/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 6/16/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-03A
AKGW No.:
Well Depth (Ft.): 40
Well Elevation (Ft. MSL): 614.98
Gradient: Down

Sample Collection Date: 04/27/2023
Sample Collection Time: 3:44 PM
Sample Collected By: BTB
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	584.57	MSL		04/27/2023	3:44 PM	BTB
Turbidity	1.02	NTU	SM 2130, B-2001	04/27/2023	3:44 PM	BTB
Conductivity	2791	µS/cm	SM 2510, B-2011	04/27/2023	3:44 PM	BTB
Temperature, deg. F	65.12	°F	SM 2550, B-2010	04/27/2023	3:44 PM	BTB
Oxidation-Reduction Potential	78.1	mV	SM 2580, B-2011	04/27/2023	3:44 PM	BTB
pH	7.90	S.U.	SM 4500-H+, B-2011	04/27/2023	3:44 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	04/27/2023	3:44 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300287

Sample Received Date: 04/28/2023
Sample Received Time: 10:00 AM
Sample Receipt Temperatures (°C): < 6
Sample Received By: JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Barium	49.9		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Boron	3370		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Calcium	12300		µg/L	560	1200	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Lithium	92.4		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	2:34 PM	JD
Molybdenum	23.8		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:11 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	5/12/2023	9:57 AM	JD
Chloride	332		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	5/10/2023	12:04 PM	JD
Fluoride	1.6		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:13 PM	JD
Sulfate	149		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:13 PM	JD
Solids, Total Dissolved	1350		mg/L		50.0	SM 2540, C-2011	4/28/2023	11:03 AM	JD

Pace

Lab Identification #: 30586870003

Sample Received Date: 5/10/2023
Sample Received Time: 11:25 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: JA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.229 ± 0.717 (1.33)		pCi/L			EPA 903.1	6/1/2023	2:34 PM	CLM
Radium-228	-0.0 ± 0.340 (0.813)		pCi/L			EPA 904.0	5/26/2023	2:36 PM	VAL
Total Radium Calculation	0.229 ± 1.06 (2.14)		pCi/L			Total Radium Calculation	6/1/2023	4:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
03:15 PM 06/09/2023

Eric Hamilton - QA/QC Chemist
09:06 AM 06/16/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 6/16/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	04/27/2023
Well ID No:	PH-MW-04	Sample Collection Time:	1:08 PM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	519.65	MSL		04/27/2023	1:08 PM	BTB
Turbidity	1.46	NTU	SM 2130, B-2001	04/27/2023	1:08 PM	BTB
Conductivity	1495	µS/cm	SM 2510, B-2011	04/27/2023	1:08 PM	BTB
Temperature, deg. F	61.52	°F	SM 2550, B-2010	04/27/2023	1:08 PM	BTB
Oxidation-Reduction Potential	270.7	mV	SM 2580, B-2011	04/27/2023	1:08 PM	BTB
pH	6.31	S.U.	SM 4500-H+, B-2011	04/27/2023	1:08 PM	BTB
Oxygen, dissolved	3.31	mg/L	SM 4500-O	04/27/2023	1:08 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300288

Sample Received Date:	04/28/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:00 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Barium	75.5		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Boron	945		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Calcium	186000	D	µg/L	11200	24000	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	11:45 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Lithium	36.1		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	2:38 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:22 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	5/12/2023	10:01 AM	JD
Chloride	21.7		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:32 PM	JD
Fluoride	0.29		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:32 PM	JD
Sulfate	289		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	5/10/2023	12:23 PM	JD
Solids, Total Dissolved	1140		mg/L		50.0	SM 2540, C-2011	4/28/2023	11:03 AM	JD

Pace

Lab Identification #: 30586870004

Sample Received Date:	5/10/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	11:25 AM	Sample Received By:	JA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.118 ± 0.463 (0.887)		pCi/L			EPA 903.1	6/1/2023	2:34 PM	CLM
Radium-228	-0.0 ± 0.335 (0.789)		pCi/L			EPA 904.0	5/26/2023	2:36 PM	VAL
Total Radium Calculation	0.118 ± 0.798 (1.68)		pCi/L			Total Radium Calculation	6/1/2023	4:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
03:15 PM 06/09/2023

Eric Hamilton - QA/QC Chemist
09:06 AM 06/16/2023

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Report Date: 6/16/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	04/27/2023
Well ID No:	PH-MW-05	Sample Collection Time:	2:15 PM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	527.11	MSL		04/27/2023	2:15 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	04/27/2023	2:15 PM	BTB
Conductivity	885	µS/cm	SM 2510, B-2011	04/27/2023	2:15 PM	BTB
Temperature, deg. F	67.10	°F	SM 2550, B-2010	04/27/2023	2:15 PM	BTB
Oxidation-Reduction Potential	333.2	mV	SM 2580, B-2011	04/27/2023	2:15 PM	BTB
pH	7.15	S.U.	SM 4500-H+, B-2011	04/27/2023	2:15 PM	BTB
Oxygen, dissolved	7.43	mg/L	SM 4500-O	04/27/2023	2:15 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300289

Sample Received Date:	04/28/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:00 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Barium	84.9		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Boron	269		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Calcium	108000	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	11:49 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Lithium	23.5		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	2:42 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	5/17/2023	12:26 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	5/12/2023	10:04 AM	JD
Chloride	11.3		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:51 PM	JD
Fluoride	0.17		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:51 PM	JD
Sulfate	174		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:51 PM	JD
Solids, Total Dissolved	682		mg/L		50.0	SM 2540, C-2011	4/28/2023	11:03 AM	JD

Pace

Lab Identification #: 30586870005

Sample Received Date:	5/10/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	11:25 AM	Sample Received By:	JA

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.125 ± 0.425 (0.820)		pCi/L			EPA 903.1	6/1/2023	2:34 PM	CLM
Radium-228	0.246 ± 0.299 (0.630)		pCi/L			EPA 904.0	5/26/2023	2:36 PM	VAL
Total Radium Calculation	0.371 ± 0.724 (1.45)		pCi/L			Total Radium Calculation	6/1/2023	4:30 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

03:15 PM 06/09/2023

Eric Hamilton - QA/QC Chemist

09:06 AM 06/16/2023

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Report Date: 5/16/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	05/02/2023
Well ID No:	PH-MW-01	Sample Collection Time:	9:32 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

EKPC - Central Laboratory Analyses

Lab Identification #: 2300357

Sample Received Date:	05/03/2023	Sample Receipt Temperatures (°C):	0.4
Sample Received Time:	10:30 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Boron	1220		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	2:15 PM	JD
Calcium	316000	D	µg/L	28000	60000	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	1:06 PM	JD
Lithium	73.6		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	2:15 PM	JD
Magnesium	91900	D	µg/L	683	1250	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	12:21 PM	JD
Potassium	14000		µg/L	22.5	31.2	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	2:15 PM	JD
Sodium	145000	D	µg/L	721	1250	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	12:21 PM	JD
Chloride	53.7	D	mg/L	0.6	1.2	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:16 AM	JD
Sulfate	246	D	mg/L	0.60	2.5	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:16 AM	JD

ALS Environmental

Lab Identification #: 23050896-02

Sample Received Date:	5/9/2023	Sample Receipt Temperatures (°C):	< 6.0
Sample Received Time:	9:00	Sample Received By:	DS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Alkalinity, Bicarbonate (as CaCO3)	1140		mg/L	8.4	10	A2320 B-11	5/10/2023	14:03	CLJ
Alkalinity, Total (as CaCO3)	1140		mg/L	8.4	10	A2320 B-11	5/10/2023	14:03	CLJ

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

10:17 AM 05/16/2023

Eric Hamilton - QA/QC Chemist

10:20 AM 05/16/2023

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Report Date: 5/16/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	05/02/2023
Well ID No:	PH-MW-02	Sample Collection Time:	10:50 AM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

EKPC - Central Laboratory Analyses

Lab Identification #: 2300358

Sample Received Date:	05/03/2023	Sample Receipt Temperatures (°C):	0.4
Sample Received Time:	10:30 AM	Sample Received By:	TY

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Boron	1390		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	2:19 PM	JD
Calcium	29700	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	12:25 PM	JD
Lithium	90.4		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	2:19 PM	JD
Magnesium	10000		µg/L	68.3	125	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	2:19 PM	JD
Potassium	11500		µg/L	22.5	31.2	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	2:19 PM	JD
Sodium	305000	D	µg/L	7210	12500	EPA 200.8, Rev. 5.4 (1994)	5/8/2023	1:10 PM	JD
Chloride	298	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:35 AM	JD
Sulfate	32.4		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	5/10/2023	3:54 AM	JD

ALS Environmental

Lab Identification #: 23050896-03

Sample Received Date:	5/9/2023	Sample Receipt Temperatures (°C):	< 6.0
Sample Received Time:	9:00	Sample Received By:	DS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Alkalinity, Bicarbonate (as CaCO3)	450		mg/L	8.4	10	A2320 B-11	5/10/2023	14:03	CLJ
Alkalinity, Total (as CaCO3)	450		mg/L	8.4	10	A2320 B-11	5/10/2023	14:03	CLJ

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

10:17 AM 05/16/2023

Eric Hamilton - QA/QC Chemist

10:20 AM 05/16/2023

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Report Date: 1/26/2024

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/02/2023
Well ID No:	PH-MW-01	Sample Collection Time:	10:03 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.60	MSL		06/02/2023	10:03 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	06/02/2023	10:03 AM	BTB
Conductivity	2635	µS/cm	SM 2510, B-2011	06/02/2023	10:03 AM	BTB
Temperature, deg. F	59.54	°F	SM 2550, B-2010	06/02/2023	10:03 AM	BTB
Oxidation-Reduction Potential	82.4	mV	SM 2580, B-2011	06/02/2023	10:03 AM	BTB
pH	6.18	S.U.	SM 4500-H+, B-2011	06/02/2023	10:03 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	06/02/2023	10:03 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300395

Sample Received Date:	06/02/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	2:41 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Barium	53.9		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Boron	1360		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Calcium	346000	D	µg/L	11200	24000	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:05 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Cobalt	3.8		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Lithium	72.3		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/22/2023	10:09 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:45 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	6/6/2023	9:56 AM	JD
Chloride	65.2	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	6/13/2023	11:36 PM	JD
Fluoride	< 0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	6/21/2023	10:09 AM	JD
Sulfate	271	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	6/13/2023	11:36 PM	JD
Solids, Total Dissolved	1710		mg/L		50.0	SM 2540, C-2011	6/6/2023	3:38 PM	JD

Pace

Lab Identification #: 3059549001

Sample Received Date:	6/12/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:00 AM	Sample Received By:	PH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.868 ± 0.441 (0.424)		pCi/L			EPA 903.1	7/6/2023	2:40 PM	CLM
Radium-228	1.21 ± 0.493 (0.817)		pCi/L			EPA 904.0	6/28/2023	12:37 PM	ZPC
Total Radium Calculation	2.08 ± 0.934 (1.24)		pCi/L			Total Radium Calculation	7/7/2023	4:02 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

09:58 AM 01/26/2024

Eric Hamilton - QA/QC Chemist

12:49 PM 01/26/2024

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/26/2024

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/02/2023
Well ID No:	PH-MW-02	Sample Collection Time:	11:48 AM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	546.10	MSL		06/02/2023	11:48 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	06/02/2023	11:48 AM	BTB
Conductivity	1902	µS/cm	SM 2510, B-2011	06/02/2023	11:48 AM	BTB
Temperature, deg. F	60.08	°F	SM 2550, B-2010	06/02/2023	11:48 AM	BTB
Oxidation-Reduction Potential	-148.9	mV	SM 2580, B-2011	06/02/2023	11:48 AM	BTB
pH	7.71	S.U.	SM 4500-H+, B-2011	06/02/2023	11:48 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	06/02/2023	11:48 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300396

Sample Received Date:	06/02/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	2:41 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Arsenic	1.6		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Barium	76.6		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Boron	1450		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Calcium	33800	D	µg/L	2240	4800	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:09 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Lithium	85.3		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Molybdenum	1.7		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/22/2023	10:14 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:49 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	6/6/2023	9:59 AM	JD
Chloride	278	D	mg/L	5.9	12.5	EPA 300.0 Rev 2.1 (1993)	6/13/2023	11:55 PM	JD
Fluoride	0.51		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	6/21/2023	10:28 AM	JD
Sulfate	33.7		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	6/14/2023	3:22 AM	JD
Solids, Total Dissolved	964		mg/L		50.0	SM 2540, C-2011	6/6/2023	3:38 PM	JD

Pace

Lab Identification #: 3059549002

Sample Received Date:	6/12/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:00 AM	Sample Received By:	PH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.553 ± 0.429 (0.604)		pCi/L			EPA 903.1	7/6/2023	2:40 PM	CLM
Radium-228	0.326 ± 0.348 (0.726)		pCi/L			EPA 904.0	6/28/2023	12:37 PM	ZPC
Total Radium Calculation	0.879 ± 0.777 (1.33)		pCi/L			Total Radium Calculation	7/7/2023	4:02 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

09:58 AM 01/26/2024

Eric Hamilton - QA/QC Chemist

12:49 PM 01/26/2024

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Report Date: 1/26/2024

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/01/2023
Well ID No:	PH-MW-03A	Sample Collection Time:	5:39 PM
AKGW No.:		Sample Collected By:	BTB
Well Depth (Ft.):	40	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	614.98	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	584.38	MSL		06/01/2023	5:39 PM	BTB
Turbidity	1	NTU	SM 2130, B-2001	06/01/2023	5:39 PM	BTB
Conductivity	2718	µS/cm	SM 2510, B-2011	06/01/2023	5:39 PM	BTB
Temperature, deg. F	66.92	°F	SM 2550, B-2010	06/01/2023	5:39 PM	BTB
Oxidation-Reduction Potential	50.4	mV	SM 2580, B-2011	06/01/2023	5:39 PM	BTB
pH	7.89	S.U.	SM 4500-H+, B-2011	06/01/2023	5:39 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	06/01/2023	5:39 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300397

Sample Received Date:	06/02/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	2:41 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Barium	51.8		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Boron	3340		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Calcium	11900	D	µg/L	2240	4800	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:13 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Lithium	86.4		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Molybdenum	22.6		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/22/2023	10:15 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:53 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	6/6/2023	10:02 AM	JD
Chloride	336	D	mg/L	11.8	25.0	EPA 300.0 Rev 2.1 (1993)	6/14/2023	12:14 AM	JD
Fluoride	1.6	D	mg/L	0.24	0.25	EPA 300.0 Rev 2.1 (1993)	6/14/2023	12:32 AM	JD
Sulfate	145	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	6/14/2023	12:32 AM	JD
Solids, Total Dissolved	1270		mg/L		50.0	SM 2540, C-2011	6/6/2023	3:38 PM	JD

Pace

Lab Identification #: 3059549003

Sample Received Date:	6/12/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:00 AM	Sample Received By:	PH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.404 ± 0.300 (0.375)		pCi/L			EPA 903.1	7/6/2023	2:40 PM	CLM
Radium-228	0.278 ± 0.297 (0.618)		pCi/L			EPA 904.0	6/28/2023	12:38 PM	ZPC
Total Radium Calculation	0.682 ± 0.597 (0.993)		pCi/L			Total Radium Calculation	7/7/2023	4:02 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

09:58 AM 01/26/2024

Eric Hamilton - QA/QC Chemist

12:49 PM 01/26/2024

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/26/2024

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/01/2023
Well ID No:	PH-MW-04	Sample Collection Time:	6:52 PM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	519.11	MSL		06/01/2023	6:52 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	06/01/2023	6:52 PM	BTB
Conductivity	1510	µS/cm	SM 2510, B-2011	06/01/2023	6:52 PM	BTB
Temperature, deg. F	62.78	°F	SM 2550, B-2010	06/01/2023	6:52 PM	BTB
Oxidation-Reduction Potential	207.1	mV	SM 2580, B-2011	06/01/2023	6:52 PM	BTB
pH	6.35	S.U.	SM 4500-H+, B-2011	06/01/2023	6:52 PM	BTB
Oxygen, dissolved	2.17	mg/L	SM 4500-O	06/01/2023	6:52 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300398

Sample Received Date:	06/02/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	2:41 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Barium	72.8		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Boron	946		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Calcium	178000	D	µg/L	11200	24000	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:17 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Lithium	35.2		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/22/2023	10:17 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:57 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	6/6/2023	10:05 AM	JD
Chloride	23.2	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	6/14/2023	12:51 AM	JD
Fluoride	0.30		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	6/21/2023	10:46 AM	JD
Sulfate	326	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	6/14/2023	12:51 AM	JD
Solids, Total Dissolved	1120		mg/L		50.0	SM 2540, C-2011	6/6/2023	3:38 PM	JD

Pace

Lab Identification #: 3059549004

Sample Received Date:	6/12/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:00 AM	Sample Received By:	PH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.164 ± 0.228 (0.380)		pCi/L			EPA 903.1	7/6/2023	2:40 PM	CLM
Radium-228	0.306 ± 0.296 (0.604)		pCi/L			EPA 904.0	6/28/2023	12:39 PM	ZPC
Total Radium Calculation	0.470 ± 0.524 (0.984)		pCi/L			Total Radium Calculation	7/7/2023	4:02 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

09:58 AM 01/26/2024

Eric Hamilton - QA/QC Chemist

12:49 PM 01/26/2024

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 1/26/2024

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/01/2023
Well ID No:	PH-MW-05	Sample Collection Time:	4:04 PM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	527.42	MSL		06/01/2023	4:04 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	06/01/2023	4:04 PM	BTB
Conductivity	961	µS/cm	SM 2510, B-2011	06/01/2023	4:04 PM	BTB
Temperature, deg. F	77.90	°F	SM 2550, B-2010	06/01/2023	4:04 PM	BTB
Oxidation-Reduction Potential	294.7	mV	SM 2580, B-2011	06/01/2023	4:04 PM	BTB
pH	7.22	S.U.	SM 4500-H+, B-2011	06/01/2023	4:04 PM	BTB
Oxygen, dissolved	6.16	mg/L	SM 4500-O	06/01/2023	4:04 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300399

Sample Received Date:	06/02/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	2:41 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Barium	98.0		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Boron	224		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Calcium	113000	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	6:21 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Lithium	24.3		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/22/2023	10:18 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/14/2023	7:01 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	6/6/2023	10:08 AM	JD
Chloride	10.3		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	6/14/2023	4:18 AM	JD
Fluoride	0.17		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	6/21/2023	11:05 AM	JD
Sulfate	212	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	6/14/2023	1:10 AM	JD
Solids, Total Dissolved	664		mg/L		50.0	SM 2540, C-2011	6/6/2023	3:38 PM	JD

Pace

Lab Identification #: 3059549005

Sample Received Date:	6/12/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:00 AM	Sample Received By:	PH

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.0 ± 0.291 (0.648)		pCi/L			EPA 903.1	7/6/2023	2:40 PM	CLM
Radium-228	-0.0 ± 0.321 (0.761)		pCi/L			EPA 904.0	6/28/2023	12:39 PM	ZPC
Total Radium Calculation	0.000 ± 0.612 (1.41)		pCi/L			Total Radium Calculation	7/7/2023	4:02 PM	LAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

09:58 AM 01/26/2024

Eric Hamilton - QA/QC Chemist

12:49 PM 01/26/2024

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Report Date: 9/6/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/27/2023
Well ID No:	PH-MW-01	Sample Collection Time:	10:53 AM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.37	MSL		06/27/2023	10:53 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	06/27/2023	10:53 AM	BTB
Conductivity	2619	µS/cm	SM 2510, B-2011	06/27/2023	10:53 AM	BTB
Temperature, deg. F	61.88	°F	SM 2550, B-2010	06/27/2023	10:53 AM	BTB
Oxidation-Reduction Potential	80.7	mV	SM 2580, B-2011	06/27/2023	10:53 AM	BTB
pH	6.13	S.U.	SM 4500-H+, B-2011	06/27/2023	10:53 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	06/27/2023	10:53 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300465

Sample Received Date:	06/28/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	12:50 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Barium	46.7		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Boron	1550		µg/L	3.6	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Calcium	326000	D	µg/L	14000	30000	EPA 200.8, Rev. 5.4 (1994)	7/21/2023	12:15 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Cobalt	4.1		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Lithium	82.6		µg/L	6.2	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:53 AM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	6/28/2023	2:20 PM	JD
Chloride	125	D	mg/L	5.9	12.5	EPA 300.0 Rev 2.1 (1993)	6/29/2023	11:54 AM	JD
Fluoride	< 0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	6/28/2023	8:49 PM	JD
Sulfate	277	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	6/28/2023	5:02 PM	JD
Solids, Total Dissolved	1780		mg/L		50.0	SM 2540, C-2011	6/28/2023	2:43 PM	JD

Pace

Lab Identification #: 3060110001

Sample Received Date:	6/30/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:40 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.461 ± 0.566 (0.923)		pCi/L			EPA 903.1	7/12/2023	1:02 PM	CLM
Radium-228	1.51 ± 0.552 (0.842)		pCi/L			EPA 904.0	7/12/2023	3:24 PM	VAL
Total Radium Calculation	1.97 ± 1.12 (1.77)		pCi/L			Total Radium Calculation	7/13/2023	2:22 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

12:35 PM 08/30/2023

Eric Hamilton - QA/QC Chemist

11:30 AM 09/06/2023

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Report Date: 9/6/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/27/2023
Well ID No:	PH-MW-02	Sample Collection Time:	12:30 PM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	545.83	MSL		06/27/2023	12:30 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	06/27/2023	12:30 PM	BTB
Conductivity	1789	µS/cm	SM 2510, B-2011	06/27/2023	12:30 PM	BTB
Temperature, deg. F	60.08	°F	SM 2550, B-2010	06/27/2023	12:30 PM	BTB
Oxidation-Reduction Potential	-137.7	mV	SM 2580, B-2011	06/27/2023	12:30 PM	BTB
pH	7.64	S.U.	SM 4500-H+, B-2011	06/27/2023	12:30 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	06/27/2023	12:30 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300466

Sample Received Date:	06/28/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	12:50 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Barium	73.6		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Boron	1210		µg/L	3.6	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Calcium	40900	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:17 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Lithium	74.0		µg/L	6.2	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Molybdenum	1.3		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:57 AM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	6/28/2023	2:23 PM	JD
Chloride	246	D	mg/L	5.9	12.5	EPA 300.0 Rev 2.1 (1993)	6/28/2023	5:21 PM	JD
Fluoride	0.42		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	6/28/2023	9:08 PM	JD
Sulfate	32.4		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	6/28/2023	9:08 PM	JD
Solids, Total Dissolved	786		mg/L		50.0	SM 2540, C-2011	6/28/2023	2:43 PM	JD

Pace

Lab Identification #: 3060110002

Sample Received Date:	6/30/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:40 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.940 ± 0.876 (1.36)		pCi/L			EPA 903.1	7/12/2023	1:02 PM	CLM
Radium-228	0.381 ± 0.428 (0.900)		pCi/L			EPA 904.0	7/12/2023	3:25 PM	VAL
Total Radium Calculation	1.32 ± 1.30 (2.26)		pCi/L			Total Radium Calculation	7/13/2023	2:22 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

12:35 PM 08/30/2023

Eric Hamilton - QA/QC Chemist

11:30 AM 09/06/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 9/6/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/27/2023
Well ID No:	PH-MW-03A	Sample Collection Time:	4:27 PM
AKGW No.:		Sample Collected By:	BTB
Well Depth (Ft.):	40	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	614.98	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	583.82	MSL		06/27/2023	4:27 PM	BTB
Turbidity	1.1	NTU	SM 2130, B-2001	06/27/2023	4:27 PM	BTB
Conductivity	2583	µS/cm	SM 2510, B-2011	06/27/2023	4:27 PM	BTB
Temperature, deg. F	65.30	°F	SM 2550, B-2010	06/27/2023	4:27 PM	BTB
Oxidation-Reduction Potential	32.8	mV	SM 2580, B-2011	06/27/2023	4:27 PM	BTB
pH	7.81	S.U.	SM 4500-H+, B-2011	06/27/2023	4:27 PM	BTB
Oxygen, dissolved	1.36	mg/L	SM 4500-O	06/27/2023	4:27 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300467

Sample Received Date:	06/28/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	12:50 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Barium	50.2		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Boron	3090		µg/L	3.6	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Calcium	11400		µg/L	560	1200	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Lithium	84.4		µg/L	6.2	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Molybdenum	21.3		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:01 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	6/28/2023	2:26 PM	JD
Chloride	318	D	mg/L	5.9	12.5	EPA 300.0 Rev 2.1 (1993)	6/28/2023	5:58 PM	JD
Fluoride	1.6		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	6/28/2023	9:26 PM	JD
Sulfate	130	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	6/28/2023	6:17 PM	JD
Solids, Total Dissolved	1070		mg/L		50.0	SM 2540, C-2011	6/28/2023	2:43 PM	JD

Pace

Lab Identification #: 3060110003

Sample Received Date:	6/30/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:40 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.325 ± 0.676 (1.22)		pCi/L			EPA 903.1	7/12/2023	1:02 PM	CLM
Radium-228	0.606 ± 0.444 (0.871)		pCi/L			EPA 904.0	7/12/2023	3:25 PM	VAL
Total Radium Calculation	0.931 ± 1.12 (2.09)		pCi/L			Total Radium Calculation	7/13/2023	2:22 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

12:35 PM 08/30/2023

Eric Hamilton - QA/QC Chemist

11:30 AM 09/06/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 9/6/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/27/2023
Well ID No:	PH-MW-04	Sample Collection Time:	1:54 PM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	517.27	MSL		06/27/2023	1:54 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	06/27/2023	1:54 PM	BTB
Conductivity	1688	µS/cm	SM 2510, B-2011	06/27/2023	1:54 PM	BTB
Temperature, deg. F	60.62	°F	SM 2550, B-2010	06/27/2023	1:54 PM	BTB
Oxidation-Reduction Potential	183.4	mV	SM 2580, B-2011	06/27/2023	1:54 PM	BTB
pH	6.32	S.U.	SM 4500-H+, B-2011	06/27/2023	1:54 PM	BTB
Oxygen, dissolved	1.7	mg/L	SM 4500-O	06/27/2023	1:54 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300468

Sample Received Date:	06/28/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	12:50 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Barium	71.6		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Boron	1110		µg/L	3.6	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Calcium	217000	D	µg/L	11200	24000	EPA 200.8, Rev. 5.4 (1994)	7/21/2023	12:19 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Cobalt	2.3		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Lithium	44.0		µg/L	6.2	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:05 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	6/28/2023	2:29 PM	JD
Chloride	34.3	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	6/28/2023	6:36 PM	JD
Fluoride	0.28		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	6/28/2023	9:45 PM	JD
Sulfate	327	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	6/28/2023	6:36 PM	JD
Solids, Total Dissolved	1260		mg/L		50.0	SM 2540, C-2011	6/28/2023	2:43 PM	JD

Pace

Lab Identification #: 3060110004

Sample Received Date:	6/30/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:40 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.274 ± 0.738 (1.37)		pCi/L			EPA 903.1	7/12/2023	1:02 PM	CLM
Radium-228	0.496 ± 0.436 (0.888)		pCi/L			EPA 904.0	7/12/2023	3:25 PM	VAL
Total Radium Calculation	0.770 ± 1.17 (2.26)		pCi/L			Total Radium Calculation	7/13/2023	2:22 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

12:35 PM 08/30/2023

Eric Hamilton - QA/QC Chemist

11:30 AM 09/06/2023

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Report Date: 9/6/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	06/27/2023
Well ID No:	PH-MW-05	Sample Collection Time:	3:06 PM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	527.14	MSL		06/27/2023	3:06 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	06/27/2023	3:06 PM	BTB
Conductivity	935	µS/cm	SM 2510, B-2011	06/27/2023	3:06 PM	BTB
Temperature, deg. F	67.28	°F	SM 2550, B-2010	06/27/2023	3:06 PM	BTB
Oxidation-Reduction Potential	319.8	mV	SM 2580, B-2011	06/27/2023	3:06 PM	BTB
pH	7.18	S.U.	SM 4500-H+, B-2011	06/27/2023	3:06 PM	BTB
Oxygen, dissolved	7.26	mg/L	SM 4500-O	06/27/2023	3:06 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300469

Sample Received Date:	06/28/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	12:50 PM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Barium	84.0		µg/L	1.0	2.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Boron	237		µg/L	3.6	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Calcium	115000	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	11:28 AM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Lithium	24.0		µg/L	6.2	10.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	6/30/2023	12:08 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	6/28/2023	2:32 PM	JD
Chloride	10.9		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	6/28/2023	10:04 PM	JD
Fluoride	0.17		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	6/28/2023	10:04 PM	JD
Sulfate	198	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	6/28/2023	6:55 PM	JD
Solids, Total Dissolved	534		mg/L		50.0	SM 2540, C-2011	6/28/2023	2:43 PM	JD

Pace

Lab Identification #: 3060110005

Sample Received Date:	6/30/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:40 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.173 ± 0.634 (1.22)		pCi/L			EPA 903.1	7/12/2023	1:02 PM	CLM
Radium-228	0.473 ± 0.483 (1.01)		pCi/L			EPA 904.0	7/12/2023	3:25 PM	VAL
Total Radium Calculation	0.646 ± 1.12 (2.23)		pCi/L			Total Radium Calculation	7/13/2023	2:22 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

12:35 PM 08/30/2023

Eric Hamilton - QA/QC Chemist

11:30 AM 09/06/2023

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Report Date: 9/7/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	07/28/2023
Well ID No:	PH-MW-01	Sample Collection Time:	4:36 PM
AKGW No.:	8006-4554	Sample Collected By:	JD
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.08	MSL		07/28/2023	4:36 PM	JD
Turbidity	< 1.0	NTU	SM 2130, B-2001	07/28/2023	4:36 PM	JD
Conductivity	2943	µS/cm	SM 2510, B-2011	07/28/2023	4:36 PM	JD
Temperature, deg. F	66.56	°F	SM 2550, B-2010	07/28/2023	4:36 PM	JD
Oxidation-Reduction Potential	95	mV	SM 2580, B-2011	07/28/2023	4:36 PM	JD
pH	6.13	S.U.	SM 4500-H+, B-2011	07/28/2023	4:36 PM	JD
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	07/28/2023	4:36 PM	JD

EKPC - Central Laboratory Analyses

Lab Identification #: 2300516

Sample Received Date:	07/31/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	9:40 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Barium	44.4		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Boron	1630		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Calcium	328000	D	µg/L	14000	30000	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	3:33 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Cobalt	8.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Lead	< 2.0	D	µg/L	1.1	2.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	5:01 PM	JD
Lithium	86.0		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:10 PM	JD
Thallium	< 0.20	D	µg/L	0.07	0.20	EPA 200.8, Rev. 5.4 (1994)	8/22/2023	3:30 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	8/2/2023	12:38 PM	JD
Chloride	172	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	8/1/2023	4:04 PM	JD
Fluoride	< 0.10		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/1/2023	7:13 PM	JD
Sulfate	317	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	8/1/2023	4:04 PM	JD
Solids, Total Dissolved	2080		mg/L		50.0	SM 2540, C-2011	8/2/2023	1:13 PM	JD

Pace

Lab Identification #: 30609595001

Sample Received Date:	8/2/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:25 AM	Sample Received By:	PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	1.96 ± 0.875 (0.917)		pCi/L			EPA 903.1	8/17/2023	12:41 PM	CLM
Radium-228	1.36 ± 0.526 (0.826)		pCi/L			EPA 904.0	8/16/2023	2:25 PM	VAL
Total Radium Calculation	3.32 ± 1.40 (1.74)		pCi/L			Total Radium Calculation	8/22/2023	5:02 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

02:31 PM 09/06/2023

Eric Hamilton - QA/QC Chemist

08:42 AM 09/07/2023

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Report Date: 9/7/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	07/28/2023
Well ID No:	PH-MW-02	Sample Collection Time:	5:52 PM
AKGW No.:	8006-4555	Sample Collected By:	JD
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	546.02	MSL		07/28/2023	5:52 PM	JD
Turbidity	< 1.0	NTU	SM 2130, B-2001	07/28/2023	5:52 PM	JD
Conductivity	1840	µS/cm	SM 2510, B-2011	07/28/2023	5:52 PM	JD
Temperature, deg. F	63.14	°F	SM 2550, B-2010	07/28/2023	5:52 PM	JD
Oxidation-Reduction Potential	-110.1	mV	SM 2580, B-2011	07/28/2023	5:52 PM	JD
pH	7.62	S.U.	SM 4500-H+, B-2011	07/28/2023	5:52 PM	JD
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	07/28/2023	5:52 PM	JD

EKPC - Central Laboratory Analyses

Lab Identification #: 2300517

Sample Received Date:	07/31/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	9:40 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Barium	65.8		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Boron	1160		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Calcium	40400	D	µg/L	2800	6000	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	3:44 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Lithium	71.6		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Molybdenum	1.4		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:14 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	8/22/2023	2:50 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	8/2/2023	12:41 PM	JD
Chloride	245	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	8/1/2023	4:23 PM	JD
Fluoride	0.43		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/1/2023	7:32 PM	JD
Sulfate	31.7		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	8/1/2023	7:32 PM	JD
Solids, Total Dissolved	964		mg/L		50.0	SM 2540, C-2011	8/2/2023	1:13 PM	JD

Pace

Lab Identification #: 30609595002

Sample Received Date:	8/2/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:25 AM	Sample Received By:	PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.696 ± 0.479 (0.512)		pCi/L			EPA 903.1	8/17/2023	12:41 PM	CLM
Radium-228	0.644 ± 0.398 (0.750)		pCi/L			EPA 904.0	8/16/2023	2:26 PM	VAL
Total Radium Calculation	1.34 ± 0.877 (1.26)		pCi/L			Total Radium Calculation	8/22/2023	5:02 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

02:31 PM 09/06/2023

Eric Hamilton - QA/QC Chemist

08:42 AM 09/07/2023

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Fax: (859) 744-6008
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A Touchstone Energy® Cooperative

EAST KENTUCKY POWER COOPERATIVE

Report Date: 9/7/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-03A
AKGW No.:
Well Depth (Ft.): 40
Well Elevation (Ft. MSL): 614.98
Gradient: Down

Sample Collection Date: 07/28/2023
Sample Collection Time: 2:52 PM
Sample Collected By: JD
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	583.66	MSL		07/28/2023	2:52 PM	JD
Turbidity	< 1.0	NTU	SM 2130, B-2001	07/28/2023	2:52 PM	JD
Conductivity	2599	µS/cm	SM 2510, B-2011	07/28/2023	2:52 PM	JD
Temperature, deg. F	62.06	°F	SM 2550, B-2010	07/28/2023	2:52 PM	JD
Oxidation-Reduction Potential	-11.5	mV	SM 2580, B-2011	07/28/2023	2:52 PM	JD
pH	7.97	S.U.	SM 4500-H+, B-2011	07/28/2023	2:52 PM	JD
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	07/28/2023	2:52 PM	JD

EKPC - Central Laboratory Analyses

Lab Identification #: 2300518

Sample Received Date: 07/31/2023
Sample Received Time: 9:40 AM
Sample Receipt Temperatures (°C): < 6
Sample Received By: JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Barium	44.8		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Boron	2750		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Calcium	11700		µg/L	560	1200	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	8/22/2023	2:54 PM	JD
Lithium	76.9		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Molybdenum	22.3		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:29 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	8/22/2023	2:54 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	8/2/2023	12:44 PM	JD
Chloride	309	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	8/1/2023	4:42 PM	JD
Fluoride	1.6		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/1/2023	7:51 PM	JD
Sulfate	116		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	8/1/2023	7:51 PM	JD
Solids, Total Dissolved	1240		mg/L		50.0	SM 2540, C-2011	8/2/2023	1:13 PM	JD

Pace

Lab Identification #: 30609595003

Sample Received Date: 8/2/2023
Sample Received Time: 9:25 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.0 ± 0.490 (1.06)		pCi/L			EPA 903.1	8/17/2023	12:41 PM	CLM
Radium-228	1.17 ± 0.480 (0.755)		pCi/L			EPA 904.0	8/16/2023	2:26 PM	VAL
Total Radium Calculation	1.17 ± 0.970 (1.82)		pCi/L			Total Radium Calculation	8/22/2023	5:02 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.
Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
02:31 PM 09/06/2023

Eric Hamilton - QA/QC Chemist
08:42 AM 09/07/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 9/7/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	07/28/2023
Well ID No:	PH-MW-04	Sample Collection Time:	11:37 AM
AKGW No.:	8006-4557	Sample Collected By:	JD
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	516.01	MSL		07/28/2023	11:37 AM	JD
Turbidity	1.21	NTU	SM 2130, B-2001	07/28/2023	11:37 AM	JD
Conductivity	1918	µS/cm	SM 2510, B-2011	07/28/2023	11:37 AM	JD
Temperature, deg. F	66.20	°F	SM 2550, B-2010	07/28/2023	11:37 AM	JD
Oxidation-Reduction Potential	216.3	mV	SM 2580, B-2011	07/28/2023	11:37 AM	JD
pH	6.27	S.U.	SM 4500-H+, B-2011	07/28/2023	11:37 AM	JD
Oxygen, dissolved	1.08	mg/L	SM 4500-O	07/28/2023	11:37 AM	JD

EKPC - Central Laboratory Analyses

Lab Identification #: 2300519

Sample Received Date:	07/31/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	9:40 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Barium	57.7		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Boron	973		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Calcium	252000	D	µg/L	11200	24000	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	3:51 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Cobalt	14.1		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Lead	< 2.0	D	µg/L	1.1	2.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	5:05 PM	JD
Lithium	48.7		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:33 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	8/22/2023	2:57 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	8/2/2023	12:47 PM	JD
Chloride	42.2		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	8/1/2023	8:10 PM	JD
Fluoride	0.25		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/1/2023	8:10 PM	JD
Sulfate	483	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	8/1/2023	5:01 PM	JD
Solids, Total Dissolved	1700		mg/L		50.0	SM 2540, C-2011	8/2/2023	1:13 PM	JD

Pace

Lab Identification #: 30609595004

Sample Received Date:	8/2/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:25 AM	Sample Received By:	PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.5 ± 0.604 (1.41)		pCi/L			EPA 903.1	8/17/2023	12:41 PM	CLM
Radium-228	0.428 ± 0.323 (0.624)		pCi/L			EPA 904.0	8/16/2023	2:26 PM	VAL
Total Radium Calculation	0.428 ± 0.927 (2.03)		pCi/L			Total Radium Calculation	8/22/2023	5:02 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

02:31 PM 09/06/2023

Eric Hamilton - QA/QC Chemist

08:52 AM 09/07/2023

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Report Date: 9/7/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	07/28/2023
Well ID No:	PH-MW-05	Sample Collection Time:	1:49 PM
AKGW No.:	8006-4558	Sample Collected By:	JD
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	527.37	MSL		07/28/2023	1:49 PM	JD
Turbidity	1.31	NTU	SM 2130, B-2001	07/28/2023	1:49 PM	JD
Conductivity	981	µS/cm	SM 2510, B-2011	07/28/2023	1:49 PM	JD
Temperature, deg. F	66.74	°F	SM 2550, B-2010	07/28/2023	1:49 PM	JD
Oxidation-Reduction Potential	322.1	mV	SM 2580, B-2011	07/28/2023	1:49 PM	JD
pH	7.14	S.U.	SM 4500-H+, B-2011	07/28/2023	1:49 PM	JD
Oxygen, dissolved	6.62	mg/L	SM 4500-O	07/28/2023	1:49 PM	JD

EKPC - Central Laboratory Analyses

Lab Identification #: 2300520

Sample Received Date:	07/31/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	9:40 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Barium	69.1		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Boron	192		µg/L	3.6	25.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Calcium	125000	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	3:55 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Lithium	21.6		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	8/8/2023	4:37 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	8/22/2023	3:01 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	8/2/2023	12:50 PM	JD
Chloride	10.3		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	8/1/2023	8:29 PM	JD
Fluoride	0.17		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/1/2023	8:29 PM	JD
Sulfate	192		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	8/1/2023	8:29 PM	JD
Solids, Total Dissolved	770		mg/L		50.0	SM 2540, C-2011	8/2/2023	1:13 PM	JD

Pace

Lab Identification #: 30609595005

Sample Received Date:	8/2/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:25 AM	Sample Received By:	PS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	-0.1 ± 0.603 (1.25)		pCi/L			EPA 903.1	8/17/2023	4:52 PM	CLM
Radium-228	0.623 ± 0.387 (0.708)		pCi/L			EPA 904.0	8/16/2023	2:26 PM	VAL
Total Radium Calculation	0.623 ± 0.990 (1.96)		pCi/L			Total Radium Calculation	8/22/2023	5:02 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

02:31 PM 09/06/2023

Eric Hamilton - QA/QC Chemist

08:52 AM 09/07/2023

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Report Date: 11/17/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	08/24/2023
Well ID No:	PH-MW-01	Sample Collection Time:	2:49 PM
AKGW No.:	8006-4554	Sample Collected By:	BTB
Well Depth (Ft.):	37.57	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	736.38	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.58	MSL		08/24/2023	2:49 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	08/24/2023	2:49 PM	BTB
Conductivity	2397	µS/cm	SM 2510, B-2011	08/24/2023	2:49 PM	BTB
Temperature, deg. F	68.90	°F	SM 2550, B-2010	08/24/2023	2:49 PM	BTB
Oxidation-Reduction Potential	140.4	mV	SM 2580, B-2011	08/24/2023	2:49 PM	BTB
pH	6.14	S.U.	SM 4500-H+, B-2011	08/24/2023	2:49 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	08/24/2023	2:49 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300596

Sample Received Date:	08/25/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:18 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Barium	41.7		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	2:55 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Boron	1260		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Calcium	328000	D	µg/L	14000	30000	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	2:12 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Cobalt	5.9		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Lithium	77.5		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:29 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	8/25/2023	12:30 PM	JD
Chloride	84.0		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	8/28/2023	5:27 PM	JD
Fluoride	0.11		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/28/2023	5:27 PM	JD
Sulfate	308	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	8/28/2023	2:18 PM	JD
Solids, Total Dissolved	1700		mg/L		50.0	SM 2540, C-2015	8/28/2023	9:48 AM	JD

Pace

Lab Identification #: 30617948001

Sample Received Date:	8/30/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:30 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.925 ± 0.589 (0.712)		pCi/L			EPA 903.1	9/14/2023	12:15 PM	LL1
Radium-228	1.88 ± 0.603 (0.821)		pCi/L			EPA 904.0	9/14/2023	12:10 PM	ZPC
Total Radium Calculation	2.81 ± 1.19 (1.53)		pCi/L			Total Radium Calculation	9/15/2023	2:21 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist

03:03 PM 11/14/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 11/17/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	08/24/2023
Well ID No:	PH-MW-02	Sample Collection Time:	4:19 PM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	546.15	MSL		08/24/2023	4:19 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	08/24/2023	4:19 PM	BTB
Conductivity	1813	µS/cm	SM 2510, B-2011	08/24/2023	4:19 PM	BTB
Temperature, deg. F	64.94	°F	SM 2550, B-2010	08/24/2023	4:19 PM	BTB
Oxidation-Reduction Potential	-101.2	mV	SM 2580, B-2011	08/24/2023	4:19 PM	BTB
pH	7.6	S.U.	SM 4500-H+, B-2011	08/24/2023	4:19 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	08/24/2023	4:19 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300597

Sample Received Date:	08/25/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:18 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Barium	64.4		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	2:59 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Boron	1140		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Calcium	40200	D	µg/L	2800	6000	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	2:13 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Lithium	71.7		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Molybdenum	1.4		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:33 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	8/25/2023	12:33 PM	JD
Chloride	249	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	8/28/2023	2:37 PM	JD
Fluoride	0.46		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/28/2023	5:46 PM	JD
Sulfate	32.9		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	8/28/2023	5:46 PM	JD
Solids, Total Dissolved	940		mg/L		50.0	SM 2540, C-2015	8/28/2023	9:48 AM	JD

Pace

Lab Identification #: 30617948002

Sample Received Date:	8/30/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:30 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.644 ± 0.511 (0.694)		pCi/L			EPA 903.1	9/14/2023	12:15 PM	LL1
Radium-228	1.37 ± 0.543 (0.871)		pCi/L			EPA 904.0	9/14/2023	12:12 PM	ZPC
Total Radium Calculation	2.01 ± 1.05 (1.57)		pCi/L			Total Radium Calculation	9/15/2023	2:21 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist

03:03 PM 11/14/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 11/17/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-03A
AKGW No.:
Well Depth (Ft.): 40
Well Elevation (Ft. MSL): 614.98
Gradient: Down

Sample Collection Date: 08/24/2023
Sample Collection Time: 1:05 PM
Sample Collected By: BTB
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	583.55	MSL		08/24/2023	1:05 PM	BTB
Turbidity	1.99	NTU	SM 2130, B-2001	08/24/2023	1:05 PM	BTB
Conductivity	2676	µS/cm	SM 2510, B-2011	08/24/2023	1:05 PM	BTB
Temperature, deg. F	70.34	°F	SM 2550, B-2010	08/24/2023	1:05 PM	BTB
Oxidation-Reduction Potential	80.4	mV	SM 2580, B-2011	08/24/2023	1:05 PM	BTB
pH	7.71	S.U.	SM 4500-H+, B-2011	08/24/2023	1:05 PM	BTB
Oxygen, dissolved	1.07	mg/L	SM 4500-O	08/24/2023	1:05 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300598

Sample Received Date: 08/25/2023
Sample Received Time: 10:18 AM
Sample Receipt Temperatures (°C): < 6
Sample Received By: JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Barium	49.4		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:03 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Boron	2920		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Calcium	11100		µg/L	560	1200	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Lithium	82.4		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Molybdenum	21.2		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:36 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	8/25/2023	12:36 PM	JD
Chloride	323	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	8/28/2023	2:56 PM	JD
Fluoride	1.7		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/28/2023	6:05 PM	JD
Sulfate	108		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	8/28/2023	6:05 PM	JD
Solids, Total Dissolved	1140		mg/L		50.0	SM 2540, C-2015	8/28/2023	9:48 AM	JD

Pace

Lab Identification #: 30617948003

Sample Received Date: 8/30/2023
Sample Received Time: 10:30 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0643 ± 0.454 (0.906)		pCi/L			EPA 903.1	9/14/2023	12:15 PM	LL1
Radium-228	0.850 ± 0.481 (0.881)		pCi/L			EPA 904.0	9/14/2023	12:12 PM	ZPC
Total Radium Calculation	0.914 ± 0.935 (1.79)		pCi/L			Total Radium Calculation	9/15/2023	2:21 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.
Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist
03:03 PM 11/14/2023

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Report Date: 11/17/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	08/24/2023
Well ID No:	PH-MW-04	Sample Collection Time:	10:56 AM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	515.25	MSL		08/24/2023	10:56 AM	BTB
Turbidity	1.4	NTU	SM 2130, B-2001	08/24/2023	10:56 AM	BTB
Conductivity	1900	µS/cm	SM 2510, B-2011	08/24/2023	10:56 AM	BTB
Temperature, deg. F	61.88	°F	SM 2550, B-2010	08/24/2023	10:56 AM	BTB
Oxidation-Reduction Potential	162.5	mV	SM 2580, B-2011	08/24/2023	10:56 AM	BTB
pH	6.42	S.U.	SM 4500-H+, B-2011	08/24/2023	10:56 AM	BTB
Oxygen, dissolved	1.4	mg/L	SM 4500-O	08/24/2023	10:56 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300599

Sample Received Date:	08/25/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:18 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Barium	53.3		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:07 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Boron	931		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Calcium	268000	D	µg/L	14000	30000	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	2:14 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Cobalt	9.2		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Lithium	51.0		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Thallium	0.21		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:40 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	8/25/2023	12:39 PM	JD
Chloride	30.0		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	8/28/2023	6:24 PM	JD
Fluoride	0.25		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/28/2023	6:24 PM	JD
Sulfate	544	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	8/28/2023	3:15 PM	JD
Solids, Total Dissolved	1560		mg/L		50.0	SM 2540, C-2015	8/28/2023	9:48 AM	JD

Pace

Lab Identification #: 30617948004

Sample Received Date:	8/30/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:30 AM	Sample Received By:	JS

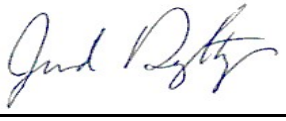
Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0704 ± 0.365 (0.758)		pCi/L			EPA 903.1	9/14/2023	12:15 PM	LL1
Radium-228	0.499 ± 0.433 (0.882)		pCi/L			EPA 904.0	9/14/2023	12:12 PM	ZPC
Total Radium Calculation	0.569 ± 0.798 (1.64)		pCi/L			Total Radium Calculation	9/15/2023	2:21 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :



Jared Daugherty - Chemist

02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist

03:03 PM 11/14/2023

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Report Date: 11/17/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	08/24/2023
Well ID No:	PH-MW-05	Sample Collection Time:	11:54 AM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	527.07	MSL		08/24/2023	11:54 AM	BTB
Turbidity	3.79	NTU	SM 2130, B-2001	08/24/2023	11:54 AM	BTB
Conductivity	933	µS/cm	SM 2510, B-2011	08/24/2023	11:54 AM	BTB
Temperature, deg. F	65.30	°F	SM 2550, B-2010	08/24/2023	11:54 AM	BTB
Oxidation-Reduction Potential	309.8	mV	SM 2580, B-2011	08/24/2023	11:54 AM	BTB
pH	7.18	S.U.	SM 4500-H+, B-2011	08/24/2023	11:54 AM	BTB
Oxygen, dissolved	7.44	mg/L	SM 4500-O	08/24/2023	11:54 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300600

Sample Received Date:	08/25/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:18 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Barium	66.6		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:11 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Boron	210		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Calcium	116000	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	2:15 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Lithium	22.3		µg/L	6.2	6.2	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	9/5/2023	1:44 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	8/25/2023	12:43 PM	JD
Chloride	10.8		mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	8/28/2023	3:34 PM	JD
Fluoride	0.19		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	8/28/2023	6:43 PM	JD
Sulfate	190		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	8/28/2023	6:43 PM	JD
Solids, Total Dissolved	590		mg/L		50.0	SM 2540, C-2015	8/28/2023	9:48 AM	JD

Pace

Lab Identification #: 30617948005

Sample Received Date:	8/30/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	10:30 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.556 ± 0.476 (0.645)		pCi/L			EPA 903.1	9/14/2023	12:15 PM	LL1
Radium-228	0.764 ± 0.502 (0.974)		pCi/L			EPA 904.0	9/14/2023	12:12 PM	ZPC
Total Radium Calculation	1.32 ± 0.978 (1.62)		pCi/L			Total Radium Calculation	9/15/2023	2:21 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist

03:03 PM 11/14/2023

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Report Date: 11/17/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-01
AKGW No.: 8006-4554
Well Depth (Ft.): 37.57
Well Elevation (Ft. MSL): 736.38
Gradient: Up

Sample Collection Date: 09/28/2023
Sample Collection Time: 2:33 PM
Sample Collected By: BTB
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	701.44	MSL		09/28/2023	2:33 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	09/28/2023	2:33 PM	BTB
Conductivity	2363	µS/cm	SM 2510, B-2011	09/28/2023	2:33 PM	BTB
Temperature, deg. F	61.70	°F	SM 2550, B-2010	09/28/2023	2:33 PM	BTB
Oxidation-Reduction Potential	225.7	mV	SM 2580, B-2011	09/28/2023	2:33 PM	BTB
pH	6.15	S.U.	SM 4500-H+, B-2011	09/28/2023	2:33 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	09/28/2023	2:33 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300663

Sample Received Date: 09/29/2023
Sample Received Time: 10:13 AM
Sample Receipt Temperatures (°C): < 6
Sample Received By: JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Barium	39.1		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Boron	1350		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Calcium	322000	D	µg/L	11200	24000	EPA 200.8, Rev. 5.4 (1994)	10/18/202	2:16 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Cobalt	6.1		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Lithium	75.0		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:35 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	9/29/2023	12:09 PM	JD
Chloride	88.4	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	10/12/2023	7:08 PM	JD
Fluoride	0.11		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/11/2023	1:31 PM	JD
Sulfate	297	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	10/11/2023	4:41 PM	JD
Solids, Total Dissolved	1730		mg/L		50.0	SM 2540, C-2015	9/29/2023	2:09 PM	JD

Pace

Lab Identification #: 30627705001

Sample Received Date: 10/4/2023
Sample Received Time: 9:15 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.224 ± 0.582 (1.05)		pCi/L			EPA 903.1	10/18/2023	12:17 PM	MAR1
Radium-228	0.943 ± 0.543 (1.00)		pCi/L			EPA 904.0	10/16/2023	4:25 PM	ZPC
Total Radium Calculation	1.17 ± 1.13 (2.05)		pCi/L			Total Radium Calculation	10/20/2023	4:39 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.
Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist
03:03 PM 11/14/2023

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Report Date: 11/17/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	09/28/2023
Well ID No:	PH-MW-02	Sample Collection Time:	3:59 PM
AKGW No.:	8006-4555	Sample Collected By:	BTB
Well Depth (Ft.):	43.02	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	570.93	Laboratory Certification ID:	KY# 08012
Gradient:	Up		

Field Analyses

Field Analyses	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	545.91	MSL		09/28/2023	3:59 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	09/28/2023	3:59 PM	BTB
Conductivity	1965	µS/cm	SM 2510, B-2011	09/28/2023	3:59 PM	BTB
Temperature, deg. F	60.80	°F	SM 2550, B-2010	09/28/2023	3:59 PM	BTB
Oxidation-Reduction Potential	-112.1	mV	SM 2580, B-2011	09/28/2023	3:59 PM	BTB
pH	7.69	S.U.	SM 4500-H+, B-2011	09/28/2023	3:59 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	09/28/2023	3:59 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300664

Sample Received Date:	09/29/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:13 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Arsenic	1.4		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Barium	57.9		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Boron	1190		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Calcium	34300	D	µg/L	2800	6000	EPA 200.8, Rev. 5.4 (1994)	10/18/202	2:20 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Lithium	73.6		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Molybdenum	1.6		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:39 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	9/29/2023	12:12 PM	JD
Chloride	263	D	mg/L	2.4	5.0	EPA 300.0 Rev 2.1 (1993)	10/12/2023	7:27 PM	JD
Fluoride	0.41		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/11/2023	1:50 PM	JD
Sulfate	31.1		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	10/11/2023	1:50 PM	JD
Solids, Total Dissolved	932		mg/L		50.0	SM 2540, C-2015	9/29/2023	2:09 PM	JD

Pace

Lab Identification #: 30627705002

Sample Received Date:	10/4/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:15 AM	Sample Received By:	JS

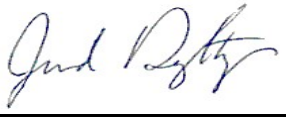
Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.229 ± 0.477 (0.860)		pCi/L			EPA 903.1	10/18/2023	12:17 PM	MAR1
Radium-228	0.524 ± 0.473 (0.964)		pCi/L			EPA 904.0	10/16/2023	4:25 PM	ZPC
Total Radium Calculation	0.753 ± 0.950 (1.82)		pCi/L			Total Radium Calculation	10/20/2023	4:39 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :



Jared Daugherty - Chemist

02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist

03:03 PM 11/14/2023

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Report Date: 11/17/2023

Certificate of Analysis

Station: H.L. Spurlock Power Station
Well ID No: PH-MW-03A
AKGW No.:
Well Depth (Ft.): 40
Well Elevation (Ft. MSL): 614.98
Gradient: Down

Sample Collection Date: 09/28/2023
Sample Collection Time: 12:52 PM
Sample Collected By: BTB
Sample Matrix: Ground Water
Laboratory Certification ID: KY# 08012

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	583.60	MSL		09/28/2023	12:52 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	09/28/2023	12:52 PM	BTB
Conductivity	2643	µS/cm	SM 2510, B-2011	09/28/2023	12:52 PM	BTB
Temperature, deg. F	62.06	°F	SM 2550, B-2010	09/28/2023	12:52 PM	BTB
Oxidation-Reduction Potential	123.2	mV	SM 2580, B-2011	09/28/2023	12:52 PM	BTB
pH	7.84	S.U.	SM 4500-H+, B-2011	09/28/2023	12:52 PM	BTB
Oxygen, dissolved	1.3	mg/L	SM 4500-O	09/28/2023	12:52 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300665

Sample Received Date: 09/29/2023
Sample Received Time: 10:13 AM
Sample Receipt Temperatures (°C): < 6
Sample Received By: JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Barium	45.8		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Boron	2710		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Calcium	10100	D	µg/L	2240	4800	EPA 200.8, Rev. 5.4 (1994)	10/18/202	2:24 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Lithium	69.7		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Molybdenum	22.4		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:43 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	9/29/2023	12:15 PM	JD
Chloride	331	D	mg/L	5.9	12.5	EPA 300.0 Rev 2.1 (1993)	10/12/2023	7:46 PM	JD
Fluoride	1.7		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/11/2023	2:09 PM	JD
Sulfate	94.7		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	10/11/2023	2:09 PM	JD
Solids, Total Dissolved	1180		mg/L		50.0	SM 2540, C-2015	9/29/2023	2:09 PM	JD

Pace

Lab Identification #: 30627705003

Sample Received Date: 10/4/2023
Sample Received Time: 9:15 AM
Sample Receipt Temperatures (°C): NA
Sample Received By: JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.380 ± 0.322 (0.400)		pCi/L			EPA 903.1	10/18/2023	12:17 PM	MAR1
Radium-228	0.292 ± 0.428 (0.923)		pCi/L			EPA 904.0	10/16/2023	4:25 PM	ZPC
Total Radium Calculation	0.672 ± 0.750 (1.32)		pCi/L			Total Radium Calculation	10/20/2023	4:39 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.
Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist
02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist
03:03 PM 11/14/2023

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Report Date: 11/17/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	09/28/2023
Well ID No:	PH-MW-04	Sample Collection Time:	10:55 AM
AKGW No.:	8006-4557	Sample Collected By:	BTB
Well Depth (Ft.):	37.32	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	548.56	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	516.54	MSL		09/28/2023	10:55 AM	BTB
Turbidity	1.74	NTU	SM 2130, B-2001	09/28/2023	10:55 AM	BTB
Conductivity	1812	µS/cm	SM 2510, B-2011	09/28/2023	10:55 AM	BTB
Temperature, deg. F	60.98	°F	SM 2550, B-2010	09/28/2023	10:55 AM	BTB
Oxidation-Reduction Potential	252.4	mV	SM 2580, B-2011	09/28/2023	10:55 AM	BTB
pH	6.43	S.U.	SM 4500-H+, B-2011	09/28/2023	10:55 AM	BTB
Oxygen, dissolved	1.8	mg/L	SM 4500-O	09/28/2023	10:55 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300666

Sample Received Date:	09/29/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:13 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Barium	49.9		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Boron	892		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Calcium	242000	D	µg/L	11200	24000	EPA 200.8, Rev. 5.4 (1994)	10/18/202	2:28 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Lithium	43.0		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:47 PM	JD
Mercury	< 0.0200	D	µg/L	0.0058	0.0200	EPA 245.7 Rev 2.0 (2005)	9/29/2023	12:18 PM	JD
Chloride	25.2	D	mg/L	1.2	2.5	EPA 300.0 Rev 2.1 (1993)	10/12/2023	8:05 PM	JD
Fluoride	0.26		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/11/2023	2:28 PM	JD
Sulfate	472	D	mg/L	1.2	5.0	EPA 300.0 Rev 2.1 (1993)	10/11/2023	5:37 PM	JD
Solids, Total Dissolved	1380		mg/L		50.0	SM 2540, C-2015	9/29/2023	2:09 PM	JD

Pace

Lab Identification #: 30627705004

Sample Received Date:	10/4/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:15 AM	Sample Received By:	JS

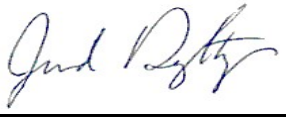
Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0548 ± 0.322 (0.658)		pCi/L			EPA 903.1	10/18/2023	12:17 PM	MAR1
Radium-228	0.672 ± 0.416 (0.776)		pCi/L			EPA 904.0	10/16/2023	4:26 PM	ZPC
Total Radium Calculation	0.728 ± 0.738 (1.43)		pCi/L			Total Radium Calculation	10/20/2023	4:39 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :



Jared Daugherty - Chemist

02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist

03:03 PM 11/14/2023

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EAST KENTUCKY POWER COOPERATIVE

Report Date: 11/17/2023

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	09/28/2023
Well ID No:	PH-MW-05	Sample Collection Time:	11:40 AM
AKGW No.:	8006-4558	Sample Collected By:	BTB
Well Depth (Ft.):	37.45	Sample Matrix:	Ground Water
Well Elevation (Ft. MSL):	560.32	Laboratory Certification ID:	KY# 08012
Gradient:	Down		

Field Analyses

	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	526.71	MSL		09/28/2023	11:40 AM	BTB
Turbidity	2.6	NTU	SM 2130, B-2001	09/28/2023	11:40 AM	BTB
Conductivity	871	µS/cm	SM 2510, B-2011	09/28/2023	11:40 AM	BTB
Temperature, deg. F	63.50	°F	SM 2550, B-2010	09/28/2023	11:40 AM	BTB
Oxidation-Reduction Potential	344.3	mV	SM 2580, B-2011	09/28/2023	11:40 AM	BTB
pH	7.20	S.U.	SM 4500-H+, B-2011	09/28/2023	11:40 AM	BTB
Oxygen, dissolved	7.82	mg/L	SM 4500-O	09/28/2023	11:40 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2300667

Sample Received Date:	09/29/2023	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	10:13 AM	Sample Received By:	JD

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Barium	58.9		µg/L	1.0	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Boron	230		µg/L	3.6	6.2	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Cadmium	< 0.25		µg/L	0.10	0.25	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Calcium	105000	D	µg/L	5600	12000	EPA 200.8, Rev. 5.4 (1994)	10/18/202	2:31 PM	JD
Chromium	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Lead	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Lithium	21.4		µg/L	6.2	12.5	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Selenium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Thallium	< 0.10		µg/L	0.03	0.10	EPA 200.8, Rev. 5.4 (1994)	10/18/202	3:51 PM	JD
Mercury	< 0.0050	D	µg/L	0.0014	0.0050	EPA 245.7 Rev 2.0 (2005)	9/29/2023	12:22 PM	JD
Chloride	11.1	D	mg/L	0.5	1.0	EPA 300.0 Rev 2.1 (1993)	10/12/2023	8:24 PM	JD
Fluoride	0.19		mg/L	0.05	0.10	EPA 300.0 Rev 2.1 (1993)	10/11/2023	2:47 PM	JD
Sulfate	166		mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	10/11/2023	2:47 PM	JD
Solids, Total Dissolved	570		mg/L		50.0	SM 2540, C-2015	9/29/2023	2:09 PM	JD

Pace

Lab Identification #: 30627705005

Sample Received Date:	10/4/2023	Sample Receipt Temperatures (°C):	NA
Sample Received Time:	9:15 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.620 ± 0.578 (0.894)		pCi/L			EPA 903.1	10/18/2023	12:17 PM	MAR1
Radium-228	1.02 ± 0.520 (0.919)		pCi/L			EPA 904.0	10/16/2023	4:26 PM	ZPC
Total Radium Calculation	1.64 ± 1.10 (1.81)		pCi/L			Total Radium Calculation	10/20/2023	4:39 PM	JAL

Comments / Notes:

Sample Results are compliant with East Kentucky Power Cooperatives Quality Assurance program. Quality Control sample results achieved laboratory specification.

Result notes: D - Result from dilution, J - Estimated Value, R - Unusable Result (Quality Control Failure), NA - Not Available

Electronically Approved By :

Jared Daugherty - Chemist

02:27 PM 11/10/2023

Eric Hamilton - QA/QC Chemist

03:03 PM 11/14/2023

4775 Lexington Road 40391
P.O. Box 707, Winchester
Kentucky 40392-0707

Tel. (859) 744-4812
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http://www.ekpc.coop

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APPENDIX D – Flow Calculations & Direction Maps

GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **January 30th, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	585.31	ft
Downgradient Well Water Elev (h_2) =	528.12	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	57.19	ft
Hyd. Grad.(i) =	0.057	ft/ft
GW Flow Velocity (K_h*i)/n_e =	3.03E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	701.87	ft
h_2 =	546.51	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	155.36	ft
i =	0.077	ft/ft
(K_h*i)/n_e =	4.08E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

546.51
PH-MW-02

701.87
PH-MW-01

S. Ripley Road

Haul Road

522.96
PH-MW-04

528.12
PH-MW-05

585.31
PH-MW-3A

NORTH

LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)
- Inferred Groundwater Flow Direction
- Hydraulic gradient flow length

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

STATE OF KENTUCKY
1/25/24
SAMUEL T. OAKES
21483
LICENSED
PROFESSIONAL ENGINEER

JANUARY 30, 2023 EVENT

KENVIRONS
Civil & Environmental Engineers

Project:	2019047
Checked By:	STO
Date:	01-15-23
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GROUNDWATER FLOW MAP

N:\P\2019047\Peg's Hill Surface Flow Map_11x17_2023_.dwg, 1-30-23, 1/25/2024 9:59:42 AM, MAS

GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **February 28th, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	585.07	ft
Downgradient Well Water Elev (h_2) =	527.71	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	57.36	ft
Hyd. Grad.(i) =	0.057	ft/ft
GW Flow Velocity (K_h*i)/n_e =	3.04E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	701.90	ft
h_2 =	546.51	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	155.39	ft
i =	0.077	ft/ft
(K_h*i)/n_e =	4.09E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

546.51
PH-MW-02

701.90
PH-MW-01

521.61
PH-MW-04

527.71
PH-MW-05

585.07
PH-MW-3A

S. Ripley Road

Haul Road

NORTH

LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)
- Inferred Groundwater Flow Direction
- Hydraulic gradient flow length

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

STATE OF KENTUCKY
1/25/24
SAMUEL T. OAKES
21483
LICENSED
PROFESSIONAL ENGINEER

FEBRUARY 28, 2023 EVENT

KENVIRONS
Civil & Environmental Engineers

Project:	2019047
Checked By:	STO
Date:	07-26-23
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GROUNDWATER FLOW MAP

N:\P\2019047\Peg's Hill Surface Flow Map_11x17_2023_.dwg, 2-28-23, 1/25/2024 9:58:25 AM, MAS

GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **March 28th, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	584.71	ft
Downgradient Well Water Elev (h_2) =	527.67	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	57.04	ft
Hyd. Grad.(i) =	0.057	ft/ft
GW Flow Velocity (K_h*i)/n_e =	3.02E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	702.07	ft
h_2 =	546.38	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	155.69	ft
i =	0.077	ft/ft
(K_h*i)/n_e =	4.09E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

546.38
PH-MW-02

702.07
PH-MW-01

S. Ripley Road

Haul Road

520.31
PH-MW-04

527.67
PH-MW-05

584.71
PH-MW-3A

S. Ripley Road

NORTH

LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)
- Inferred Groundwater Flow Direction
- Hydraulic gradient flow length

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

STATE OF KENTUCKY
1/25/24
SAMUEL T. OAKES
21483
LICENSED PROFESSIONAL ENGINEER

MARCH 28, 2023 EVENT

KENVIRONS
Civil & Environmental Engineers

Project:	2019047
Checked By:	STO
Date:	07-27-23
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GROUNDWATER FLOW MAP

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GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **April 27th, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	584.57	ft
Downgradient Well Water Elev (h_2) =	527.11	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	57.46	ft
Hyd. Grad.(i) =	0.058	ft/ft
GW Flow Velocity (K_h*i)/n_e =	3.05E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	702.43	ft
h_2 =	546.32	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	156.11	ft
i =	0.078	ft/ft
(K_h*i)/n_e =	4.10E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

546.32
PH-MW-02

702.43
PH-MW-01

519.65
PH-MW-04

527.11
PH-MW-05

584.57
PH-MW-3A

S. Ripley Road

S. Ripley Road

Haul Road

NORTH

LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)
- Inferred Groundwater Flow Direction
- Hydraulic gradient flow length

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

STATE OF KENTUCKY
1/24/24
SAMUEL T. OAKES
21483
LICENSED PROFESSIONAL ENGINEER

April 27, 2023 EVENT

KENVIRONS
Civil & Environmental Engineers

Project:	2019047
Checked By:	STO
Date:	07-27-23
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GROUNDWATER FLOW MAP

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GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **June 1st & 2nd, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	584.38	ft
Downgradient Well Water Elev (h_2) =	527.42	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	56.96	ft
Hyd. Grad.(i) =	0.057	ft/ft
GW Flow Velocity (K_h*i)/n_e =	3.02E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	701.60	ft
h_2 =	546.10	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	155.50	ft
i =	0.077	ft/ft
(K_h*i)/n_e =	4.09E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

546.10
PH-MW-02

701.60
PH-MW-01

519.11
PH-MW-04

527.42
PH-MW-05

584.38
PH-MW-3A

S. Ripley Road

Haul Road

S. Ripley Road

LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)
- Inferred Groundwater Flow Direction
- Hydraulic gradient flow length

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

STATE OF KENTUCKY
1/25/24
SAMUEL T. OAKES
21483
LICENSED
PROFESSIONAL ENGINEER

JUNE 2, 2023 EVENT

KENVIRONS
Civil & Environmental Engineers

Project:	2019047
Checked By:	STO
Date:	07-27-23
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GROUNDWATER FLOW MAP

N:\P\2019047\Peg's Hill Surface Flow Map_11x17_2023_.dwg, 6-2-2023, 1/25/2024 9:53:59 AM, MAS

GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **June 27th, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	583.82	ft
Downgradient Well Water Elev (h_2) =	527.14	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	56.68	ft
Hyd. Grad.(i) =	0.057	ft/ft
GW Flow Velocity (K_h*i)/n_e =	3.00E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	701.37	ft
h_2 =	545.83	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	155.54	ft
i =	0.077	ft/ft
(K_h*i)/n_e =	4.09E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

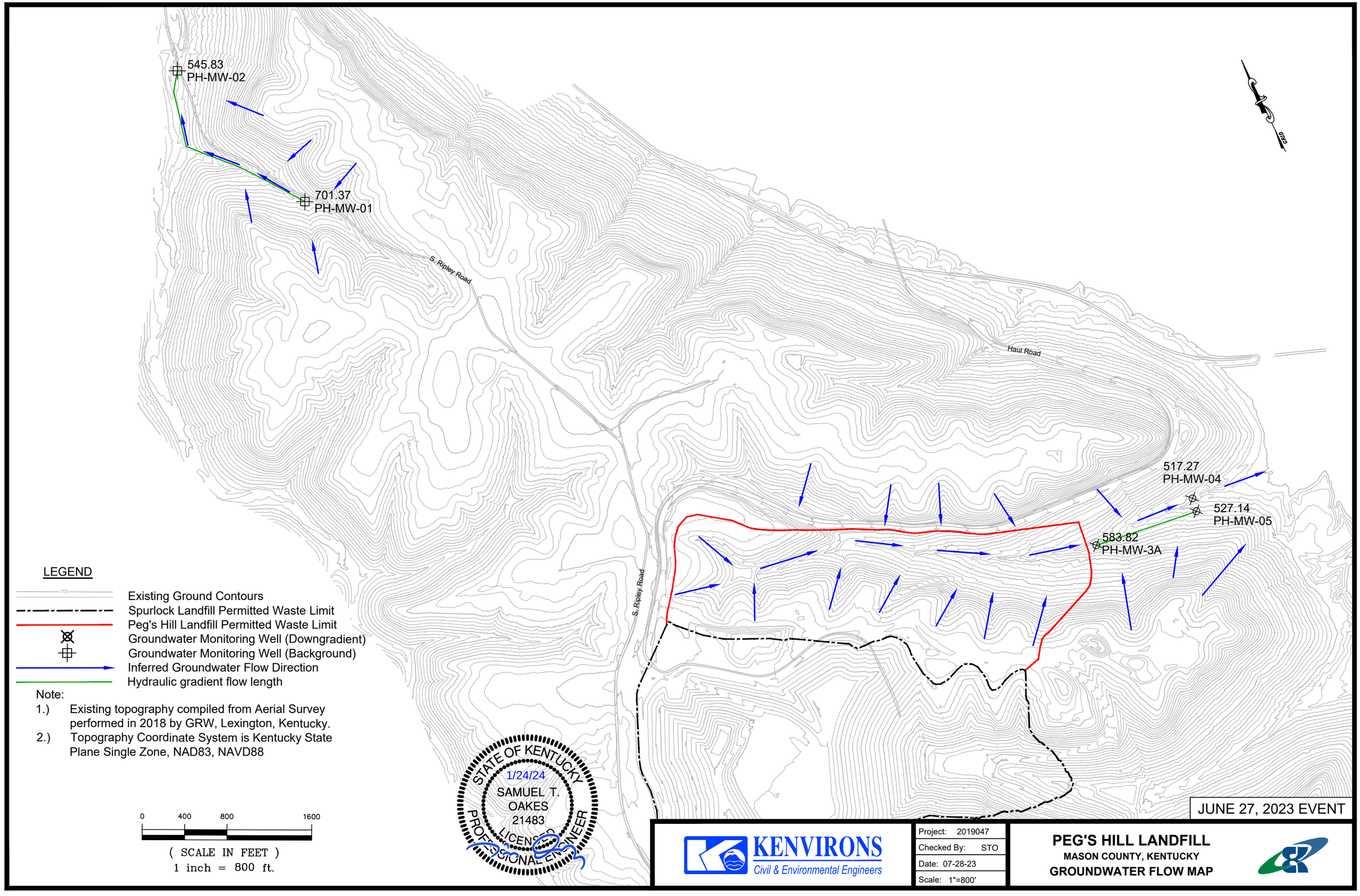
h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.



N:\P\2019047\Peg's Hill Surface Flow Map_11x17_2023__recover000.dwg, 6-27-2023, 1/22/2024 3:17:52 PM, MAS

GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **July 28th, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	583.66	ft
Downgradient Well Water Elev (h_2) =	527.37	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	56.29	ft
Hyd. Grad.(i) =	0.056	ft/ft
GW Flow Velocity (K_h*i)/n_e =	2.98E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	701.08	ft
h_2 =	546.02	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	155.06	ft
i =	0.077	ft/ft
(K_h*i)/n_e =	4.08E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

546.02
PH-MW-02

701.08
PH-MW-01

516.01
PH-MW-04

527.37
PH-MW-05

583.66
PH-MW-3A

S. Ripley Road

S. Ripley Road

Haul Road

NORTH

LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)
- Inferred Groundwater Flow Direction
- Hydraulic gradient flow length

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

STATE OF KENTUCKY
1/24/24
SAMUEL T. OAKES
21483
LICENSED PROFESSIONAL ENGINEER

JULY 28, 2023 EVENT

KENVIRONS
Civil & Environmental Engineers

Project:	2019047
Checked By:	STO
Date:	07-28-23
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GROUNDWATER FLOW MAP

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GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **August 24th, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	583.55	ft
Downgradient Well Water Elev (h_2) =	527.07	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	56.48	ft
Hyd. Grad.(i) =	0.057	ft/ft
GW Flow Velocity (K_h*i)/n_e =	2.99E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	701.58	ft
h_2 =	546.15	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	155.43	ft
i =	0.077	ft/ft
(K_h*i)/n_e =	4.09E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

546.15
PH-MW-02

701.58
PH-MW-01

S. Ripley Road

Haul Road

515.25
PH-MW-04

527.07
PH-MW-05

583.55
PH-MW-3A

S. Ripley Road

NORTH

LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)
- Inferred Groundwater Flow Direction
- Hydraulic gradient flow length

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

STATE OF KENTUCKY
1/24/24
SAMUEL T. OAKES
21483
LICENSED PROFESSIONAL ENGINEER

AUGUST 24, 2023 EVENT

KENVIRONS
Civil & Environmental Engineers

Project:	2019047
Checked By:	STO
Date:	08-24-2023
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GROUNDWATER FLOW MAP

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GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **September 28th, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	583.60	ft
Downgradient Well Water Elev (h_2) =	526.71	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	56.89	ft
Hyd. Grad.(i) =	0.057	ft/ft
GW Flow Velocity (K_h*i)/n_e =	3.02E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	701.44	ft
h_2 =	545.91	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	155.53	ft
i =	0.077	ft/ft
(K_h*i)/n_e =	4.09E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

545.91
PH-MW-02

701.44
PH-MW-01

516.54
PH-MW-04

526.71
PH-MW-05

583.60
PH-MW-3A

S. Ripley Road

S. Ripley Road

Haul Road

NORTH

LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)
- Inferred Groundwater Flow Direction
- Hydraulic gradient flow length

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

STATE OF KENTUCKY
1/24/24
SAMUEL T. OAKES
21483
LICENSED PROFESSIONAL ENGINEER

SEPTEMBER 28, 2023 EVENT

KENVIRONS
Civil & Environmental Engineers

Project:	2019047
Checked By:	STO
Date:	08-24-2023
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GROUNDWATER FLOW MAP

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GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: **Peg's Hill Landfill**
Sampling Event Date: **October 30th, 2023**

INPUT VARIABLES: Downgradient wells [1]

Hydraulic Conductivity (K_h) =	3.67E-08	ft/s
Upgradient Well Water Elev (h_1) =	583.45	ft
Downgradient Well Water Elev (h_2) =	526.81	ft
Flow Length (L) =	998	ft
Effective Porosity (n_e) =	0.06	unitless

CALCULATIONS:

dh =	56.64	ft
Hyd. Grad.(i) =	0.057	ft/ft
GW Flow Velocity (K_h*i)/n_e =	3.00E-03	ft/day

INPUT VARIABLES: Background wells [2]

K_h =	3.67E-08	ft/s
h_1 =	701.23	ft
h_2 =	545.97	ft
L =	2,012	ft
n_e =	0.06	unitless

CALCULATIONS:

dh =	155.26	ft
i =	0.077	ft/ft
(K_h*i)/n_e =	4.08E-03	ft/day

$$V = \frac{K_h * i}{n_e}$$

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

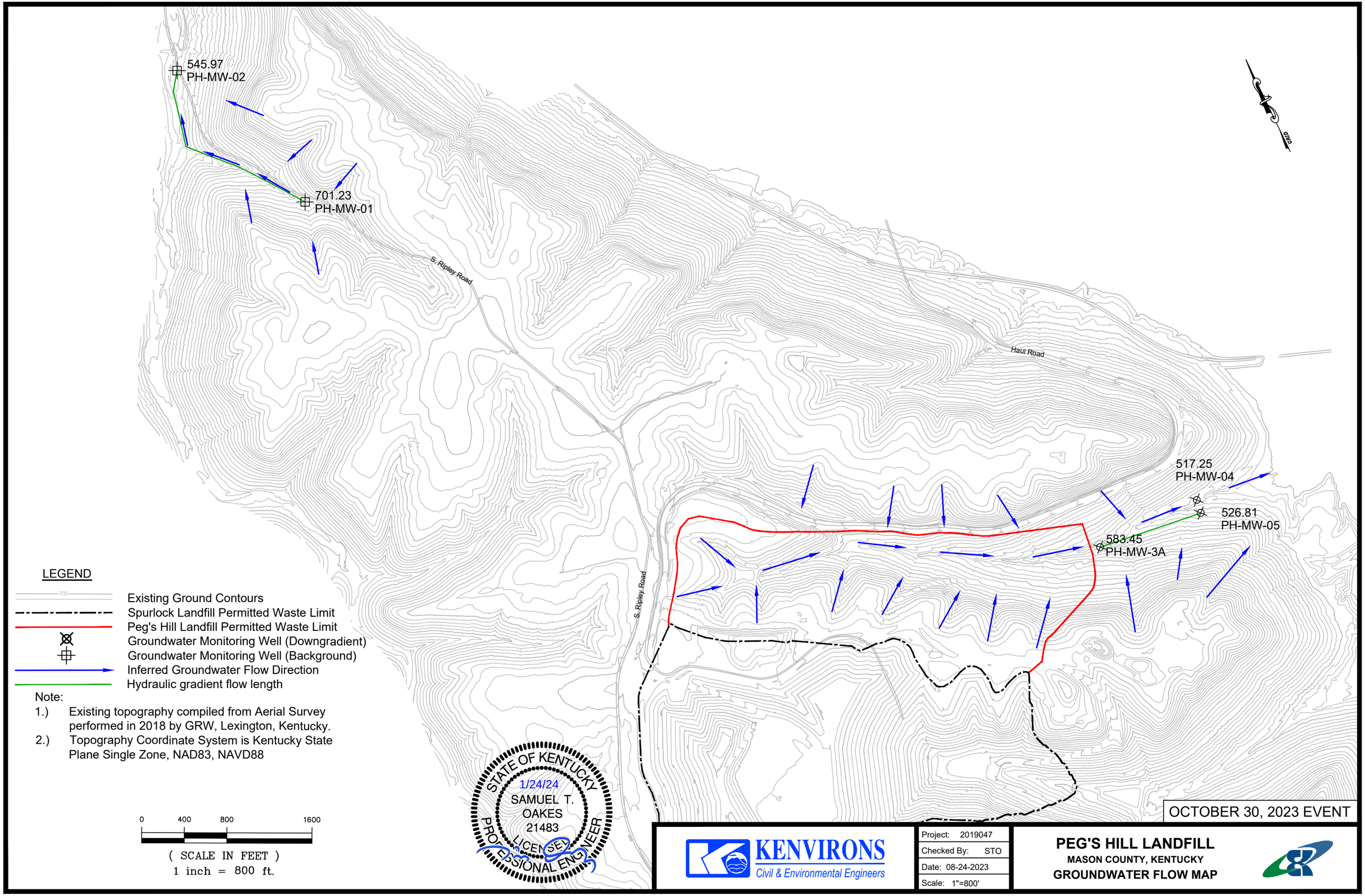
h_1 and h_2 = Groundwater elevation at location 1 and 2

L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03A used to determine h1. Groundwater elevation readings from downgradient well PH-MW-05 used to determine h2.
2. Groundwater elevation readings from background well PH-MW-01 used to determine h1. Groundwater elevation readings from background well PH-MW-02 used to determine h2.
3. Hydraulic conductivity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
4. Effective porosity estimates taken from the Groundwater Monitoring System and Hydrogeologic Investigation Report for Peg's Hill dated February 2019 by Geosyntec.
5. Calculations are based on available information and limited data points, therefore, the results reflect estimated values.
6. Flow Length distance (downgradient wells) calculated from PH-MW-03A to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.



LEGEND

- Existing Ground Contours
- Spurlock Landfill Permitted Waste Limit
- Peg's Hill Landfill Permitted Waste Limit
- Groundwater Monitoring Well (Downgradient)
- Groundwater Monitoring Well (Background)
- Inferred Groundwater Flow Direction
- Hydraulic gradient flow length

Note:

1.) Existing topography compiled from Aerial Survey performed in 2018 by GRW, Lexington, Kentucky.

2.) Topography Coordinate System is Kentucky State Plane Single Zone, NAD83, NAVD88

0 400 800 1600

(SCALE IN FEET)

1 inch = 800 ft.

STATE OF KENTUCKY
1/24/24
SAMUEL T. OAKES
21483
LICENSED PROFESSIONAL ENGINEER

OCTOBER 30, 2023 EVENT

KENVIRONS
Civil & Environmental Engineers

Project:	2019047
Checked By:	STO
Date:	08-24-2023
Scale:	1"=800'

PEG'S HILL LANDFILL
MASON COUNTY, KENTUCKY
GROUNDWATER FLOW MAP

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