



ANNUAL CCR GROUNDWATER MONITORING & CORRECTIVE ACTION REPORT

Peg's Hill Landfill

January 31, 2021

Reporting Year – 2020
Revision 01



A Touchstone Energy Cooperative 

Executive Summary

This annual report documents the status of the groundwater monitoring and corrective action program for Spurlock Station’s proposed Coal Combustion Residual (CCR) Landfill (herein “Peg’s Hill Landfill”, “Landfill”, or “the Unit”) 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 programs 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 has not been constructed. Only background, or baseline, sampling is 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.	Not applicable. Unit has not been constructed. Only background, or baseline, sampling is being conducted.
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

Table of Contents

1.0 Introduction.....	1
2.0 CCR Rule Compliance.....	1
3.0 Facility Information	2
4.0 Status of Groundwater Monitoring and Corrective Action Program.....	2
5.0 Summary of Key Actions Completed.....	2
5.1 Background Groundwater Monitoring Activities.....	2
6.0 Problems Encountered and Actions Taken	3
7.0 Key Activities Projected for 2021	3
APPENDIX A – Groundwater Monitoring Locations Map	4
APPENDIX B – Summary of Analytical Results	6
APPENDIX C – Laboratory Analytical Reports.....	11
APPENDIX D – Flow Calculations & Direction Maps	67

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 will be 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 proposed new Peg's Hill CCR Landfill at H.L Spurlock Power Station (Spurlock) located near Maysville, Kentucky. This report covers the 2020 reporting period, January 1, 2020 through December 31, 2020.

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 statistically significant increase (SSI) over background levels)
- 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 stats 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

The proposed Peg's Hill CCR Landfill at Spurlock is located adjacent to (i.e., north of) the existing Spurlock 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 Peg's Hill 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 proposed Landfill footprint. The Landfill is located within a stream valley, and is situated in a tributary to Lawrence Creek. As a newly proposed CCR Unit, Peg's Hill CCR Landfill has its own certified groundwater monitoring network that will be used to monitor groundwater under the CCR Rule. **Appendix A**, prepared by Geosyntec Consultants, Inc. (Geosyntec), shows the proposed Peg's Hill Landfill property, depicting the groundwater monitoring system present. Monitoring wells PH-MW-1 and PH-MW-2 are background monitoring locations in an adjacent valley, and wells PH-MW-3, 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. The background wells are completed in the same stratigraphic horizon (the Kope Formation), and similar depth (shallow, more highly fractured bedrock), as the compliance wells. If shallow monitoring wells were installed upgradient of the proposed 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

The CCR Unit did not undergo any program transition in 2020 and is currently collecting additional baseline groundwater samples pursuant to 40 CFR §257.94 prior to authorization of construction and CCR placement.

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 Background 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. The sampling results obtained in 2020 and the results from the November and

December 2019 background events, which were not available during the 2020 reporting period, are summarized in **Table B-1** in **Appendix B**, while the laboratory analytical reports are included in **Appendix C**.

Since the Landfill is a proposed CCR Landfill in the Commonwealth of Kentucky and has received authorization to construct from the Commonwealth, but has not been constructed and EKPC has not received authorization to place CCR in the Landfill, EKPC continued to collect additional independent background samples (until waste placement is authorized) during 2020. Groundwater flow maps and velocity calculations from those events are in **Appendix D**.

Table 5-1: Annual Sampling & Analysis Summary

Collection Date	Number of Samples Collected	Location of Collected Samples	Monitoring Program
01/31/20	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
03/02/20	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
03/31/20	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
04/30/20	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
05/29/20	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
06/30/20	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
07/31/20	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
08/31/20	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
09/30/20	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
10/30/20*	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
11/30/20*	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background
12/28/20*	5	PH-MW-1, PH-MW-2 PH-MW-3, PH-MW-4, & PH-MW-5	Background

* The laboratory analytical results for these sampling events were not available on or before December 31, 2020, and therefore those sampling results are not included in this report.

6.0 Problems Encountered and Actions Taken

No significant problems were encountered during the groundwater monitoring and corrective action program for the Peg’s Hill Landfill in 2020.

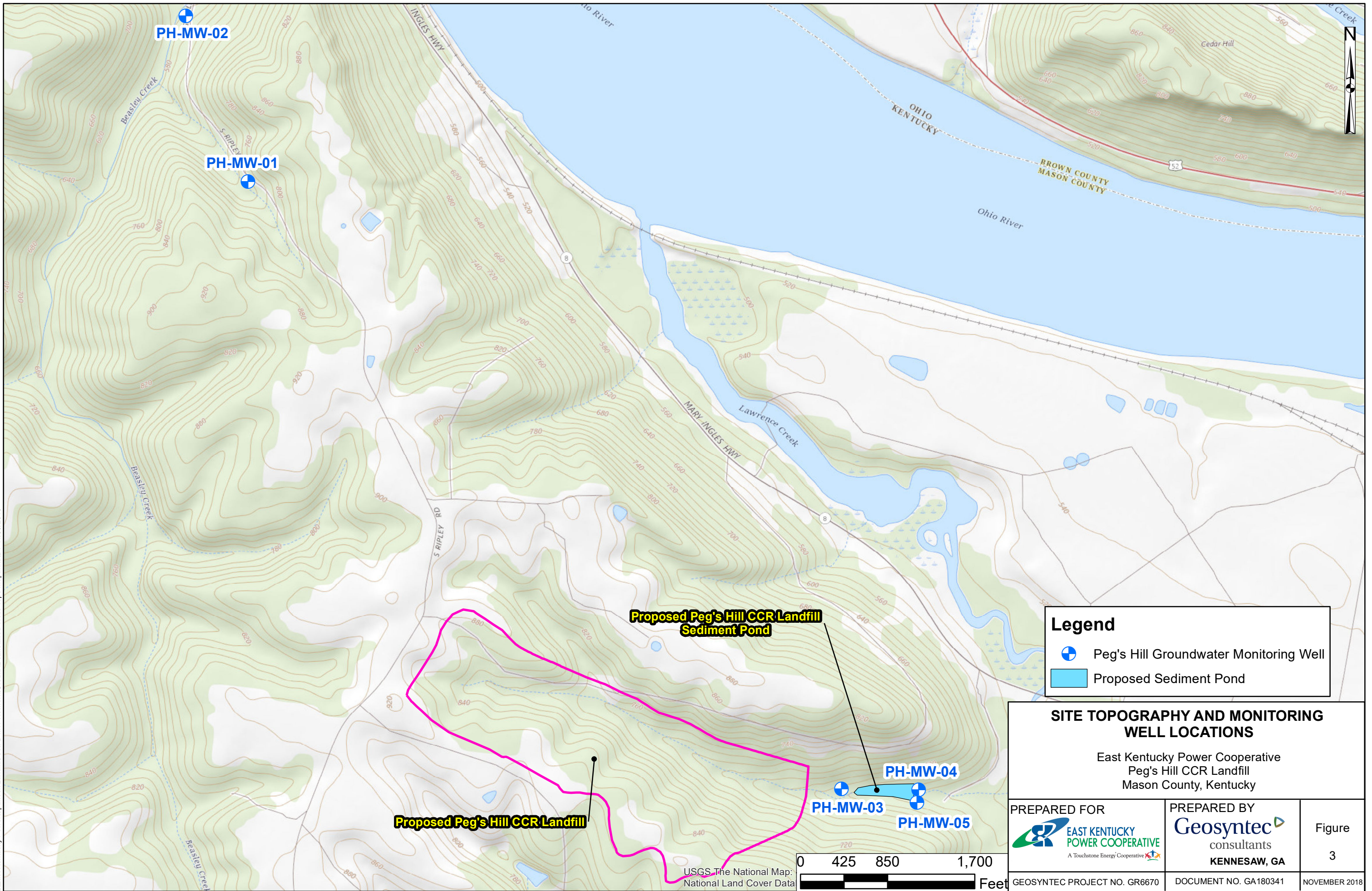
7.0 Key Activities Projected for 2021

In 2021, EKPC will continue collecting background samples. Once the Landfill has been constructed and waste is placed, EKPC will commence detection monitoring.

In addition, EKPC will re-evaluate the certified statistical methodology and background limits prior to waste placement to look for opportunities to enhance the monitoring network’s ability to detect a release from the CCR Unit based on additional pre-disposal background collected.

APPENDIX A – Groundwater Monitoring Locations Map

N:\E\East_Kentucky_Power\Spurlock_Landfill\Area D MW Network\GIS\MXD\Installed Wells Topo Map.mxd\IDY 11/30/2018



Legend

- Peg's Hill Groundwater Monitoring Well
- Proposed Sediment Pond

SITE TOPOGRAPHY AND MONITORING WELL LOCATIONS

East Kentucky Power Cooperative
 Peg's Hill CCR Landfill
 Mason County, Kentucky

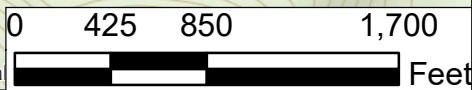
PREPARED FOR

EAST KENTUCKY POWER COOPERATIVE
 A Touchstone Energy Cooperative

PREPARED BY

Geosyntec
 consultants
 KENNESAW, GA

Figure
 3



USGS The National Map:
 National Land Cover Data

GEOSYNTec PROJECT NO. GR6670

DOCUMENT NO. GA180341

NOVEMBER 2018

APPENDIX B – Summary of Analytical Results

Spurlock Peg's Hill

Annual Reporting Year 2020
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	11/27/2019	Background	701.68	2630	316000 D	266 D	< 0.50	5.76	444 D	2280
PH-MW-01	12/30/2019	Background	702.43	1700	303000 D	87.0	< 0.50	6.12	435 D	1860
PH-MW-01	1/31/2020	Background	703.03	1220	356000 D	35.7	< 0.50	6.02	360 D	1710
PH-MW-01	3/2/2020	Background	703.53	952	321000 D	24.1	< 0.50	5.94	358 D	1530
PH-MW-01	3/31/2020	Background	703.92	1080	349000 D	40.2	< 0.50	5.94	358 D	1650
PH-MW-01	4/30/2020	Background	703.59	873	367000 D	19.9	< 0.50	6.00	391 D	1550
PH-MW-01	5/29/2020	Background	704.47	800	313000 D	15.7	< 0.50	6.23	378 D	1630
PH-MW-01	6/30/2020	Background	703.57	907	360000 D	20 D	< 0.10	5.85	370 D	1670
PH-MW-01	7/31/2020	Background	702.90	1250	371000 D	30 D	< 0.10	6.04	380 D	1750
PH-MW-01	8/31/2020	Background	702.54	1410	360000 D	49 D	< 0.40 D	6.08	390 D	1820
PH-MW-01	9/30/2020	Background	702.29	1430	356000 D	66 D	< 0.20 D	5.98	380 D	1830
PH-MW-02	11/27/2019	Background	547.66	1280	34700	196 D	0.61	7.55	29.7	772
PH-MW-02	12/30/2019	Background	547.80	1280	34300	216 D	0.61	7.57	30.6	844
PH-MW-02	1/31/2020	Background	547.50	1220	40000	171 D	< 0.50	7.49	31.5	768
PH-MW-02	3/2/2020	Background	548.81	1170	34800 D	209 D	0.62	7.72	31.0	872
PH-MW-02	3/31/2020	Background	548.53	1150	39000 D	176 D	0.53	7.58	30.0	760
PH-MW-02	4/30/2020	Background	548.50	1040	41100 D	170 D	0.51	7.52	30.3	740
PH-MW-02	5/29/2020	Background	548.62	913	53000 D	135 D	< 0.50	7.43	30.9	666
PH-MW-02	6/30/2020	Background	548.00	945	51900 D	140 D	0.45	7.6	31 D	722
PH-MW-02	7/31/2020	Background	547.61	1050	50200 D	150 D	0.15	7.45	30 D	700
PH-MW-02	8/31/2020	Background	547.93	1050	47900 D	150 D	0.36	7.62	34 D	756
PH-MW-02	9/30/2020	Background	547.85	1150	34500 D	210 D	0.46	7.72	33 D	872
PH-MW-03	11/27/2019	Background	560.03	3180	81900 D	676 D	0.96	6.96	504 D	2250
PH-MW-03	12/30/2019	Background	562.38	3250	91500 D	651 D	0.90	7.25	510 D	2310
PH-MW-03	1/31/2020	Background	562.80	3390	90500 D	635 D	0.88	7.07	437 D	2200
PH-MW-03	3/2/2020	Background	564.39	2980	81700 D	623 D	0.92	7.45	423 D	2140
PH-MW-03	3/31/2020	Background	565.16	2900	96000 D	567 D	0.94	7.23	344 D	1870
PH-MW-03	4/30/2020	Background	564.84	2720	81100 D	583 D	1.0	7.29	278 D	1860
PH-MW-03	5/29/2020	Background	564.49	2780	71400 D	565 D	1.1	7.22	169	1590
PH-MW-03	6/30/2020	Background	562.45	2850	64000 D	610 D	1.6	7.25	190 D	1730
PH-MW-03	7/31/2020	Background	560.95	3170	74900 D	610 D	0.66	7.20	250 D	1820
PH-MW-03	8/31/2020	Background	560.20	3230	77800 D	630 D	0.69 D	7.20	340 D	1920
PH-MW-03	9/30/2020	Background	559.68	3100	78700 D	660 D	1.2 D	7.08	400 D	2180

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 A4 - Appendix IV Constituents for Assessment Monitoring ASD - Alternative Source Demonstration	
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 2020
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-04	11/27/2019	Background	523.99	1180	170000 D	27.3	< 0.50	6.05	262 D	1090
PH-MW-04	12/30/2019	Background	524.74	1200	157000 D	27.5	< 0.50	6.36	267 D	1060
PH-MW-04	1/31/2020	Background	524.72	1210	154000 D	25.5	< 0.50	6.27	241 D	1030
PH-MW-04	3/2/2020	Background	524.26	1110	168000 D	25.4	< 0.50	6.26	262 D	1140
PH-MW-04	3/31/2020	Background	523.91	1070	189000 D	23.2	< 0.50	6.24	268 D	1160
PH-MW-04	4/30/2020	Background	523.96	948	178000 D	21.8	< 0.50	6.09	282 D	1140
PH-MW-04	5/29/2020	Background	523.82	930	176000 D	19.7	< 0.50	6.30	283 D	1150
PH-MW-04	6/30/2020	Background	524.11	992	206000 D	23 D	0.22	6.05	260 D	1200
PH-MW-04	7/31/2020	Background	523.26	1060	215000 D	23 D	< 0.10	6.28	140 D	1230
PH-MW-04	8/31/2020	Background	523.66	1090	203000 D	22 D	0.22 D	6.33	260 D	1210
PH-MW-04	9/30/2020	Background	523.54	974	185000 D	23 D	< 0.20 D	6.16	240 D	1170
PH-MW-05	11/27/2019	Background	527.73	293	129000 D	11.5	< 0.50	6.49	210 D	568
PH-MW-05	12/30/2019	Background	529.30	218	117000 D	10.4	< 0.50	6.99	187	610
PH-MW-05	1/31/2020	Background	529.17	216	112000 D	10.5	< 0.50	7.38	183	618
PH-MW-05	3/2/2020	Background	529.60	203	109000 D	10.2	< 0.50	7.38	185	558
PH-MW-05	3/31/2020	Background	529.47	210	119000 D	10.0	< 0.50	7.26	183	184
PH-MW-05	4/30/2020	Background	529.35	196	114000 D	10.2	< 0.50	7.19	180	486
PH-MW-05	5/29/2020	Background	529.51	191	110000 D	10.2	< 0.50	7.16	190	614
PH-MW-05	6/30/2020	Background	528.17	246	112000 D	12	0.17	7.12	180 D	572
PH-MW-05	7/31/2020	Background	527.17	278	119000 D	10	< 0.10	7.04	190 D	598
PH-MW-05	8/31/2020	Background	527.10	270	121000 D	11 D	< 0.20 D	7.14	190 D	610
PH-MW-05	9/30/2020	Background	526.90	266	117000 D	11 D	0.14	7.01	180 D	626

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 2020
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	11/27/2019	Background	701.68	< 1.0	2.1	76.9	< 1.0	< 0.10	< 1.0	11.6	< 0.50	< 1.0	142	< 0.0200 D	< 1.0	3.55	1.3	< 0.10
PH-MW-01	12/30/2019	Background	702.43	< 1.0	< 1.0	75.5	< 1.0	< 0.10	< 1.0	8.1	< 0.50	< 1.0	99.1	< 0.0200 D	< 1.0	1.64	1.4	< 0.10
PH-MW-01	1/31/2020	Background	703.03	< 1.0	< 1.0	82.3	< 1.0	< 0.10	< 1.0	5.9	< 0.50	< 1.0	80.6	< 0.0200 D	< 1.0	1.57	1.2	< 0.20 D
PH-MW-01	3/2/2020	Background	703.53	< 1.0	< 1.0	75.3	< 1.0	< 0.10	< 1.0	3.8	< 0.50	< 1.0	71.2	< 0.0200 D	< 1.0	1.08	1.3	< 0.10
PH-MW-01	3/31/2020	Background	703.92	< 1.0	< 1.0	71.6	< 1.0	< 0.10	< 1.0	4.5	< 0.50	< 1.0	78.0	< 0.0200 D	< 1.0	2.81	1.4	< 0.10
PH-MW-01	4/30/2020	Background	703.59	< 1.0	< 1.0	76.6	< 1.0	< 0.10	< 1.0	3.3	< 0.50	< 1.0	70.2	< 0.0200 D	< 1.0	2.29	1.1	< 0.10
PH-MW-01	5/29/2020	Background	704.47	< 1.0	< 1.0	75.2	< 1.0	< 0.10	< 1.0	1.9	< 0.50	< 1.0	69.0	< 0.0500 D	< 1.0	0.607	< 1.0	< 0.10
PH-MW-01	6/30/2020	Background	703.57	< 1.0	< 1.0	72.1	< 1.0	< 0.10	< 1.0	3.2	< 0.10	< 1.0	73.2	< 0.0200 D	< 1.0	1.13	< 1.0	< 0.10
PH-MW-01	7/31/2020	Background	702.90	< 1.0	< 1.0	72.9	< 1.0	0.10	2.1	5.0	< 0.10	< 1.0	98.2	< 0.0200 D	< 1.0	2.19	< 1.0	< 0.10
PH-MW-01	8/31/2020	Background	702.54	< 1.0	< 1.0	68.6	< 1.0	< 0.10	< 1.0	4.6	< 0.40	< 1.0	104	< 0.0200 D	< 1.0	2.26	1.9	< 0.10
PH-MW-01	9/30/2020	Background	702.29	< 1.0	< 1.0	58.6	< 1.0	< 0.10	< 1.0	4.5	< 0.20	< 1.0	92.1	< 0.0200 D	< 1.0	1.51	1.6	< 0.10
PH-MW-02	11/27/2019	Background	547.66	< 1.0	2.2	78.5	< 1.0	< 0.10	< 1.0	0.61	< 1.0	< 1.0	82.6	< 0.0050 D	3.8	0.384	< 1.0	< 0.10
PH-MW-02	12/30/2019	Background	547.80	< 1.0	1.9	81.6	< 1.0	< 0.10	< 1.0	0.61	< 1.0	< 1.0	77.5	< 0.0050 D	3.4	0.727	< 1.0	< 0.10
PH-MW-02	1/31/2020	Background	547.50	< 1.0	1.0	84.5	< 1.0	< 0.10	< 1.0	< 1.0	< 0.50	< 1.0	68.7	< 0.0050 D	2.3	0.259	< 1.0	< 0.10
PH-MW-02	3/2/2020	Background	548.81	< 1.0	1.5	75.4	< 1.0	< 0.10	< 1.0	0.62	< 1.0	< 1.0	77.1	< 0.0050 D	3.6	0.818	< 1.0	< 0.10
PH-MW-02	3/31/2020	Background	548.53	< 1.0	1.5	83.0	< 1.0	< 0.10	< 1.0	< 1.0	0.53	< 1.0	72.2	< 0.0050 D	2.4	0.998	< 1.0	< 0.10
PH-MW-02	4/30/2020	Background	548.50	< 1.0	2.0	84.4	< 1.0	< 0.10	< 1.0	< 1.0	0.51	< 1.0	64.3	< 0.0050 D	2.7	1.50	1.1	< 0.10
PH-MW-02	5/29/2020	Background	548.62	< 1.0	< 1.0	92.8	< 1.0	< 0.10	< 1.0	< 1.0	< 0.50	< 1.0	53.4	< 0.0050 D	2.1	0.850	< 1.0	< 0.10
PH-MW-02	6/30/2020	Background	548.00	< 1.0	< 1.0	90.8	< 1.0	< 0.10	< 1.0	< 1.0	0.45	< 1.0	56.4	< 0.0050 D	2.2	0.0938	< 1.0	< 0.10
PH-MW-02	7/31/2020	Background	547.61	< 1.0	< 1.0	93.0	< 1.0	< 0.10	< 1.0	< 1.0	0.15	< 1.0	70.7	< 0.0050 D	2.4	0.207	1.2	< 0.10
PH-MW-02	8/31/2020	Background	547.93	< 1.0	< 1.0	84.6	< 1.0	< 0.10	< 1.0	< 1.0	0.36	< 1.0	70.7	< 0.0050 D	2.7	2.99	< 1.0	< 0.10
PH-MW-02	9/30/2020	Background	547.85	< 1.0	1.3	57.2	< 1.0	< 0.10	< 1.0	< 1.0	0.46	< 1.0	79.2	< 0.0050 D	4.5	0.782	1.1	< 0.10
PH-MW-03	11/27/2019	Background	560.03	< 1.0	< 1.0	139	< 1.0	< 0.10	< 1.0	1.7	0.96	< 1.0	190	< 0.0050 D	4.8	0.609	1.6	< 0.20 D
PH-MW-03	12/30/2019	Background	562.38	< 1.0	< 1.0	121	< 1.0	< 0.10	< 1.0	1.2	0.90	< 1.0	188	< 0.0050 D	3.8	0.912	2.5	< 0.40 D
PH-MW-03	1/31/2020	Background	562.80	< 1.0	< 1.0	124	< 1.0	< 0.10	< 1.0	1.4	0.88	< 1.0	185	< 0.0100 D	3.4	1.16	1.8	0.15
PH-MW-03	3/2/2020	Background	564.39	< 1.0	< 1.0	108	< 1.0	< 0.10	< 1.0	1.2	0.92	< 1.0	169	< 0.0100 D	3.4	1.02	1.6	0.13
PH-MW-03	3/31/2020	Background	565.16	< 1.0	< 1.0	110	< 1.0	< 0.10	< 1.0	< 1.0	0.94	< 1.0	145	< 0.0100 D	2.2	0.726	1.7	0.12
PH-MW-03	4/30/2020	Background	564.84	< 1.0	< 1.0	128	< 1.0	< 0.10	< 1.0	< 1.0	1.0	< 1.0	127	< 0.0100 D	2.2	1.58	1.6	< 0.10
PH-MW-03	5/29/2020	Background	564.49	< 1.0	< 1.0	140	< 1.0	< 0.10	< 1.0	1.0	1.1	< 1.0	140	< 0.0100 D	2.1	0.575	< 1.0	< 0.20 D
PH-MW-03	6/30/2020	Background	562.45	< 1.0	< 1.0	149	< 1.0	< 0.10	< 1.0	2.1	1.6	< 1.0	130	< 0.0100 D	2.4	1.38	1.2	< 0.10
PH-MW-03	7/31/2020	Background	560.95	< 1.0	< 1.0	158	< 1.0	< 0.10	< 1.0	< 1.0	0.66	< 1.0	178	< 0.0100 D	2.0	0.659	2.2	< 0.10
PH-MW-03	8/31/2020	Background	560.20	< 1.0	< 1.0	124	< 1.0	< 0.10	1.2	< 1.0	0.69	< 1.0	189	< 0.0100 D	2.2	0.578	2.4	< 0.40 D
PH-MW-03	9/30/2020	Background	559.68	< 1.0	< 1.0	92.4	< 1.0	< 0.10	< 1.0	< 1.0	1.2	< 1.0	175	< 0.0100 D	2.2	0.388	2.2	< 0.20 D

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
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 2020
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-04	11/27/2019	Background	523.99	< 1.0	< 1.0	111	< 1.0	< 0.10	< 1.0	3.5	< 0.50	< 1.0	41.0	< 0.0100	D	< 1.0	0.430	< 1.0	< 0.10
PH-MW-04	12/30/2019	Background	524.74	< 1.0	< 1.0	121	< 1.0	< 0.10	< 1.0	2.9	< 0.50	< 1.0	36.8	< 0.0050	D	< 1.0	0.590	< 1.0	< 0.10
PH-MW-04	1/31/2020	Background	524.72	< 1.0	< 1.0	111	< 1.0	< 0.10	< 1.0	4.2	< 0.50	< 1.0	35.8	< 0.0100	D	1.2	0.430	< 1.0	< 0.10
PH-MW-04	3/2/2020	Background	524.26	< 1.0	< 1.0	117	< 1.0	< 0.10	< 1.0	3.3	< 0.50	< 1.0	36.7	< 0.0100	D	< 1.0	0.850	< 1.0	< 0.10
PH-MW-04	3/31/2020	Background	523.91	< 1.0	< 1.0	117	< 1.0	< 0.10	< 1.0	3.0	< 0.50	< 1.0	36.1	< 0.0100	D	< 1.0	1.28	< 1.0	< 0.10
PH-MW-04	4/30/2020	Background	523.96	< 1.0	< 1.0	107	< 1.0	< 0.10	< 1.0	2.7	< 0.50	< 1.0	32.4	< 0.0100	D	< 1.0	0.630	1.2	< 0.10
PH-MW-04	5/29/2020	Background	523.82	< 1.0	< 1.0	110	< 1.0	< 0.10	< 1.0	2.8	< 0.50	< 1.0	31.9	< 0.0100	D	< 1.0	1.02	< 1.0	< 0.10
PH-MW-04	6/30/2020	Background	524.11	< 1.0	< 1.0	109	< 1.0	< 0.10	< 1.0	2.7	0.22	< 1.0	35.3	< 0.0200	D	< 1.0	1.91	< 1.0	< 0.10
PH-MW-04	7/31/2020	Background	523.26	< 1.0	< 1.0	114	< 1.0	< 0.10	< 1.0	3.1	< 0.10	< 1.0	45.3	< 0.0100	D	< 1.0	1.71	1.4	< 0.10
PH-MW-04	8/31/2020	Background	523.66	< 1.0	< 1.0	106	< 1.0	< 0.10	< 1.0	2.9	0.22	< 1.0	45.6	< 0.0100	D	< 1.0	2.56	1.4	< 0.10
PH-MW-04	9/30/2020	Background	523.54	< 1.0	< 1.0	86.7	< 1.0	< 0.10	< 1.0	2.2	< 0.20	< 1.0	37.0	< 0.0100	D	< 1.0	0.770	1.1	< 0.10
PH-MW-05	11/27/2019	Background	527.73	< 1.0	< 1.0	91.5	< 1.0	< 0.10	< 1.0	< 1.0	< 0.50	< 1.0	26.6	< 0.0050	D	< 1.0	1.29	< 1.0	< 0.10
PH-MW-05	12/30/2019	Background	529.30	< 1.0	< 1.0	92.0	< 1.0	< 0.10	< 1.0	< 1.0	< 0.50	< 1.0	< 25.0	< 0.0050	D	< 1.0	0.960	< 1.0	< 0.10
PH-MW-05	1/31/2020	Background	529.17	< 1.0	< 1.0	79.3	< 1.0	< 0.10	< 1.0	< 1.0	< 0.50	< 1.0	< 25.0	< 0.0050	D	< 1.0	0.260	< 1.0	< 0.10
PH-MW-05	3/2/2020	Background	529.60	< 1.0	< 1.0	78.6	< 1.0	< 0.10	< 1.0	< 1.0	< 0.50	< 1.0	< 25.0	< 0.0050	D	< 1.0	0.130	< 1.0	< 0.10
PH-MW-05	3/31/2020	Background	529.47	< 1.0	< 1.0	86.8	< 1.0	< 0.10	< 1.0	< 1.0	< 0.50	< 1.0	< 25.0	< 0.0050	D	< 1.0	1.09	< 1.0	< 0.10
PH-MW-05	4/30/2020	Background	529.35	< 1.0	< 1.0	89.4	< 1.0	< 0.10	< 1.0	< 1.0	< 0.50	< 1.0	< 25.0	< 0.0050	D	< 1.0	0.960	< 1.0	< 0.10
PH-MW-05	5/29/2020	Background	529.51	< 1.0	< 1.0	94.7	< 1.0	< 0.10	< 1.0	< 1.0	< 0.50	< 1.0	< 25.0	< 0.0050	D	< 1.0	0.810	< 1.0	< 0.10
PH-MW-05	6/30/2020	Background	528.17	< 1.0	< 1.0	91.3	< 1.0	< 0.10	< 1.0	< 1.0	0.17	< 1.0	< 25.0	< 0.0050	D	< 1.0	0.537	< 1.0	< 0.10
PH-MW-05	7/31/2020	Background	527.17	< 1.0	< 1.0	92.9	< 1.0	< 0.10	< 1.0	< 1.0	< 0.10	< 1.0	29.1	< 0.0050	D	< 1.0	1.32	< 1.0	< 0.10
PH-MW-05	8/31/2020	Background	527.10	< 1.0	< 1.0	100	< 1.0	< 0.10	< 1.0	< 1.0	< 0.20	< 1.0	29.1	< 0.0050	D	< 1.0	1.12	< 1.0	< 0.10
PH-MW-05	9/30/2020	Background	526.90	< 1.0	< 1.0	90.5	< 1.0	< 0.10	< 1.0	< 1.0	0.14	< 1.0	< 25.0	< 0.0050	D	< 1.0	0.07	< 1.0	< 0.10

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
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

APPENDIX C – Laboratory Analytical Reports

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: 11/27/2019
 Sample Collection Time: 9:51 AM
 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	701.68	MSL		11/27/2019	9:51 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	11/27/2019	9:51 AM	BTB
Conductivity	2852	µS/cm	SM 2510, B-2011	11/27/2019	9:51 AM	BTB
Temperature	53.49	°F	SM 2550, B-2010	11/27/2019	9:51 AM	BTB
Oxidation-Reduction Potential	85.6	mV	SM 2580, B-2011	11/27/2019	9:51 AM	BTB
pH	5.76	S.U.	SM 4500-H+, B-2011	11/27/2019	9:51 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	11/27/2019	9:51 AM	BTB

Lab Identification #: 1900607

EKPC - Central Laboratory Analyses

 Sample Received Date: 12/2/2019 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:10 PM Sample Received By: JD

Parameter	Result	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)	12/18/2019	1:47 PM	JD
Arsenic	2.1	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Barium	76.9	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Boron	2630	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Calcium	316000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	12/23/2019	10:16 AM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Cobalt	11.6	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Lithium	142	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Selenium	1.3	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:47 PM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	12/4/2019	2:04 PM	JD
Chloride	266	mg/L	0.8	2.5	EPA 300.0 Rev 2.1 (1993)	12/4/2019	5:59 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	12/3/2019	12:14 PM	JD
Sulfate	444	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	12/4/2019	5:59 PM	JD
Solids, Total Dissolved	2280	mg/L		50.0	SM 2540, C-2011	12/3/2019	10:52 AM	JD

Lab Identification #: 30341068001

Pace

 Sample Received Date: 12/12/2019 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:30 AM Sample Received By: NG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	1.73 ± 0.784 (0.234)	pCi/L			EPA 903.1	1/13/2020	12:28 PM	MK1
Radium-228	1.82 ± 0.869 (1.52)	pCi/L			EPA 904.0	1/2/2020	7:32 PM	VAL
Total Radium Calculation	3.55 ± 1.65 (1.75)	pCi/L			Total Radium Calculation	1/13/2020	1:59 PM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 09:28 AM 01/30/2020



 Eric Hamilton - QA/QC Chemist
 01:56 PM 01/31/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-02
 AKGW No.: 8006-4555
 Well Depth (Ft.): 43.02
 Well Elevation (Ft. MSL): 570.93
 Gradient: Up

 Sample Collection Date: 11/27/2019
 Sample Collection Time: 11:34 AM
 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	547.66	MSL		11/27/2019	11:34 AM	BTB
Turbidity	3.49	NTU	SM 2130, B-2001	11/27/2019	11:34 AM	BTB
Conductivity	1887	µS/cm	SM 2510, B-2011	11/27/2019	11:34 AM	BTB
Temperature	54.36	°F	SM 2550, B-2010	11/27/2019	11:34 AM	BTB
Oxidation-Reduction Potential	-149.0	mV	SM 2580, B-2011	11/27/2019	11:34 AM	BTB
pH	7.55	S.U.	SM 4500-H+, B-2011	11/27/2019	11:34 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	11/27/2019	11:34 AM	BTB

Lab Identification #: 1900608

EKPC - Central Laboratory Analyses

 Sample Received Date: 12/2/2019 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:10 PM Sample Received By: JD

Parameter	Result	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)	12/18/2019	1:51 PM	JD
Arsenic	2.2	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Barium	78.5	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Boron	1280	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Calcium	34700	µg/L	67.6	125	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Lithium	82.6	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Molybdenum	3.8	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:51 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	12/4/2019	12:16 PM	JD
Chloride	196	mg/L	0.8	2.5	EPA 300.0 Rev 2.1 (1993)	12/4/2019	6:21 PM	JD
Fluoride	0.61	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	12/3/2019	12:36 PM	JD
Sulfate	29.7	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	12/3/2019	12:36 PM	JD
Solids, Total Dissolved	772	mg/L		50.0	SM 2540, C-2011	12/3/2019	10:52 AM	JD

Lab Identification #: 30341068002

Pace

 Sample Received Date: 12/12/2019 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:30 AM Sample Received By: NG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0578 ± 0.409 (0.815)	pCi/L			EPA 903.1	12/31/2019	10:56 AM	MK1
Radium-228	0.326 ± 0.432 (0.922)	pCi/L			EPA 904.0	12/30/2019	12:06 PM	VAL
Total Radium Calculation	0.384 ± 0.840 (1.74)	pCi/L			Total Radium Calculation	12/31/2019	1:54 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

09:28 AM 01/30/2020



Eric Hamilton - QA/QC Chemist

01:56 PM 01/31/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

 Sample Collection Date: 11/27/2019
 Sample Collection Time: 3:47 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	560.03	MSL		11/27/2019	3:47 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	11/27/2019	3:47 PM	BTB
Conductivity	3804	µS/cm	SM 2510, B-2011	11/27/2019	3:47 PM	BTB
Temperature	51.46	°F	SM 2550, B-2010	11/27/2019	3:47 PM	BTB
Oxidation-Reduction Potential	126.8	mV	SM 2580, B-2011	11/27/2019	3:47 PM	BTB
pH	6.96	S.U.	SM 4500-H+, B-2011	11/27/2019	3:47 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	11/27/2019	3:47 PM	BTB

Lab Identification #: 1900609

EKPC - Central Laboratory Analyses

 Sample Received Date: 12/2/2019 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:10 PM Sample Received By: JD

Parameter	Result	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)	12/18/2019	1:55 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Barium	139	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Boron	3180	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Calcium	81900	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	12/23/2019	10:20 AM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Cobalt	1.7	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Lead	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/23/2019	10:31 AM	JD
Lithium	190	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Molybdenum	4.8	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Selenium	1.6	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:55 PM	JD
Thallium	< 0.20	µg/L	0.08	0.20	EPA 200.8, Rev. 5.4 (1994)	12/23/2019	10:31 AM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	12/4/2019	12:29 PM	JD
Chloride	676	mg/L	1.5	5.0	EPA 300.0 Rev 2.1 (1993)	12/4/2019	6:42 PM	JD
Fluoride	0.96	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	12/3/2019	12:58 PM	JD
Sulfate	504	mg/L	2.45	10.0	EPA 300.0 Rev 2.1 (1993)	12/4/2019	6:42 PM	JD
Solids, Total Dissolved	2250	mg/L		50.0	SM 2540, C-2011	12/3/2019	10:52 AM	JD

Lab Identification #: 30341068003

Pace

 Sample Received Date: 12/12/2019 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:30 AM Sample Received By: NG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.365 ± 0.309 (0.384)	pCi/L			EPA 903.1	12/31/2019	11:09 AM	MK1
Radium-228	0.244 ± 0.413 (0.900)	pCi/L			EPA 904.0	12/30/2019	12:06 PM	VAL
Total Radium Calculation	0.609 ± 0.720 (1.28)	pCi/L			Total Radium Calculation	12/31/2019	1:54 PM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 09:28 AM 01/30/2020



 Eric Hamilton - QA/QC Chemist
 01:56 PM 01/31/2020

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: 11/27/2019
 Sample Collection Time: 3:00 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	523.99	MSL		11/27/2019	3:00 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	11/27/2019	3:00 PM	BTB
Conductivity	1700	µS/cm	SM 2510, B-2011	11/27/2019	3:00 PM	BTB
Temperature	54.09	°F	SM 2550, B-2010	11/27/2019	3:00 PM	BTB
Oxidation-Reduction Potential	90.7	mV	SM 2580, B-2011	11/27/2019	3:00 PM	BTB
pH	6.05	S.U.	SM 4500-H+, B-2011	11/27/2019	3:00 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	11/27/2019	3:00 PM	BTB

Lab Identification #: 1900610

EKPC - Central Laboratory Analyses

 Sample Received Date: 12/2/2019 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:10 PM Sample Received By: JD

Parameter	Result	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)	12/18/2019	1:59 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Barium	111	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Boron	1180	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Calcium	170000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	12/23/2019	10:37 AM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Cobalt	3.5	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Lithium	41.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	1:59 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	12/4/2019	1:56 PM	JD
Chloride	27.3	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	12/3/2019	1:20 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	12/3/2019	1:20 PM	JD
Sulfate	262	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	12/4/2019	7:04 PM	JD
Solids, Total Dissolved	1090	mg/L		50.0	SM 2540, C-2011	12/3/2019	10:52 AM	JD

Lab Identification #: 30341068004

Pace

 Sample Received Date: 12/12/2019 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:30 AM Sample Received By: NG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0615 ± 0.362 (0.739)	pCi/L			EPA 903.1	12/31/2019	11:09 AM	MK1
Radium-228	0.370 ± 0.445 (0.943)	pCi/L			EPA 904.0	12/30/2019	12:06 PM	VAL
Total Radium Calculation	0.430 ± 0.807 (1.68)	pCi/L			Total Radium Calculation	12/31/2019	1:54 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

10:24 AM 01/30/2020



Eric Hamilton - QA/QC Chemist

01:56 PM 01/31/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

 Sample Collection Date: 11/27/2019
 Sample Collection Time: 1:25 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	527.73	MSL		11/27/2019	1:25 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	11/27/2019	1:25 PM	BTB
Conductivity	925.0	µS/cm	SM 2510, B-2011	11/27/2019	1:25 PM	BTB
Temperature	51.51	°F	SM 2550, B-2010	11/27/2019	1:25 PM	BTB
Oxidation-Reduction Potential	198.7	mV	SM 2580, B-2011	11/27/2019	1:25 PM	BTB
pH	6.49	S.U.	SM 4500-H+, B-2011	11/27/2019	1:25 PM	BTB
Oxygen, dissolved	5.85	mg/L	SM 4500-O	11/27/2019	1:25 PM	BTB

Lab Identification #: 1900611

EKPC - Central Laboratory Analyses

 Sample Received Date: 12/2/2019 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:10 PM Sample Received By: JD

Parameter	Result	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)	12/18/2019	2:02 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Barium	91.5	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Boron	293	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Calcium	129000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	12/23/2019	10:40 AM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Lithium	26.6	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	12/18/2019	2:02 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	12/4/2019	12:41 PM	JD
Chloride	11.5	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	12/3/2019	1:42 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	12/3/2019	1:42 PM	JD
Sulfate	210	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	12/4/2019	7:26 PM	JD
Solids, Total Dissolved	568	mg/L		50.0	SM 2540, C-2011	12/3/2019	10:52 AM	JD

Lab Identification #: 30341068005

Pace

 Sample Received Date: 12/12/2019 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:30 AM Sample Received By: NG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.181 ± 0.276 (0.445)	pCi/L			EPA 903.1	12/31/2019	11:09 AM	MK1
Radium-228	1.11 ± 0.723 (1.36)	pCi/L			EPA 904.0	12/30/2019	12:06 PM	VAL
Total Radium Calculation	1.29 ± 0.999 (1.81)	pCi/L			Total Radium Calculation	12/31/2019	1:54 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

09:28 AM 01/30/2020



Eric Hamilton - QA/QC Chemist

01:56 PM 01/31/2020

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: 12/30/2019
 Sample Collection Time: 10:52 AM
 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	702.43	MSL		12/30/2019	10:52 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	12/30/2019	10:52 AM	BTB
Conductivity	2431	µS/cm	SM 2510, B-2011	12/30/2019	10:52 AM	BTB
Temperature	50.27	°F	SM 2550, B-2010	12/30/2019	10:52 AM	BTB
Oxidation-Reduction Potential	94.8	mV	SM 2580, B-2011	12/30/2019	10:52 AM	BTB
pH	6.12	S.U.	SM 4500-H+, B-2011	12/30/2019	10:52 AM	BTB
Oxygen, dissolved	2.98	mg/L	SM 4500-O	12/30/2019	10:52 AM	BTB

Lab Identification #: 1900757

EKPC - Central Laboratory Analyses

 Sample Received Date: 1/2/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:30 PM Sample Received By: JD

Parameter	Result	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)	2/5/2020	11:15 AM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:15 AM	JD
Barium	75.5	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:15 AM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:15 AM	JD
Boron	1700	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:15 AM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:36 PM	JD
Calcium	303000	µg/L	3380	6250	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	12:29 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:15 AM	JD
Cobalt	8.1	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:15 AM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:15 AM	JD
Lithium	99.1	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:15 AM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:15 AM	JD
Selenium	1.4	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:36 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:36 PM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	1/22/2020	10:36 AM	JD
Chloride	87.0	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	1/3/2020	9:34 AM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	1/3/2020	9:34 AM	JD
Sulfate	435	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	1/3/2020	2:42 PM	JD
Solids, Total Dissolved	1860	mg/L		50.0	SM 2540, C-2011	1/3/2020	7:50 AM	JD

Lab Identification #: 3034580001

Pace

 Sample Received Date: 1/16/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:10 AM Sample Received By: DU

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.813 ± 0.543 (0.673)	pCi/L			EPA 903.1	1/29/2020	11:55 AM	MK1
Radium-228	0.825 ± 0.388 (0.640)	pCi/L			EPA 904.0	1/30/2020	12:20 PM	VAL
Total Radium Calculation	1.64 ± 0.931 (1.31)	pCi/L			Total Radium Calculation	1/31/2020	1:54 PM	JAL

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

10:14 AM 02/12/2020



Eric Hamilton - QA/QC Chemist

11:14 AM 02/26/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-02
 AKGW No.: 8006-4555
 Well Depth (Ft.): 43.02
 Well Elevation (Ft. MSL): 570.93
 Gradient: Up

 Sample Collection Date: 12/30/2019
 Sample Collection Time: 12:30 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	547.8	MSL		12/30/2019	12:30 PM	BTB
Turbidity	2.68	NTU	SM 2130, B-2001	12/30/2019	12:30 PM	BTB
Conductivity	1786	µS/cm	SM 2510, B-2011	12/30/2019	12:30 PM	BTB
Temperature	50.79	°F	SM 2550, B-2010	12/30/2019	12:30 PM	BTB
Oxidation-Reduction Potential	-152.4	mV	SM 2580, B-2011	12/30/2019	12:30 PM	BTB
pH	7.57	S.U.	SM 4500-H+, B-2011	12/30/2019	12:30 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	12/30/2019	12:30 PM	BTB

Lab Identification #: 1900758

EKPC - Central Laboratory Analyses

 Sample Received Date: 1/2/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:30 PM Sample Received By: JD

Parameter	Result	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)	2/5/2020	11:19 AM	JD
Arsenic	1.9	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Barium	81.6	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Boron	1280	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:40 PM	JD
Calcium	34300	µg/L	67.6	250	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Lithium	77.5	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Molybdenum	3.4	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:19 AM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:40 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:40 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	1/22/2020	10:20 AM	JD
Chloride	216	mg/L	0.8	2.5	EPA 300.0 Rev 2.1 (1993)	1/3/2020	3:04 PM	JD
Fluoride	0.61	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	1/3/2020	9:56 AM	JD
Sulfate	30.6	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	1/3/2020	9:56 AM	JD
Solids, Total Dissolved	844	mg/L		50.0	SM 2540, C-2011	1/3/2020	7:50 AM	JD

Lab Identification #: 3034580002

Pace

 Sample Received Date: 1/16/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:10 AM Sample Received By: DU

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.230 ± 0.451 (0.810)	pCi/L			EPA 903.1	1/29/2020	11:55 AM	MK1
Radium-228	0.497 ± 0.331 (0.618)	pCi/L			EPA 904.0	1/30/2020	12:20 PM	VAL
Total Radium Calculation	0.727 ± 0.780 (1.43)	pCi/L			Total Radium Calculation	1/31/2020	1:54 PM	JAL

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

10:14 AM 02/12/2020



Eric Hamilton - QA/QC Chemist

11:14 AM 02/26/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

 Sample Collection Date: 12/30/2019
 Sample Collection Time: 4:12 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	562.38	MSL		12/30/2019	4:12 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	12/30/2019	4:12 PM	BTB
Conductivity	3870	µS/cm	SM 2510, B-2011	12/30/2019	4:12 PM	BTB
Temperature	51.40	°F	SM 2550, B-2010	12/30/2019	4:12 PM	BTB
Oxidation-Reduction Potential	58.9	mV	SM 2580, B-2011	12/30/2019	4:12 PM	BTB
pH	7.25	S.U.	SM 4500-H+, B-2011	12/30/2019	4:12 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	12/30/2019	4:12 PM	BTB

Lab Identification #: 1900759

EKPC - Central Laboratory Analyses

 Sample Received Date: 1/2/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:30 PM Sample Received By: JD

Parameter	Result	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)	2/5/2020	11:22 AM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:22 AM	JD
Barium	121	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:22 AM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:22 AM	JD
Boron	3250	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:22 AM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:44 PM	JD
Calcium	91500	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	12:33 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:22 AM	JD
Cobalt	1.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:22 AM	JD
Lead	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	1:11 PM	JD
Lithium	188	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:22 AM	JD
Molybdenum	3.8	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:22 AM	JD
Selenium	2.5	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:44 PM	JD
Thallium	< 0.40	µg/L	0.16	0.40	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	3:06 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	1/22/2020	9:59 AM	JD
Chloride	651	mg/L	1.5	5.0	EPA 300.0 Rev 2.1 (1993)	1/3/2020	3:25 PM	JD
Fluoride	0.90	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	1/3/2020	10:18 AM	JD
Sulfate	510	mg/L	2.45	10.0	EPA 300.0 Rev 2.1 (1993)	1/3/2020	3:25 PM	JD
Solids, Total Dissolved	2310	mg/L		50.0	SM 2540, C-2011	1/3/2020	7:50 AM	JD

Lab Identification #: 3034580003

Pace

 Sample Received Date: 1/16/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:10 AM Sample Received By: DU

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.338 ± 0.637 (1.13)	pCi/L			EPA 903.1	1/29/2020	11:55 AM	MK1
Radium-228	0.574 ± 0.347 (0.642)	pCi/L			EPA 904.0	1/30/2020	12:20 PM	VAL
Total Radium Calculation	0.912 ± 0.980 (1.77)	pCi/L			Total Radium Calculation	1/31/2020	1:54 PM	JAL

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

10:14 AM 02/12/2020



Eric Hamilton - QA/QC Chemist

11:14 AM 02/26/2020

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: 12/30/2019
 Sample Collection Time: 3:10 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	524.74	MSL		12/30/2019	3:10 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	12/30/2019	3:10 PM	BTB
Conductivity	1879	µS/cm	SM 2510, B-2011	12/30/2019	3:10 PM	BTB
Temperature	51.48	°F	SM 2550, B-2010	12/30/2019	3:10 PM	BTB
Oxidation-Reduction Potential	35.5	mV	SM 2580, B-2011	12/30/2019	3:10 PM	BTB
pH	6.36	S.U.	SM 4500-H+, B-2011	12/30/2019	3:10 PM	BTB
Oxygen, dissolved	1.47	mg/L	SM 4500-O	12/30/2019	3:10 PM	BTB

Lab Identification #: 1900760

EKPC - Central Laboratory Analyses

 Sample Received Date: 1/2/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:30 PM Sample Received By: JD

Parameter	Result	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)	2/5/2020	11:26 AM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:26 AM	JD
Barium	121	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:26 AM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:26 AM	JD
Boron	1200	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:26 AM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:47 PM	JD
Calcium	157000	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	12:37 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:26 AM	JD
Cobalt	2.9	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:26 AM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:26 AM	JD
Lithium	36.8	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:26 AM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:26 AM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:47 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:47 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	1/22/2020	10:42 AM	JD
Chloride	27.5	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	1/3/2020	10:39 AM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	1/3/2020	10:39 AM	JD
Sulfate	267	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	1/3/2020	3:47 PM	JD
Solids, Total Dissolved	1060	mg/L		50.0	SM 2540, C-2011	1/3/2020	7:50 AM	JD

Lab Identification #: 3034580004

Pace

 Sample Received Date: 1/16/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:10 AM Sample Received By: DU

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0574 ± 0.262 (0.422)	pCi/L			EPA 903.1	1/29/2020	12:07 PM	MK1
Radium-228	0.530 ± 0.368 (0.710)	pCi/L			EPA 904.0	1/30/2020	12:20 PM	VAL
Total Radium Calculation	0.590 ± 0.630 (1.13)	pCi/L			Total Radium Calculation	1/31/2020	1:54 PM	JAL

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

10:14 AM 02/12/2020



Eric Hamilton - QA/QC Chemist

11:14 AM 02/26/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

 Sample Collection Date: 12/30/2019
 Sample Collection Time: 1:35 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	529.3	MSL		12/30/2019	1:35 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	12/30/2019	1:35 PM	BTB
Conductivity	879.0	µS/cm	SM 2510, B-2011	12/30/2019	1:35 PM	BTB
Temperature	48.29	°F	SM 2550, B-2010	12/30/2019	1:35 PM	BTB
Oxidation-Reduction Potential	98.5	mV	SM 2580, B-2011	12/30/2019	1:35 PM	BTB
pH	6.99	S.U.	SM 4500-H+, B-2011	12/30/2019	1:35 PM	BTB
Oxygen, dissolved	5.79	mg/L	SM 4500-O	12/30/2019	1:35 PM	BTB

Lab Identification #: 1900761

EKPC - Central Laboratory Analyses

 Sample Received Date: 1/2/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:30 PM Sample Received By: JD

Parameter	Result	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)	2/5/2020	11:30 AM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:30 AM	JD
Barium	92.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:30 AM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:30 AM	JD
Boron	218	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:30 AM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:51 PM	JD
Calcium	117000	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	12:40 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:30 AM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:30 AM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:30 AM	JD
Lithium	< 25.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:30 AM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/5/2020	11:30 AM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:51 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	2/6/2020	12:51 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	1/22/2020	10:49 AM	JD
Chloride	10.4	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	1/3/2020	11:01 AM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	1/3/2020	11:01 AM	JD
Sulfate	187	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	1/3/2020	11:01 AM	JD
Solids, Total Dissolved	610	mg/L		50.0	SM 2540, C-2011	1/3/2020	7:50 AM	JD

Lab Identification #: 3034580005

Pace

 Sample Received Date: 1/16/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:10 AM Sample Received By: DU

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.385 ± 0.472 (0.775)	pCi/L			EPA 903.1	1/29/2020	12:07 PM	MK1
Radium-228	0.574 ± 0.367 (0.690)	pCi/L			EPA 904.0	1/30/2020	12:20 PM	VAL
Total Radium Calculation	0.960 ± 0.839 (1.47)	pCi/L			Total Radium Calculation	1/31/2020	1:54 PM	JAL

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

10:14 AM 02/12/2020



Eric Hamilton - QA/QC Chemist

11:14 AM 02/26/2020

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: 1/31/2020
 Sample Collection Time: 4:51 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	703.03	MSL		1/31/2020	4:51 PM	BTB
Turbidity	1.11	NTU	SM 2130, B-2001	1/31/2020	4:51 PM	BTB
Conductivity	2229	µS/cm	SM 2510, B-2011	1/31/2020	4:51 PM	BTB
Temperature	49.1	°F	SM 2550, B-2010	1/31/2020	4:51 PM	BTB
Oxidation-Reduction Potential	169.9	mV	SM 2580, B-2011	1/31/2020	4:51 PM	BTB
pH	6.02	S.U.	SM 4500-H+, B-2011	1/31/2020	4:51 PM	BTB
Oxygen, dissolved	1.37	mg/L	SM 4500-O	1/31/2020	4:51 PM	BTB

Lab Identification #: 2000033

EKPC - Central Laboratory Analyses

 Sample Received Date: 2/3/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:15 AM Sample Received By: TY

Parameter	Result	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)	2/12/2020	2:09 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Barium	82.3	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Boron	1220	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Calcium	356000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	3:17 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Cobalt	5.9	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Lead	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:59 PM	JD
Lithium	80.6	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Selenium	1.2	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:09 PM	JD
Thallium	< 0.20	µg/L	0.08	0.20	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:59 PM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	2/14/2020	1:43 PM	JD
Chloride	35.7	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	2/19/2020	1:10 AM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	2/19/2020	1:10 AM	JD
Sulfate	360	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	2/19/2020	1:32 AM	JD
Solids, Total Dissolved	1710	mg/L		50.0	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Lab Identification #: 30349702001

Pace

 Sample Received Date: 2/12/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.679 ± 0.600 (0.889)	pCi/L			EPA 903.1	2/27/2020	11:54 AM	MK1
Radium-228	0.886 ± 0.673 (1.35)	pCi/L			EPA 904.0	2/27/2020	3:44 PM	VAL
Total Radium Calculation	1.57 ± 1.27 (2.24)	pCi/L			Total Radium Calculation	3/2/2020	3:50 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

01:51 PM 03/13/2020



Eric Hamilton - QA/QC Chemist

02:10 PM 03/13/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-02
 AKGW No.: 8006-4555
 Well Depth (Ft.): 43.02
 Well Elevation (Ft. MSL): 570.93
 Gradient: Up

 Sample Collection Date: 1/31/2020
 Sample Collection Time: 3:40 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	547.5	MSL		1/31/2020	3:40 PM	BTB
Turbidity	1.32	NTU	SM 2130, B-2001	1/31/2020	3:40 PM	BTB
Conductivity	1451	µS/cm	SM 2510, B-2011	1/31/2020	3:40 PM	BTB
Temperature	49.86	°F	SM 2550, B-2010	1/31/2020	3:40 PM	BTB
Oxidation-Reduction Potential	-71.4	mV	SM 2580, B-2011	1/31/2020	3:40 PM	BTB
pH	7.49	S.U.	SM 4500-H+, B-2011	1/31/2020	3:40 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	1/31/2020	3:40 PM	BTB

Lab Identification #: 2000034

EKPC - Central Laboratory Analyses

 Sample Received Date: 2/3/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:15 AM Sample Received By: TY

Parameter	Result	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)	2/12/2020	2:13 PM	JD
Arsenic	1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Barium	84.5	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Boron	1220	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Calcium	40000	µg/L	67.6	125	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Lithium	68.7	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Molybdenum	2.3	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:13 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	2/5/2020	3:33 PM	JD
Chloride	171	mg/L	0.8	2.5	EPA 300.0 Rev 2.1 (1993)	2/19/2020	3:01 AM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	2/19/2020	2:39 AM	JD
Sulfate	31.5	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	2/19/2020	2:39 AM	JD
Solids, Total Dissolved	768	mg/L		50.0	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Lab Identification #: 30349702002

Pace

 Sample Received Date: 2/12/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.101 ± 0.343 (0.662)	pCi/L			EPA 903.1	2/27/2020	11:54 AM	MK1
Radium-228	0.158 ± 0.495 (1.10)	pCi/L			EPA 904.0	2/27/2020	3:44 PM	VAL
Total Radium Calculation	0.259 ± 0.840 (1.76)	pCi/L			Total Radium Calculation	3/2/2020	3:50 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

01:51 PM 03/13/2020



Eric Hamilton - QA/QC Chemist

02:10 PM 03/13/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

 Sample Collection Date: 1/31/2020
 Sample Collection Time: 10:45 AM
 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	562.8	MSL		1/31/2020	10:45 AM	BTB
Turbidity	1.51	NTU	SM 2130, B-2001	1/31/2020	10:45 AM	BTB
Conductivity	3806	µS/cm	SM 2510, B-2011	1/31/2020	10:45 AM	BTB
Temperature	49.33	°F	SM 2550, B-2010	1/31/2020	10:45 AM	BTB
Oxidation-Reduction Potential	247.4	mV	SM 2580, B-2011	1/31/2020	10:45 AM	BTB
pH	7.07	S.U.	SM 4500-H+, B-2011	1/31/2020	10:45 AM	BTB
Oxygen, dissolved	1.36	mg/L	SM 4500-O	1/31/2020	10:45 AM	BTB

Lab Identification #: 2000035

EKPC - Central Laboratory Analyses

 Sample Received Date: 2/3/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:15 AM Sample Received By: TY

Parameter	Result	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)	2/12/2020	2:16 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Barium	124	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Boron	3390	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Calcium	90500	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	3:18 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Cobalt	1.4	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/21/2020	1:50 PM	JD
Lithium	185	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Molybdenum	3.4	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Selenium	1.8	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:16 PM	JD
Thallium	0.15	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	2/21/2020	1:50 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	2/14/2020	1:50 PM	JD
Chloride	635	mg/L	1.5	5.0	EPA 300.0 Rev 2.1 (1993)	2/19/2020	3:45 AM	JD
Fluoride	0.88	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	2/19/2020	3:23 AM	JD
Sulfate	437	mg/L	2.45	10.0	EPA 300.0 Rev 2.1 (1993)	2/19/2020	3:45 AM	JD
Solids, Total Dissolved	2200	mg/L		100	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Lab Identification #: 30349702003

Pace

 Sample Received Date: 2/12/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.211 ± 0.359 (0.633)	pCi/L			EPA 903.1	2/27/2020	11:54 AM	MK1
Radium-228	0.950 ± 1.07 (2.25)	pCi/L			EPA 904.0	2/27/2020	8:08 PM	VAL
Total Radium Calculation	1.16 ± 1.43 (2.88)	pCi/L			Total Radium Calculation	3/2/2020	3:50 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

01:52 PM 03/13/2020



Eric Hamilton - QA/QC Chemist

02:10 PM 03/13/2020

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: 1/31/2020
 Sample Collection Time: 12:17 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	524.72	MSL		1/31/2020	12:17 PM	BTB
Turbidity	2.33	NTU	SM 2130, B-2001	1/31/2020	12:17 PM	BTB
Conductivity	1681	µS/cm	SM 2510, B-2011	1/31/2020	12:17 PM	BTB
Temperature	49.50	°F	SM 2550, B-2010	1/31/2020	12:17 PM	BTB
Oxidation-Reduction Potential	119.3	mV	SM 2580, B-2011	1/31/2020	12:17 PM	BTB
pH	6.27	S.U.	SM 4500-H+, B-2011	1/31/2020	12:17 PM	BTB
Oxygen, dissolved	1.31	mg/L	SM 4500-O	1/31/2020	12:17 PM	BTB

Lab Identification #: 2000036

EKPC - Central Laboratory Analyses

 Sample Received Date: 2/3/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:15 AM Sample Received By: TY

Parameter	Result	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)	2/12/2020	2:20 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Barium	111	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Boron	1210	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Calcium	154000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	3:19 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Cobalt	4.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Lithium	35.8	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Molybdenum	1.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:20 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	2/14/2020	1:56 PM	JD
Chloride	25.5	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	2/19/2020	4:07 AM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	2/19/2020	4:07 AM	JD
Sulfate	241	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	2/19/2020	4:28 AM	JD
Solids, Total Dissolved	1030	mg/L		50.0	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Lab Identification #: 30349702004

Pace

 Sample Received Date: 2/12/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.430 ± 0.469 (0.738)	pCi/L			EPA 903.1	2/27/2020	11:54 AM	MK1
Radium-228	-0.270 ± 1.11 (2.59)	pCi/L			EPA 904.0	2/27/2020	8:08 PM	VAL
Total Radium Calculation	0.430 ± 1.58 (3.33)	pCi/L			Total Radium Calculation	3/2/2020	3:50 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

01:52 PM 03/13/2020



Eric Hamilton - QA/QC Chemist

02:10 PM 03/13/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

 Sample Collection Date: 1/31/2020
 Sample Collection Time: 1:47 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	529.17	MSL		1/31/2020	1:47 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	1/31/2020	1:47 PM	BTB
Conductivity	828.0	µS/cm	SM 2510, B-2011	1/31/2020	1:47 PM	BTB
Temperature	47.46	°F	SM 2550, B-2010	1/31/2020	1:47 PM	BTB
Oxidation-Reduction Potential	190.6	mV	SM 2580, B-2011	1/31/2020	1:47 PM	BTB
pH	7.38	S.U.	SM 4500-H+, B-2011	1/31/2020	1:47 PM	BTB
Oxygen, dissolved	7.98	mg/L	SM 4500-O	1/31/2020	1:47 PM	BTB

Lab Identification #: 2000037

EKPC - Central Laboratory Analyses

 Sample Received Date: 2/3/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:15 AM Sample Received By: TY

Parameter	Result	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)	2/12/2020	2:24 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Barium	79.3	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Boron	216	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Calcium	112000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	3:20 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Lithium	< 25.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	2/12/2020	2:24 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	2/5/2020	3:49 PM	JD
Chloride	10.5	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	2/19/2020	4:50 AM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	2/19/2020	4:50 AM	JD
Sulfate	183	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	2/19/2020	4:50 AM	JD
Solids, Total Dissolved	618	mg/L		50.0	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Lab Identification #: 30349702005

Pace

 Sample Received Date: 2/12/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.256 ± 0.334 (0.551)	pCi/L			EPA 903.1	2/27/2020	11:54 AM	MK1
Radium-228	-0.168 ± 1.11 (2.56)	pCi/L			EPA 904.0	2/27/2020	8:08 PM	VAL
Total Radium Calculation	0.260 ± 1.44 (3.11)	pCi/L			Total Radium Calculation	3/2/2020	3:50 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

01:52 PM 03/13/2020



Eric Hamilton - QA/QC Chemist

02:10 PM 03/13/2020

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: 3/2/2020
 Sample Collection Time: 11:15 AM
 Sample Collected By: BB
 Sample Matrix: Ground Water
 Laboratory Certification ID: KY# 08012

Field Analyses	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	703.53	MSL		3/2/2020	11:15 AM	BB
Turbidity	< 1.0	NTU	SM 2130, B-2001	3/2/2020	11:15 AM	BB
Conductivity	2149	µS/cm	SM 2510, B-2011	3/2/2020	11:15 AM	BB
Temperature	51.12	°F	SM 2550, B-2010	3/2/2020	11:15 AM	BB
Oxidation-Reduction Potential	155.6	mV	SM 2580, B-2011	3/2/2020	11:15 AM	BB
pH	5.94	S.U.	SM 4500-H+, B-2011	3/2/2020	11:15 AM	BB
Oxygen, dissolved	1.18	mg/L	SM 4500-O	3/2/2020	11:15 AM	BB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000064

 Sample Received Date: 3/5/2020 Sample Receipt Temperatures (°C): <6
 Sample Received Time: 9:45 AM Sample Received By: TY

Parameter	Result	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)	3/18/2020	2:18 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Barium	75.3	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Boron	952	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Calcium	321000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	12:52 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Cobalt	3.8	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Lithium	71.2	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Selenium	1.3	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:18 PM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	3/19/2020	11:17 AM	JD
Chloride	24.1	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	3/20/2020	10:41 AM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	3/20/2020	10:41 AM	JD
Sulfate	358	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	3/20/2020	3:03 PM	JD
Solids, Total Dissolved	1530	mg/L		50.0	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Lab Identification #: 30356241001

 Sample Received Date: 3/25/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:30 AM Sample Received By: NG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.221 ± 0.308 (0.514)	pCi/L			EPA 903.1	4/14/2020	1:58 PM	MK1
Radium-228	0.855 ± 0.434 (0.767)	pCi/L			EPA 904.0	4/14/2020	1:55 PM	VAL
Total Radium Calculation	1.08 ± 0.742 (1.28)	pCi/L			Total Radium Calculation	4/15/2020	11:12 AM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 12:51 PM 04/24/2020



 Eric Hamilton - QA/QC Chemist
 10:42 AM 04/27/2020



Report Date: Wednesday, April 29, 2020

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	3/2/2020
Well ID No.:	PH-MW-02	Sample Collection Time:	12:35 PM
AKGW No.:	8006-4555	Sample Collected By:	BB
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	548.81	MSL		3/2/2020	12:35 PM	BB
Turbidity	1.94	NTU	SM 2130, B-2001	3/2/2020	12:35 PM	BB
Conductivity	1790	µS/cm	SM 2510, B-2011	3/2/2020	12:35 PM	BB
Temperature	51.84	°F	SM 2550, B-2010	3/2/2020	12:35 PM	BB
Oxidation-Reduction Potential	-145.9	mV	SM 2580, B-2011	3/2/2020	12:35 PM	BB
pH	7.72	S.U.	SM 4500-H+, B-2011	3/2/2020	12:35 PM	BB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	3/2/2020	12:35 PM	BB

EKPC - Central Laboratory Analyses			Lab Identification #:	2000065
Sample Received Date:	3/5/2020	Sample Receipt Temperatures (°C):	<6	
Sample Received Time:	9:45 AM	Sample Received By:	TY	

Parameter	Result	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)	3/18/2020	2:22 PM	JD
Arsenic	1.5	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Barium	75.4	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Boron	1170	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Calcium	34800	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	12:53 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Lithium	77.1	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Molybdenum	3.6	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:22 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	3/19/2020	11:23 AM	JD
Chloride	209	mg/L	0.8	2.5	EPA 300.0 Rev 2.1 (1993)	3/20/2020	3:25 PM	JD
Fluoride	0.62	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	3/20/2020	11:03 AM	JD
Sulfate	31.0	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	3/20/2020	11:03 AM	JD
Solids, Total Dissolved	872	mg/L		50.0	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Pace			Lab Identification #:	30356241002
Sample Received Date:	3/25/2020	Sample Receipt Temperatures (°C):	N/A	
Sample Received Time:	9:30 AM	Sample Received By:	NG	

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.377 ± 0.352 (0.500)	pCi/L			EPA 903.1	4/14/2020	1:58 PM	MK1
Radium-228	0.441 ± 0.381 (0.769)	pCi/L			EPA 904.0	4/14/2020	1:55 PM	VAL
Total Radium Calculation	0.818 ± 0.730 (1.27)	pCi/L			Total Radium Calculation	4/15/2020	11:12 AM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
12:51 PM 04/24/2020

Eric Hamilton - QA/QC Chemist
10:42 AM 04/27/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

 Sample Collection Date: 3/2/2020
 Sample Collection Time: 4:37 PM
 Sample Collected By: BB
 Sample Matrix: Ground Water
 Laboratory Certification ID: KY# 08012

Field Analyses	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	564.39	MSL		3/2/2020	4:37 PM	BB
Turbidity	< 1.0	NTU	SM 2130, B-2001	3/2/2020	4:37 PM	BB
Conductivity	3820	µS/cm	SM 2510, B-2011	3/2/2020	4:37 PM	BB
Temperature	53.22	°F	SM 2550, B-2010	3/2/2020	4:37 PM	BB
Oxidation-Reduction Potential	160.1	mV	SM 2580, B-2011	3/2/2020	4:37 PM	BB
pH	7.45	S.U.	SM 4500-H+, B-2011	3/2/2020	4:37 PM	BB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	3/2/2020	4:37 PM	BB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000066

 Sample Received Date: 3/5/2020 Sample Receipt Temperatures (°C): <6
 Sample Received Time: 9:45 AM Sample Received By: TY

Parameter	Result	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)	3/18/2020	2:26 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Barium	108	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Boron	2980	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Calcium	81700	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	12:54 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Cobalt	1.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/16/2020	12:02 PM	JD
Lithium	169	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Molybdenum	3.4	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Selenium	1.6	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:26 PM	JD
Thallium	0.13	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	4/16/2020	12:02 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	3/19/2020	11:29 AM	JD
Chloride	623	mg/L	1.5	5.0	EPA 300.0 Rev 2.1 (1993)	3/20/2020	3:47 PM	JD
Fluoride	0.92	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	3/20/2020	11:25 AM	JD
Sulfate	423	mg/L	2.45	10.0	EPA 300.0 Rev 2.1 (1993)	3/20/2020	3:47 PM	JD
Solids, Total Dissolved	2140	mg/L		50.0	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Lab Identification #: 30356241003

 Sample Received Date: 3/25/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:30 AM Sample Received By: NG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0000 ± 0.364 (0.757)	pCi/L			EPA 903.1	4/15/2020	11:37 AM	MK1
Radium-228	1.02 ± 0.462 (0.763)	pCi/L			EPA 904.0	4/9/2020	4:06 PM	VAL
Total Radium Calculation	1.02 ± 0.830 (1.52)	pCi/L			Total Radium Calculation	4/15/2020	12:45 PM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 12:51 PM 04/24/2020



 Eric Hamilton - QA/QC Chemist
 10:42 AM 04/27/2020



Report Date: Wednesday, April 29, 2020

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: 3/2/2020
 Sample Collection Time: 3:16 PM
 Sample Collected By: BB
 Sample Matrix: Ground Water
 Laboratory Certification ID: KY# 08012

Field Analyses	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	524.26	MSL		3/2/2020	3:16 PM	BB
Turbidity	< 1.0	NTU	SM 2130, B-2001	3/2/2020	3:16 PM	BB
Conductivity	1755	µS/cm	SM 2510, B-2011	3/2/2020	3:16 PM	BB
Temperature	53.08	°F	SM 2550, B-2010	3/2/2020	3:16 PM	BB
Oxidation-Reduction Potential	99	mV	SM 2580, B-2011	3/2/2020	3:16 PM	BB
pH	6.26	S.U.	SM 4500-H+, B-2011	3/2/2020	3:16 PM	BB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	3/2/2020	3:16 PM	BB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000067

Sample Received Date: 3/5/2020 Sample Receipt Temperatures (°C): <6
 Sample Received Time: 9:45 AM Sample Received By: TY

Parameter	Result	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)	3/18/2020	2:30 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Barium	117	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Boron	1110	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Calcium	168000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	12:59 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Cobalt	3.3	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Lithium	36.7	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:30 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	3/19/2020	11:35 AM	JD
Chloride	25.4	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	3/20/2020	11:47 AM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	3/20/2020	11:47 AM	JD
Sulfate	262	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	3/20/2020	4:09 PM	JD
Solids, Total Dissolved	1140	mg/L		50.0	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Lab Identification #: 30356241004

Sample Received Date: 3/25/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:30 AM Sample Received By: NG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.125 ± 0.388 (0.751)	pCi/L			EPA 903.1	4/15/2020	11:37 AM	MK1
Radium-228	0.730 ± 0.426 (0.780)	pCi/L			EPA 904.0	4/9/2020	4:06 PM	VAL
Total Radium Calculation	0.850 ± 0.814 (1.53)	pCi/L			Total Radium Calculation	4/15/2020	12:45 PM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
 12:51 PM 04/24/2020

Eric Hamilton - QA/QC Chemist
 10:42 AM 04/27/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

 Sample Collection Date: 3/2/2020
 Sample Collection Time: 1:38 PM
 Sample Collected By: BB
 Sample Matrix: Ground Water
 Laboratory Certification ID: KY# 08012

Field Analyses	Result	Units	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Groundwater Elevation	529.6	MSL		3/2/2020	1:38 PM	BB
Turbidity	< 1.0	NTU	SM 2130, B-2001	3/2/2020	1:38 PM	BB
Conductivity	844.0	µS/cm	SM 2510, B-2011	3/2/2020	1:38 PM	BB
Temperature	51.06	°F	SM 2550, B-2010	3/2/2020	1:38 PM	BB
Oxidation-Reduction Potential	169.7	mV	SM 2580, B-2011	3/2/2020	1:38 PM	BB
pH	7.38	S.U.	SM 4500-H+, B-2011	3/2/2020	1:38 PM	BB
Oxygen, dissolved	7.78	mg/L	SM 4500-O	3/2/2020	1:38 PM	BB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000068

 Sample Received Date: 3/5/2020 Sample Receipt Temperatures (°C): <6
 Sample Received Time: 9:45 AM Sample Received By: TY

Parameter	Result	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)	3/18/2020	2:33 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Barium	78.6	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Boron	203	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Calcium	109000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:00 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Lithium	< 25.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	3/18/2020	2:33 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	3/19/2020	11:39 AM	JD
Chloride	10.2	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	3/20/2020	12:08 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	3/20/2020	12:08 PM	JD
Sulfate	185	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	3/20/2020	12:08 PM	JD
Solids, Total Dissolved	558	mg/L		50.0	SM 2540, C-2011	2/6/2020	4:25 PM	JD

Lab Identification #: 30356241005

Pace

 Sample Received Date: 3/25/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:30 AM Sample Received By: NG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.131 ± 0.300 (0.484)	pCi/L			EPA 903.1	4/15/2020	11:37 AM	MK1
Radium-228	-0.219 ± 0.485 (1.18)	pCi/L			EPA 904.0	4/9/2020	6:01 PM	VAL
Total Radium Calculation	0.130 ± 0.785 (1.66)	pCi/L			Total Radium Calculation	4/15/2020	12:45 PM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 12:51 PM 04/24/2020



 Eric Hamilton - QA/QC Chemist
 10:42 AM 04/27/2020



Report Date: Monday, June 1, 2020

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: 3/31/2020
 Sample Collection Time: 10:00 AM
 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	703.92	MSL		3/31/2020	10:00 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	3/31/2020	10:00 AM	BTB
Conductivity	2105	µS/cm	SM 2510, B-2011	3/31/2020	10:00 AM	BTB
Temperature	50.68	°F	SM 2550, B-2010	3/31/2020	10:00 AM	BTB
Oxidation-Reduction Potential	169.5	mV	SM 2580, B-2011	3/31/2020	10:00 AM	BTB
pH	5.94	S.U.	SM 4500-H+, B-2011	3/31/2020	10:00 AM	BTB
Oxygen, dissolved	2.01	mg/L	SM 4500-O	3/31/2020	10:00 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000094

Sample Received Date: 4/1/2020
 Sample Received Time: 10:00 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: JD

Parameter	Result	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)	4/8/2020	1:31 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Barium	71.6	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Boron	1080	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Calcium	349000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	3:37 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Cobalt	4.5	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Lithium	78.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Selenium	1.4	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:31 PM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	4/2/2020	9:14 AM	JD
Chloride	40.2	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	4/1/2020	7:08 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	4/1/2020	7:08 PM	JD
Sulfate	358	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	4/6/2020	11:05 AM	JD
Solids, Total Dissolved	1650	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Lab Identification #: 30357487001

Sample Received Date: 4/3/2020
 Sample Received Time: 9:20 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: NR

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	1.68 ± 0.728 (0.671)	pCi/L			EPA 903.1	4/22/2020	3:08 PM	MK1
Radium-228	1.13 ± 0.547 (0.954)	pCi/L			EPA 904.0	4/22/2020	12:31 PM	VAL
Total Radium Calculation	2.81 ± 1.28 (1.63)	pCi/L			Total Radium Calculation	4/23/2020	9:34 AM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
 06:21 AM 05/04/2020

Eric Hamilton - QA/QC Chemist
 11:51 AM 05/07/2020



Report Date: Monday, June 1, 2020

Certificate of Analysis

Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-02
 AKGW No.: 8006-4555
 Well Depth (Ft.): 43.02
 Well Elevation (Ft. MSL): 570.93
 Gradient: Up

Sample Collection Date: 3/31/2020
 Sample Collection Time: 11:52 AM
 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	548.53	MSL		3/31/2020	11:52 AM	BTB
Turbidity	1.18	NTU	SM 2130, B-2001	3/31/2020	11:52 AM	BTB
Conductivity	1600	µS/cm	SM 2510, B-2011	3/31/2020	11:52 AM	BTB
Temperature	51.40	°F	SM 2550, B-2010	3/31/2020	11:52 AM	BTB
Oxidation-Reduction Potential	-138.9	mV	SM 2580, B-2011	3/31/2020	11:52 AM	BTB
pH	7.58	S.U.	SM 4500-H+, B-2011	3/31/2020	11:52 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	3/31/2020	11:52 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000095

Sample Received Date: 4/1/2020
 Sample Received Time: 10:00 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: JD

Parameter	Result	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)	4/8/2020	1:35 PM	JD
Arsenic	1.5	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Barium	83.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Boron	1150	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Calcium	39000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	3:38 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Lithium	72.2	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Molybdenum	2.4	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:35 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	4/2/2020	9:39 AM	JD
Chloride	176	mg/L	0.8	2.5	EPA 300.0 Rev 2.1 (1993)	4/6/2020	11:27 AM	JD
Fluoride	0.53	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	4/1/2020	7:30 PM	JD
Sulfate	30.0	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	4/1/2020	7:30 PM	JD
Solids, Total Dissolved	760	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Lab Identification #: 30357487002

Sample Received Date: 4/3/2020
 Sample Received Time: 9:20 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: NR

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.815 ± 0.544 (0.675)	pCi/L			EPA 903.1	4/22/2020	3:26 PM	MK1
Radium-228	0.183 ± 0.569 (1.27)	pCi/L			EPA 904.0	4/22/2020	12:19 PM	VAL
Total Radium Calculation	0.998 ± 1.11 (1.95)	pCi/L			Total Radium Calculation	4/23/2020	9:34 AM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
 06:21 AM 05/04/2020

Eric Hamilton - QA/QC Chemist
 11:51 AM 05/07/2020



Report Date: Monday, June 1, 2020

Certificate of Analysis

Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

Sample Collection Date: 3/31/2020
 Sample Collection Time: 3:35 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	565.16	MSL		3/31/2020	3:35 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	3/31/2020	3:35 PM	BTB
Conductivity	3474	µS/cm	SM 2510, B-2011	3/31/2020	3:35 PM	BTB
Temperature	51.53	°F	SM 2550, B-2010	3/31/2020	3:35 PM	BTB
Oxidation-Reduction Potential	139.2	mV	SM 2580, B-2011	3/31/2020	3:35 PM	BTB
pH	7.23	S.U.	SM 4500-H+, B-2011	3/31/2020	3:35 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	3/31/2020	3:35 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000096

Sample Received Date: 4/1/2020
 Sample Received Time: 10:00 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: JD

Parameter	Result	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)	4/8/2020	1:39 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Barium	110	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Boron	2900	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Calcium	96000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	3:40 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Lithium	145	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Molybdenum	2.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Selenium	1.7	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Thallium	0.12	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:39 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	4/2/2020	9:45 AM	JD
Chloride	567	mg/L	1.5	5.0	EPA 300.0 Rev 2.1 (1993)	4/6/2020	11:48 AM	JD
Fluoride	0.94	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	4/1/2020	7:52 PM	JD
Sulfate	344	mg/L	2.45	10.0	EPA 300.0 Rev 2.1 (1993)	4/6/2020	11:48 AM	JD
Solids, Total Dissolved	1870	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Pace

Lab Identification #: 30357487003

Sample Received Date: 4/3/2020
 Sample Received Time: 9:20 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: NR

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.556 ± 0.474 (0.665)	pCi/L			EPA 903.1	4/22/2020	3:26 PM	MK1
Radium-228	0.170 ± 0.438 (0.974)	pCi/L			EPA 904.0	4/22/2020	12:19 PM	VAL
Total Radium Calculation	0.726 ± 0.910 (1.64)	pCi/L			Total Radium Calculation	4/23/2020	9:34 AM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
 06:21 AM 05/04/2020

Eric Hamilton - QA/QC Chemist
 11:51 AM 05/07/2020



Report Date: Monday, June 1, 2020

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: 3/31/2020
 Sample Collection Time: 2:30 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	523.91	MSL		3/31/2020	2:30 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	3/31/2020	2:30 PM	BTB
Conductivity	1781	µS/cm	SM 2510, B-2011	3/31/2020	2:30 PM	BTB
Temperature	52.36	°F	SM 2550, B-2010	3/31/2020	2:30 PM	BTB
Oxidation-Reduction Potential	101.9	mV	SM 2580, B-2011	3/31/2020	2:30 PM	BTB
pH	6.24	S.U.	SM 4500-H+, B-2011	3/31/2020	2:30 PM	BTB
Oxygen, dissolved	1.29	mg/L	SM 4500-O	3/31/2020	2:30 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000097

Sample Received Date: 4/1/2020
 Sample Received Time: 10:00 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: JD

Parameter	Result	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)	4/8/2020	1:43 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Barium	117	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Boron	1070	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Calcium	189000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	3:41 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Cobalt	3.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Lithium	36.1	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:43 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	4/2/2020	9:51 AM	JD
Chloride	23.2	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	4/1/2020	8:13 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	4/1/2020	8:13 PM	JD
Sulfate	268	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	4/6/2020	12:10 PM	JD
Solids, Total Dissolved	1160	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Lab Identification #: 30357487004

Pace

Sample Received Date: 4/3/2020
 Sample Received Time: 9:20 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: NR

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.814 ± 0.506 (0.499)	pCi/L			EPA 903.1	4/22/2020	3:26 PM	MK1
Radium-228	0.470 ± 0.415 (0.852)	pCi/L			EPA 904.0	4/22/2020	12:19 PM	VAL
Total Radium Calculation	1.28 ± 0.921 (1.35)	pCi/L			Total Radium Calculation	4/23/2020	9:34 AM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
 06:21 AM 05/04/2020

Eric Hamilton - QA/QC Chemist
 11:52 AM 05/07/2020



Report Date: Monday, June 1, 2020

Certificate of Analysis

Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

Sample Collection Date: 3/31/2020
 Sample Collection Time: 12:58 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	529.47	MSL		3/31/2020	12:58 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	3/31/2020	12:58 PM	BTB
Conductivity	867.0	µS/cm	SM 2510, B-2011	3/31/2020	12:58 PM	BTB
Temperature	51.91	°F	SM 2550, B-2010	3/31/2020	12:58 PM	BTB
Oxidation-Reduction Potential	164.1	mV	SM 2580, B-2011	3/31/2020	12:58 PM	BTB
pH	7.26	S.U.	SM 4500-H+, B-2011	3/31/2020	12:58 PM	BTB
Oxygen, dissolved	6.58	mg/L	SM 4500-O	3/31/2020	12:58 PM	BTB

EKPC - Central Laboratory Analyses			Lab Identification #:	2000098
Sample Received Date:	4/1/2020	Sample Receipt Temperatures (°C):	< 6	
Sample Received Time:	10:00 AM	Sample Received By:	JD	

Parameter	Result	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)	4/8/2020	1:46 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Barium	86.8	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Boron	210	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Calcium	119000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	3:42 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Lithium	< 25.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	4/8/2020	1:46 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	4/2/2020	9:57 AM	JD
Chloride	10.0	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	4/1/2020	8:35 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	4/1/2020	8:35 PM	JD
Sulfate	183	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	4/1/2020	8:35 PM	JD
Solids, Total Dissolved	184	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Pace			Lab Identification #:	30357487005
Sample Received Date:	4/3/2020	Sample Receipt Temperatures (°C):	N/A	
Sample Received Time:	9:20 AM	Sample Received By:	NR	

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	1.09 ± 0.592 (0.598)	pCi/L			EPA 903.1	4/22/2020	3:26 PM	MK1
Radium-228	-0.596 ± 0.452 (1.11)	pCi/L			EPA 904.0	4/22/2020	12:19 PM	VAL
Total Radium Calculation	1.09 ± 1.04 (1.71)	pCi/L			Total Radium Calculation	4/23/2020	9:34 AM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
 06:21 AM 05/04/2020

Eric Hamilton - QA/QC Chemist
 11:52 AM 05/07/2020

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: 4/30/2020
 Sample Collection Time: 10:54 AM
 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	703.59	MSL		4/30/2020	10:54 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	4/30/2020	10:54 AM	BTB
Conductivity	2205	µS/cm	SM 2510, B-2011	4/30/2020	10:54 AM	BTB
Temperature	53.24	°F	SM 2550, B-2010	4/30/2020	10:54 AM	BTB
Oxidation-Reduction Potential	98.2	mV	SM 2580, B-2011	4/30/2020	10:54 AM	BTB
pH	6.00	S.U.	SM 4500-H+, B-2011	4/30/2020	10:54 AM	BTB
Oxygen, dissolved	2	mg/L	SM 4500-O	4/30/2020	10:54 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000155

 Sample Received Date: 5/1/2020
 Sample Received Time: 10:10 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: TY

Parameter	Result	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)	5/19/2020	12:41 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Barium	76.6	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Boron	873	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Calcium	367000	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	1:56 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Cobalt	3.3	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Lithium	70.2	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Selenium	1.1	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:41 PM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	5/5/2020	11:57 AM	JD
Chloride	19.9	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	5/4/2020	12:03 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	5/4/2020	12:03 PM	JD
Sulfate	391	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	5/4/2020	4:25 PM	JD
Solids, Total Dissolved	1550	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Lab Identification #: 30363263001

Pace

 Sample Received Date: 5/14/2020
 Sample Received Time: 9:15 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: DK

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.833 ± 0.780 (1.12)	pCi/L			EPA 903.1	6/5/2020	2:15 PM	MK1
Radium-228	1.46 ± 0.623 (1.02)	pCi/L			EPA 904.0	6/5/2020	11:10 AM	VAL
Total Radium Calculation	2.29 ± 1.40 (2.14)	pCi/L			Total Radium Calculation	6/5/2020	3:12 PM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 12:09 PM 06/15/2020



 Eric Hamilton - QA/QC Chemist
 10:46 AM 06/16/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-02
 AKGW No.: 8006-4555
 Well Depth (Ft.): 43.02
 Well Elevation (Ft. MSL): 570.93
 Gradient: Up

 Sample Collection Date: 4/30/2020
 Sample Collection Time: 12:21 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	548.5	MSL		4/30/2020	12:21 PM	BTB
Turbidity	1.72	NTU	SM 2130, B-2001	4/30/2020	12:21 PM	BTB
Conductivity	1597	µS/cm	SM 2510, B-2011	4/30/2020	12:21 PM	BTB
Temperature	54.32	°F	SM 2550, B-2010	4/30/2020	12:21 PM	BTB
Oxidation-Reduction Potential	-150.2	mV	SM 2580, B-2011	4/30/2020	12:21 PM	BTB
pH	7.52	S.U.	SM 4500-H+, B-2011	4/30/2020	12:21 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	4/30/2020	12:21 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000156

 Sample Received Date: 5/1/2020
 Sample Received Time: 10:10 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: TY

Parameter	Result	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)	5/19/2020	12:45 PM	JD
Arsenic	2.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Barium	84.4	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Boron	1040	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Calcium	41100	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	1:57 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Lithium	64.3	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Molybdenum	2.7	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Selenium	1.1	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:45 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	5/5/2020	12:03 PM	JD
Chloride	170	mg/L	0.8	2.5	EPA 300.0 Rev 2.1 (1993)	5/4/2020	4:47 PM	JD
Fluoride	0.51	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	5/4/2020	12:25 PM	JD
Sulfate	30.3	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	5/4/2020	12:25 PM	JD
Solids, Total Dissolved	740	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Pace

Lab Identification #: 30363263002

 Sample Received Date: 5/14/2020
 Sample Received Time: 9:15 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: DK

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.967 ± 0.738 (0.974)	pCi/L			EPA 903.1	6/5/2020	2:35 PM	MK1
Radium-228	0.530 ± 0.480 (0.982)	pCi/L			EPA 904.0	6/5/2020	11:10 AM	VAL
Total Radium Calculation	1.50 ± 1.22 (1.96)	pCi/L			Total Radium Calculation	6/5/2020	3:12 PM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 12:09 PM 06/15/2020



 Eric Hamilton - QA/QC Chemist
 10:46 AM 06/16/2020



Report Date: Tuesday, June 30, 2020

Certificate of Analysis

Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

Sample Collection Date: 4/30/2020
 Sample Collection Time: 4:16 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	564.84	MSL		4/30/2020	4:16 PM	BTB
Turbidity	1	NTU	SM 2130, B-2001	4/30/2020	4:16 PM	BTB
Conductivity	3344	µS/cm	SM 2510, B-2011	4/30/2020	4:16 PM	BTB
Temperature	53.96	°F	SM 2550, B-2010	4/30/2020	4:16 PM	BTB
Oxidation-Reduction Potential	70.2	mV	SM 2580, B-2011	4/30/2020	4:16 PM	BTB
pH	7.29	S.U.	SM 4500-H+, B-2011	4/30/2020	4:16 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	4/30/2020	4:16 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000157

Sample Received Date: 5/1/2020
 Sample Received Time: 10:10 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: TY

Parameter	Result	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)	5/19/2020	12:49 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Barium	128	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Boron	2720	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Calcium	81100	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	1:58 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Lithium	127	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Molybdenum	2.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Selenium	1.6	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:49 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	5/5/2020	12:09 PM	JD
Chloride	583	mg/L	1.5	5.0	EPA 300.0 Rev 2.1 (1993)	5/4/2020	5:09 PM	JD
Fluoride	1.02	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	5/4/2020	12:47 PM	JD
Sulfate	278	mg/L	2.45	10.0	EPA 300.0 Rev 2.1 (1993)	5/4/2020	5:09 PM	JD
Solids, Total Dissolved	1860	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Lab Identification #: 30363263003

Pace

Sample Received Date: 5/14/2020
 Sample Received Time: 9:15 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: DK

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.649 ± 0.555 (0.762)	pCi/L			EPA 903.1	6/5/2020	2:35 PM	MK1
Radium-228	0.928 ± 0.569 (1.07)	pCi/L			EPA 904.0	6/5/2020	11:10 AM	VAL
Total Radium Calculation	1.58 ± 1.12 (1.83)	pCi/L			Total Radium Calculation	6/5/2020	3:12 PM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
 12:09 PM 06/15/2020

Eric Hamilton - QA/QC Chemist
 10:47 AM 06/16/2020

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: 4/30/2020
 Sample Collection Time: 1:58 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	523.96	MSL		4/30/2020	1:58 PM	BTB
Turbidity	1.24	NTU	SM 2130, B-2001	4/30/2020	1:58 PM	BTB
Conductivity	1725	µS/cm	SM 2510, B-2011	4/30/2020	1:58 PM	BTB
Temperature	55.40	°F	SM 2550, B-2010	4/30/2020	1:58 PM	BTB
Oxidation-Reduction Potential	78	mV	SM 2580, B-2011	4/30/2020	1:58 PM	BTB
pH	6.09	S.U.	SM 4500-H+, B-2011	4/30/2020	1:58 PM	BTB
Oxygen, dissolved	1.34	mg/L	SM 4500-O	4/30/2020	1:58 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000158

 Sample Received Date: 5/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 10:10 AM Sample Received By: TY

Parameter	Result	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)	5/19/2020	12:53 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Barium	107	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Boron	948	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Calcium	178000	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	1:59 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Cobalt	2.7	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Lithium	32.4	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Selenium	1.2	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:53 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	5/5/2020	11:41 AM	JD
Chloride	21.8	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	5/4/2020	1:08 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	5/4/2020	1:08 PM	JD
Sulfate	282	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	5/4/2020	5:31 PM	JD
Solids, Total Dissolved	1140	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Lab Identification #: 30363263004

Pace

 Sample Received Date: 5/14/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: DK

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.215 ± 0.462 (0.771)	pCi/L			EPA 903.1	6/5/2020	2:35 PM	MK1
Radium-228	0.420 ± 0.429 (0.891)	pCi/L			EPA 904.0	6/5/2020	11:10 AM	VAL
Total Radium Calculation	0.630 ± 0.891 (1.66)	pCi/L			Total Radium Calculation	6/5/2020	3:12 PM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 12:09 PM 06/15/2020



 Eric Hamilton - QA/QC Chemist
 10:47 AM 06/16/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

 Sample Collection Date: 4/30/2020
 Sample Collection Time: 3:01 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	529.35	MSL		4/30/2020	3:01 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	4/30/2020	3:01 PM	BTB
Conductivity	863.0	µS/cm	SM 2510, B-2011	4/30/2020	3:01 PM	BTB
Temperature	53.78	°F	SM 2550, B-2010	4/30/2020	3:01 PM	BTB
Oxidation-Reduction Potential	79.6	mV	SM 2580, B-2011	4/30/2020	3:01 PM	BTB
pH	7.19	S.U.	SM 4500-H+, B-2011	4/30/2020	3:01 PM	BTB
Oxygen, dissolved	6.68	mg/L	SM 4500-O	4/30/2020	3:01 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000159

 Sample Received Date: 5/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 10:10 AM Sample Received By: TY

Parameter	Result	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)	5/19/2020	12:56 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Barium	89.4	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Boron	196	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Calcium	114000	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	2:00 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Lithium	< 25.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	5/19/2020	12:56 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	5/5/2020	12:15 PM	JD
Chloride	10.2	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	5/4/2020	1:30 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	5/4/2020	1:30 PM	JD
Sulfate	180	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	5/4/2020	1:30 PM	JD
Solids, Total Dissolved	486	mg/L		50.0	SM 2540, C-2011	4/2/2020	9:47 AM	JD

Lab Identification #: 30363263005

 Sample Received Date: 5/14/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: DK

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.637 ± 0.494 (0.623)	pCi/L			EPA 903.1	6/5/2020	2:35 PM	MK1
Radium-228	0.326 ± 0.397 (0.842)	pCi/L			EPA 904.0	6/5/2020	11:10 AM	VAL
Total Radium Calculation	0.960 ± 0.891 (1.47)	pCi/L			Total Radium Calculation	6/5/2020	3:12 PM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 12:09 PM 06/15/2020



 Eric Hamilton - QA/QC Chemist
 10:47 AM 06/16/2020



Report Date: Friday, August 7, 2020

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: 5/29/2020
 Sample Collection Time: 3:38 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	704.47	MSL		5/29/2020	3:38 PM	JD
Turbidity	< 1.0	NTU	SM 2130, B-2001	5/29/2020	3:38 PM	JD
Conductivity	2255	µS/cm	SM 2510, B-2011	5/29/2020	3:38 PM	JD
Temperature	61.95	°F	SM 2550, B-2010	5/29/2020	3:38 PM	JD
Oxidation-Reduction Potential	128	mV	SM 2580, B-2011	5/29/2020	3:38 PM	JD
pH	6.23	S.U.	SM 4500-H+, B-2011	5/29/2020	3:38 PM	JD
Oxygen, dissolved	1.35	mg/L	SM 4500-O	5/29/2020	3:38 PM	JD

EKPC - Central Laboratory Analyses

Lab Identification #: 2000192

Sample Received Date: 6/1/2020
 Sample Received Time: 1:06 PM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: JD

Parameter	Result	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)	6/11/2020	1:54 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Barium	75.2	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Boron	800	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Calcium	313000	µg/L	1350	10000	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	3:39 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Cobalt	1.9	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Lithium	69.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:54 PM	JD
Mercury	< 0.0500	µg/L	0.0180	0.0500	EPA 245.7 Rev 2.0 (2005)	6/10/2020	2:08 PM	JD
Chloride	15.7	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	6/3/2020	3:44 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	6/3/2020	3:44 PM	JD
Sulfate	378	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	6/3/2020	8:06 PM	JD
Solids, Total Dissolved	1630	mg/L		50.0	SM 2540, C-2011	6/2/2020	1:59 PM	JD

Lab Identification #: 30368523001

Pace

Sample Received Date: 6/18/2020
 Sample Received Time: 9:20 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: HG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.0609 ± 0.278 (0.448)	pCi/L			EPA 903.1	7/2/2020	4:21 PM	MK1
Radium-228	0.546 ± 0.565 (1.18)	pCi/L			EPA 904.0	7/7/2020	11:36 AM	VAL
Total Radium Calculation	0.607 ± 0.843 (1.63)	pCi/L			Total Radium Calculation	7/8/2020	9:58 AM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
 08:49 AM 08/07/2020

Eric Hamilton - QA/QC Chemist
 09:58 AM 08/07/2020



Report Date: Friday, August 7, 2020

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	5/29/2020
Well ID No.:	PH-MW-02	Sample Collection Time:	4:48 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	548.62	MSL		5/29/2020	4:48 PM	JD
Turbidity	3.59	NTU	SM 2130, B-2001	5/29/2020	4:48 PM	JD
Conductivity	1635	µS/cm	SM 2510, B-2011	5/29/2020	4:48 PM	JD
Temperature	62.24	°F	SM 2550, B-2010	5/29/2020	4:48 PM	JD
Oxidation-Reduction Potential	-142.9	mV	SM 2580, B-2011	5/29/2020	4:48 PM	JD
pH	7.43	S.U.	SM 4500-H+, B-2011	5/29/2020	4:48 PM	JD
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	5/29/2020	4:48 PM	JD

EKPC - Central Laboratory Analyses			Lab Identification #:	2000193
Sample Received Date:	6/1/2020	Sample Receipt Temperatures (°C):	< 6	
Sample Received Time:	1:06 PM	Sample Received By:	JD	

Parameter	Result	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)	6/11/2020	1:57 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Barium	92.8	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Boron	913	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Calcium	53000	µg/L	1350	10000	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:02 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Lithium	53.4	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Molybdenum	2.1	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	1:57 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	6/10/2020	2:14 PM	JD
Chloride	135	mg/L	0.8	2.5	EPA 300.0 Rev 2.1 (1993)	6/3/2020	8:28 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	6/3/2020	4:06 PM	JD
Sulfate	30.9	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	6/3/2020	4:06 PM	JD
Solids, Total Dissolved	666	mg/L		50.0	SM 2540, C-2011	6/2/2020	1:59 PM	JD

Pace			Lab Identification #:	30368523002
Sample Received Date:	6/18/2020	Sample Receipt Temperatures (°C):	N/A	
Sample Received Time:	9:20 AM	Sample Received By:	HG	

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.125 ± 0.285 (0.460)	pCi/L			EPA 903.1	7/2/2020	4:21 PM	MK1
Radium-228	0.725 ± 0.502 (0.987)	pCi/L			EPA 904.0	7/7/2020	11:36 AM	VAL
Total Radium Calculation	0.850 ± 0.790 (1.45)	pCi/L			Total Radium Calculation	7/8/2020	9:58 AM	CMC

Comments / Notes:

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

Electronically Approved By : 

Jared Daugherty - Chemist
08:49 AM 08/07/2020



Eric Hamilton - QA/QC Chemist
09:58 AM 08/07/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

 Sample Collection Date: 5/29/2020
 Sample Collection Time: 10:46 AM
 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	564.49	MSL		5/29/2020	10:46 AM	JD
Turbidity	1.22	NTU	SM 2130, B-2001	5/29/2020	10:46 AM	JD
Conductivity	3265	µS/cm	SM 2510, B-2011	5/29/2020	10:46 AM	JD
Temperature	60.10	°F	SM 2550, B-2010	5/29/2020	10:46 AM	JD
Oxidation-Reduction Potential	17.9	mV	SM 2580, B-2011	5/29/2020	10:46 AM	JD
pH	7.22	S.U.	SM 4500-H+, B-2011	5/29/2020	10:46 AM	JD
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	5/29/2020	10:46 AM	JD

EKPC - Central Laboratory Analyses

Lab Identification #: 2000194

 Sample Received Date: 6/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 1:06 PM Sample Received By: JD

Parameter	Result	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)	6/11/2020	2:05 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Barium	140	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Boron	2780	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Calcium	71400	µg/L	1350	10000	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	3:43 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Cobalt	1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Lead	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/31/2020	11:48 AM	JD
Lithium	140	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Molybdenum	2.1	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:05 PM	JD
Thallium	< 0.20	µg/L	0.08	0.20	EPA 200.8, Rev. 5.4 (1994)	7/31/2020	11:48 AM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	6/10/2020	2:20 PM	JD
Chloride	565	mg/L	1.5	5.0	EPA 300.0 Rev 2.1 (1993)	6/3/2020	8:50 PM	JD
Fluoride	1.10	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	6/3/2020	4:27 PM	JD
Sulfate	169	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	6/3/2020	4:27 PM	JD
Solids, Total Dissolved	1590	mg/L		50.0	SM 2540, C-2011	6/2/2020	1:59 PM	JD

Lab Identification #: 30368523003

Pace

 Sample Received Date: 6/18/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:20 AM Sample Received By: HG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.460 ± 0.390 (0.483)	pCi/L			EPA 903.1	7/2/2020	4:21 PM	MK1
Radium-228	0.115 ± 0.411 (0.925)	pCi/L			EPA 904.0	7/7/2020	11:36 AM	VAL
Total Radium Calculation	0.575 ± 0.800 (1.41)	pCi/L			Total Radium Calculation	7/8/2020	9:58 AM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 08:49 AM 08/07/2020



 Eric Hamilton - QA/QC Chemist
 09:58 AM 08/07/2020



Report Date: Friday, August 7, 2020

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: 5/29/2020
 Sample Collection Time: 1:26 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	523.82	MSL		5/29/2020	1:26 PM	JD
Turbidity	2.05	NTU	SM 2130, B-2001	5/29/2020	1:26 PM	JD
Conductivity	1769	µS/cm	SM 2510, B-2011	5/29/2020	1:26 PM	JD
Temperature	65.80	°F	SM 2550, B-2010	5/29/2020	1:26 PM	JD
Oxidation-Reduction Potential	90.9	mV	SM 2580, B-2011	5/29/2020	1:26 PM	JD
pH	6.30	S.U.	SM 4500-H+, B-2011	5/29/2020	1:26 PM	JD
Oxygen, dissolved	1.63	mg/L	SM 4500-O	5/29/2020	1:26 PM	JD

EKPC - Central Laboratory Analyses

Lab Identification #: 2000195

Sample Received Date: 6/1/2020
 Sample Received Time: 1:06 PM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: JD

Parameter	Result	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)	6/11/2020	2:09 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Barium	110	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Boron	930	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Calcium	176000	µg/L	1350	10000	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	3:47 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Cobalt	2.8	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Lithium	31.9	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:09 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	6/10/2020	2:26 PM	JD
Chloride	19.7	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	6/3/2020	4:49 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	6/3/2020	4:49 PM	JD
Sulfate	283	mg/L	1.23	5.0	EPA 300.0 Rev 2.1 (1993)	6/3/2020	9:11 PM	JD
Solids, Total Dissolved	1150	mg/L		50.0	SM 2540, C-2011	6/2/2020	1:59 PM	JD

Lab Identification #: 30368523004

Pace

Sample Received Date: 6/18/2020
 Sample Received Time: 9:20 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: HG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.406 ± 0.380 (0.539)	pCi/L			EPA 903.1	7/2/2020	4:21 PM	MK1
Radium-228	0.610 ± 0.543 (1.11)	pCi/L			EPA 904.0	7/7/2020	2:52 PM	VAL
Total Radium Calculation	1.02 ± 0.923 (1.65)	pCi/L			Total Radium Calculation	7/8/2020	9:58 AM	CMC

Comments / Notes:

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

Electronically Approved By :

Jared Daugherty - Chemist
 08:49 AM 08/07/2020

Eric Hamilton - QA/QC Chemist
 09:58 AM 08/07/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

 Sample Collection Date: 5/29/2020
 Sample Collection Time: 12:00 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	529.51	MSL		5/29/2020	12:00 PM	JD
Turbidity	< 1.0	NTU	SM 2130, B-2001	5/29/2020	12:00 PM	JD
Conductivity	906.0	µS/cm	SM 2510, B-2011	5/29/2020	12:00 PM	JD
Temperature	64.20	°F	SM 2550, B-2010	5/29/2020	12:00 PM	JD
Oxidation-Reduction Potential	109.9	mV	SM 2580, B-2011	5/29/2020	12:00 PM	JD
pH	7.16	S.U.	SM 4500-H+, B-2011	5/29/2020	12:00 PM	JD
Oxygen, dissolved	7.32	mg/L	SM 4500-O	5/29/2020	12:00 PM	JD

EKPC - Central Laboratory Analyses

Lab Identification #: 2000196

 Sample Received Date: 6/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 1:06 PM Sample Received By: JD

Parameter	Result	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)	6/11/2020	2:13 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Barium	94.7	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Boron	191	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Calcium	110000	µg/L	1350	10000	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	3:52 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Lithium	< 25.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	6/11/2020	2:13 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	6/10/2020	2:33 PM	JD
Chloride	10.2	mg/L	0.2	0.5	EPA 300.0 Rev 2.1 (1993)	6/3/2020	5:11 PM	JD
Fluoride	< 0.50	mg/L	0.01	0.50	EPA 300.0 Rev 2.1 (1993)	6/3/2020	5:11 PM	JD
Sulfate	190	mg/L	0.24	1.0	EPA 300.0 Rev 2.1 (1993)	6/3/2020	5:11 PM	JD
Solids, Total Dissolved	614	mg/L		50.0	SM 2540, C-2011	6/2/2020	1:59 PM	JD

Lab Identification #: 30368523005

Pace

 Sample Received Date: 6/18/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:20 AM Sample Received By: HG

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Radium-226	0.114 ± 0.260 (0.419)	pCi/L			EPA 903.1	7/2/2020	4:21 PM	MK1
Radium-228	0.700 ± 0.536 (1.07)	pCi/L			EPA 904.0	7/7/2020	2:53 PM	VAL
Total Radium Calculation	0.810 ± 0.796 (1.49)	pCi/L			Total Radium Calculation	7/8/2020	9:58 AM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 08:49 AM 08/07/2020



 Eric Hamilton - QA/QC Chemist
 09:58 AM 08/07/2020

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: 6/30/2020
 Sample Collection Time: 10:50 AM
 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	703.57	MSL		6/30/2020	10:50 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	6/30/2020	10:50 AM	BTB
Conductivity	2197	µS/cm	SM 2510, B-2011	6/30/2020	10:50 AM	BTB
Temperature	59.29	°F	SM 2550, B-2010	6/30/2020	10:50 AM	BTB
Oxidation-Reduction Potential	134.8	mV	SM 2580, B-2011	6/30/2020	10:50 AM	BTB
pH	5.85	S.U.	SM 4500-H+, B-2011	6/30/2020	10:50 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	6/30/2020	10:50 AM	BTB

Lab Identification #: 2000395

EKPC - Central Laboratory Analyses

 Sample Received Date: 7/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:05 PM Sample Received By: JD

Parameter	Result	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)	7/28/2020	11:57 AM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Barium	72.1	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Boron	907	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Calcium	360000	µg/L	3380	6250	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	11:55 AM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Cobalt	3.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Lithium	73.2	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Molybdenum	1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	10:29 AM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	11:57 AM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	7/21/2020	11:05 AM	JD
Solids, Total Dissolved	1670	mg/L		50.0	SM 2540, C-2011 (mod)	6/30/2020	9:46 AM	JD

Lab Identification #: 20071180-01

ALS Environmental

 Sample Received Date: 7/16/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 4:21 PM Sample Received By: KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	20	mg/L	0.62	2.0	EPA 300.0 Rev 2.1 (1993)	7/22/2020	9:29 PM	JDR
Fluoride	< 0.10	mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	7/22/2020	6:18 PM	JDR
Sulfate	370	mg/L	2.8	50	EPA 300.0 Rev 2.1 (1993)	7/22/2020	9:48 PM	JDR

Lab Identification #: 30373701001

Pace

 Sample Received Date: 7/21/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:40 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	1.13 ± 1.02 (1.83)	pCi/L			Total Radium Calculation	8/10/2020	10:26 AM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

09:04 AM 08/25/2020



Eric Hamilton - QA/QC Chemist

09:49 AM 08/25/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-02
 AKGW No.: 8006-4555
 Well Depth (Ft.): 43.02
 Well Elevation (Ft. MSL): 570.93
 Gradient: Up

 Sample Collection Date: 6/30/2020
 Sample Collection Time: 12:08 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	548	MSL		6/30/2020	12:08 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	6/30/2020	12:08 PM	BTB
Conductivity	1610	µS/cm	SM 2510, B-2011	6/30/2020	12:08 PM	BTB
Temperature	60.35	°F	SM 2550, B-2010	6/30/2020	12:08 PM	BTB
Oxidation-Reduction Potential	-131.6	mV	SM 2580, B-2011	6/30/2020	12:08 PM	BTB
pH	7.6	S.U.	SM 4500-H+, B-2011	6/30/2020	12:08 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	6/30/2020	12:08 PM	BTB
Lab Identification #:						2000396

EKPC - Central Laboratory Analyses

 Sample Received Date: 7/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:05 PM Sample Received By: JD

Parameter	Result	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)	7/28/2020	12:08 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Barium	90.8	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Boron	945	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Calcium	51900	µg/L	3380	6250	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	11:57 AM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Lithium	56.4	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Molybdenum	2.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	10:33 AM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:08 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	7/21/2020	11:11 AM	JD
Solids, Total Dissolved	722	mg/L		50.0	SM 2540, C-2011 (mod)	6/30/2020	9:46 AM	JD
Lab Identification #:						20071180-02		

ALS Environmental

 Sample Received Date: 7/16/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 4:21 PM Sample Received By: KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	140	mg/L	6.2	20	EPA 300.0 Rev 2.1 (1993)	7/22/2020	10:27 PM	JDR
Fluoride	0.45	mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	7/22/2020	6:36 PM	JDR
Sulfate	31	mg/L	0.23	4.0	EPA 300.0 Rev 2.1 (1993)	7/22/2020	10:07 PM	JDR
Lab Identification #:						30373701002		


Pace

 Sample Received Date: 7/21/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:40 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	0.0938 ± 0.790 (1.80)	pCi/L			Total Radium Calculation	8/10/2020	10:26 AM	CMC

Comments / Notes:

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

 Electronically Approved By : 

 Jared Daugherty - Chemist
 09:04 AM 08/25/2020



 Eric Hamilton - QA/QC Chemist
 09:49 AM 08/25/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

 Sample Collection Date: 6/30/2020
 Sample Collection Time: 4:23 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	562.45	MSL		6/30/2020	4:23 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	6/30/2020	4:23 PM	BTB
Conductivity	3208	µS/cm	SM 2510, B-2011	6/30/2020	4:23 PM	BTB
Temperature	60.98	°F	SM 2550, B-2010	6/30/2020	4:23 PM	BTB
Oxidation-Reduction Potential	0	mV	SM 2580, B-2011	6/30/2020	4:23 PM	BTB
pH	7.25	S.U.	SM 4500-H+, B-2011	6/30/2020	4:23 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	6/30/2020	4:23 PM	BTB

Lab Identification #: 2000397

EKPC - Central Laboratory Analyses

 Sample Received Date: 7/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:05 PM Sample Received By: JD

Parameter	Result	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)	7/28/2020	12:12 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Barium	149	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Boron	2850	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Calcium	64000	µg/L	676	1250	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	11:59 AM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Cobalt	2.1	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Lithium	130	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Molybdenum	2.4	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Selenium	1.2	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	10:35 AM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:12 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	7/21/2020	11:17 AM	JD
Solids, Total Dissolved	1730	mg/L		50.0	SM 2540, C-2011 (mod)	6/30/2020	9:46 AM	JD

Lab Identification #: 20071180-03

ALS Environmental

 Sample Received Date: 7/16/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 4:21 PM Sample Received By: KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	610	mg/L	16	50	EPA 300.0 Rev 2.1 (1993)	7/23/2020	8:04 PM	JDR
Fluoride	1.6	mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	7/22/2020	7:53 PM	JDR
Sulfate	190	mg/L	1.4	25	EPA 300.0 Rev 2.1 (1993)	7/22/2020	11:43 PM	JDR

Lab Identification #: 30373701003

Pace

 Sample Received Date: 7/21/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:40 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	1.38 ± 0.967 (1.64)	pCi/L			Total Radium Calculation	8/10/2020	10:32 AM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

09:04 AM 08/25/2020



Eric Hamilton - QA/QC Chemist

09:49 AM 08/25/2020

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: 6/30/2020
 Sample Collection Time: 2:48 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	524.11	MSL		6/30/2020	2:48 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	6/30/2020	2:48 PM	BTB
Conductivity	1885	µS/cm	SM 2510, B-2011	6/30/2020	2:48 PM	BTB
Temperature	64.76	°F	SM 2550, B-2010	6/30/2020	2:48 PM	BTB
Oxidation-Reduction Potential	114.1	mV	SM 2580, B-2011	6/30/2020	2:48 PM	BTB
pH	6.05	S.U.	SM 4500-H+, B-2011	6/30/2020	2:48 PM	BTB
Oxygen, dissolved	1.58	mg/L	SM 4500-O	6/30/2020	2:48 PM	BTB
Lab Identification #:						2000398

EKPC - Central Laboratory Analyses

 Sample Received Date: 7/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:05 PM Sample Received By: JD

Parameter	Result	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)	7/28/2020	12:16 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Barium	109	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Boron	992	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Calcium	206000	µg/L	3380	6250	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	12:00 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Cobalt	2.7	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Lithium	35.3	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	10:36 AM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:16 PM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	7/21/2020	12:20 PM	JD
Solids, Total Dissolved	1200	mg/L		50.0	SM 2540, C-2011 (mod)	6/30/2020	9:46 AM	JD
Lab Identification #:						20071180-04		

ALS Environmental

 Sample Received Date: 7/16/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 4:21 PM Sample Received By: KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	23	mg/L	0.62	2.0	EPA 300.0 Rev 2.1 (1993)	7/23/2020	1:19 AM	JDR
Fluoride	0.22	mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	7/22/2020	7:15 PM	JDR
Sulfate	260	mg/L	1.4	25	EPA 300.0 Rev 2.1 (1993)	7/22/2020	11:05 PM	JDR
Lab Identification #:						30373701004		

Pace

 Sample Received Date: 7/21/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:40 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	1.91 ± 0.978 (1.41)	pCi/L			Total Radium Calculation	8/10/2020	10:32 AM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 09:04 AM 08/25/2020



 Eric Hamilton - QA/QC Chemist
 09:49 AM 08/25/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

 Sample Collection Date: 6/30/2020
 Sample Collection Time: 1:14 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	528.17	MSL		6/30/2020	1:14 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	6/30/2020	1:14 PM	BTB
Conductivity	958.0	µS/cm	SM 2510, B-2011	6/30/2020	1:14 PM	BTB
Temperature	66.72	°F	SM 2550, B-2010	6/30/2020	1:14 PM	BTB
Oxidation-Reduction Potential	211.2	mV	SM 2580, B-2011	6/30/2020	1:14 PM	BTB
pH	7.12	S.U.	SM 4500-H+, B-2011	6/30/2020	1:14 PM	BTB
Oxygen, dissolved	6.1	mg/L	SM 4500-O	6/30/2020	1:14 PM	BTB
				Lab Identification #:	2000399	

EKPC - Central Laboratory Analyses

 Sample Received Date: 7/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:05 PM Sample Received By: JD

Parameter	Result	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)	7/28/2020	12:20 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Barium	91.3	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Boron	246	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Calcium	112000	µg/L	1690	3120	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	12:02 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Lithium	< 25.0	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	7/29/2020	10:38 AM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	7/28/2020	12:20 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	7/21/2020	11:23 AM	JD
Solids, Total Dissolved	572	mg/L		50.0	SM 2540, C-2011 (mod)	6/30/2020	9:46 AM	JD
						Lab Identification #:	20071180-06	

ALS Environmental

 Sample Received Date: 7/16/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 4:21 PM Sample Received By: KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	12	mg/L	0.10	1.0	EPA 300.0 Rev 2.1 (1993)	7/22/2020	6:55 PM	JDR
Fluoride	0.17	mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	7/22/2020	6:55 PM	JDR
Sulfate	180	mg/L	1.4	25	EPA 300.0 Rev 2.1 (1993)	7/22/2020	10:46 PM	JDR
						Lab Identification #:	30373701005	

Pace

 Sample Received Date: 7/21/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:40 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	0.537 ± 0.769 (1.33)	pCi/L			Total Radium Calculation	8/10/2020	10:32 AM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 09:04 AM 08/25/2020



 Eric Hamilton - QA/QC Chemist
 09:49 AM 08/25/2020



Report Date: 10/19/2020

Certificate of Analysis

Station:	H. L. Spurlock Power Station	Sample Collection Date:	07/31/2020
Well ID No:	PH-MW-01	Sample Collection Time:	10:20 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	702.9	MSL		07/31/2020	10:20 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	07/31/2020	10:20 AM	BTB
Conductivity	2373	µS/cm	SM 2510, B-2011	07/31/2020	10:20 AM	BTB
Temperature	59.90	°F	SM 2550, B-2010	07/31/2020	10:20 AM	BTB
Oxidation-Reduction Potential	67.5	mV	SM 2580, B-2011	07/31/2020	10:20 AM	BTB
pH	6.04	S.U.	SM 4500-H+, B-2011	07/31/2020	10:20 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	07/31/2020	10:20 AM	BTB

EKPC - Central Laboratory Analyses Lab Identification #: 2000405

Sample Received Date:	08/03/2020	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	2:00 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)	9/21/2020	2:22 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:22 PM	JD
Barium	72.9		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:22 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:22 PM	JD
Boron	1250		µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:22 PM	JD
Cadmium	0.10		µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	4:01 PM	JD
Calcium	371000	D	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:40 PM	JD
Chromium	2.1		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:22 PM	JD
Cobalt	5.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:22 PM	JD
Lead	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	4:01 PM	JD
Lithium	98.2		µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:22 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:22 PM	JD
Selenium	< 1.0		µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:22 PM	JD
Thallium	< 0.10		µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	4:01 PM	JD
Mercury	< 0.0200	D	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	8/20/2020	10:48 AM	JD
Solids, Total Dissolved	1750		mg/L		50.0	SM 2540, C-2011 (mod)	8/6/2020	8:10 AM	JD

ALS Environmental Lab Identification #: 20081728-01

Sample Received Date:	8/21/2020	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	11:30 AM	Sample Received By:	JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	30		mg/L	1.6	5.0	EPA 300.0 Rev 2.1 (1993)	8/26/2020	8:49 PM	JDR
Fluoride	< 0.10		mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	8/26/2020	8:30 PM	JDR
Sulfate	380		mg/L	2.8	50	EPA 300.0 Rev 2.1 (1993)	8/27/2020	12:05 PM	JDR


Pace Lab Identification #: 30379183001


Sample Received Date:	8/25/2020	Sample Receipt Temperatures (°C):	N/A
Sample Received Time:	10:15 AM	Sample Received By:	NR

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	2.19 ± 1.14 (1.76)		pCi/L			Total Radium Calculation	9/14/2020	2:03 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
 09:48 AM 10/13/2020


 Eric Hamilton - QA/QC Chemist
 10:02 AM 10/15/2020



Report Date: 10/19/2020

Certificate of Analysis

Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-02
 AKGW No.: 8006-4555
 Well Depth (Ft.): 43.02
 Well Elevation (Ft. MSL): 570.93
 Gradient: Up

Sample Collection Date: 07/31/2020
 Sample Collection Time: 11:50 AM
 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	547.61	MSL		07/31/2020	11:50 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	07/31/2020	11:50 AM	BTB
Conductivity	1454	µS/cm	SM 2510, B-2011	07/31/2020	11:50 AM	BTB
Temperature	61.34	°F	SM 2550, B-2010	07/31/2020	11:50 AM	BTB
Oxidation-Reduction Potential	-97.5	mV	SM 2580, B-2011	07/31/2020	11:50 AM	BTB
pH	7.45	S.U.	SM 4500-H+, B-2011	07/31/2020	11:50 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	07/31/2020	11:50 AM	BTB

Lab Identification #: 2000406

EKPC - Central Laboratory Analyses

Sample Received Date: 08/03/2020
 Sample Received Time: 2:00 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)	9/21/2020	2:26 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Barium	93.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Boron	1050		µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Cadmium	< 0.10		µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	4:38 PM	JD
Calcium	50200	D	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:42 PM	JD
Chromium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Lead	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Lithium	70.7		µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Molybdenum	2.4		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Selenium	1.2		µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Thallium	< 0.10		µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:26 PM	JD
Mercury	< 0.0050	D	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	8/20/2020	10:54 AM	JD
Solids, Total Dissolved	700		mg/L		50.0	SM 2540, C-2011 (mod)	8/6/2020	8:10 AM	JD

Lab Identification #: 20081728-02

ALS Environmental

Sample Received Date: 8/21/2020
 Sample Received Time: 11:30 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	150		mg/L	5.0	16	EPA 300.0 Rev 2.1 (1993)	8/26/2020	9:28 PM	JDR
Fluoride	0.15		mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	8/26/2020	1:08 AM	JDR
Sulfate	30		mg/L	0.91	16	EPA 300.0 Rev 2.1 (1993)	8/26/2020	9:28 PM	JDR

Lab Identification #: 30379183002

Pace

Sample Received Date: 8/25/2020
 Sample Received Time: 10:15 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: NR

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	0.207 ± 0.720 (1.53)		pCi/L			Total Radium Calculation	9/14/2020	2:03 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
 09:48 AM 10/13/2020

Eric Hamilton - QA/QC Chemist
 10:02 AM 10/15/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.3
 Gradient: Down

 Sample Collection Date: 07/31/2020
 Sample Collection Time: 4:15 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	560.95	MSL		07/31/2020	4:15 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	07/31/2020	4:15 PM	BTB
Conductivity	3110	µS/cm	SM 2510, B-2011	07/31/2020	4:15 PM	BTB
Temperature	64.40	°F	SM 2550, B-2010	07/31/2020	4:15 PM	BTB
Oxidation-Reduction Potential	35.6	mV	SM 2580, B-2011	07/31/2020	4:15 PM	BTB
pH	7.20	S.U.	SM 4500-H+, B-2011	07/31/2020	4:15 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	07/31/2020	4:15 PM	BTB

Lab Identification #: 2000407

EKPC - Central Laboratory Analyses

 Sample Received Date: 08/03/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 2:00 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)	9/21/2020	2:31 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:31 PM	JD
Barium	158		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:31 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:31 PM	JD
Boron	3170		µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:31 PM	JD
Cadmium	< 0.10		µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	4:42 PM	JD
Calcium	74900	D	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:43 PM	JD
Chromium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:31 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:31 PM	JD
Lead	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	4:42 PM	JD
Lithium	178		µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:31 PM	JD
Molybdenum	2.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:31 PM	JD
Selenium	2.2		µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:31 PM	JD
Thallium	< 0.10		µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	4:42 PM	JD
Mercury	< 0.0100	D	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	8/20/2020	11:00 AM	JD
Solids, Total Dissolved	1820		mg/L		50.0	SM 2540, C-2011 (mod)	8/6/2020	8:10 AM	JD

Lab Identification #: 20081728-03

ALS Environmental

 Sample Received Date: 8/21/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:30 AM Sample Received By: JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	610		mg/L	16	50	EPA 300.0 Rev 2.1 (1993)	8/26/2020	10:06 PM	JDR
Fluoride	0.66		mg/L	0.13	0.20	EPA 300.0 Rev 2.1 (1993)	8/26/2020	9:47 PM	JDR
Sulfate	250		mg/L	2.8	50	EPA 300.0 Rev 2.1 (1993)	8/26/2020	10:06 PM	JDR

Lab Identification #: 30379183003

Pace

 Sample Received Date: 8/25/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 10:15 AM Sample Received By: NR

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	0.659 ± 0.810 (1.60)		pCi/L			Total Radium Calculation	9/14/2020	2:03 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

09:48 AM 10/13/2020



Eric Hamilton - QA/QC Chemist

10:02 AM 10/15/2020



Report Date: 10/19/2020

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: 07/31/2020
 Sample Collection Time: 2:50 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	523.26	MSL		07/31/2020	2:50 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	07/31/2020	2:50 PM	BTB
Conductivity	2443	µS/cm	SM 2510, B-2011	07/31/2020	2:50 PM	BTB
Temperature	63.50	°F	SM 2550, B-2010	07/31/2020	2:50 PM	BTB
Oxidation-Reduction Potential	-8.2	mV	SM 2580, B-2011	07/31/2020	2:50 PM	BTB
pH	6.28	S.U.	SM 4500-H+, B-2011	07/31/2020	2:50 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	07/31/2020	2:50 PM	BTB

Lab Identification #: 2000408

EKPC - Central Laboratory Analyses

Sample Received Date: 08/03/2020
 Sample Received Time: 2:00 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)	9/21/2020	2:34 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Barium	114		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Boron	1060		µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Cadmium	< 0.10		µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	4:46 PM	JD
Calcium	215000	D	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:44 PM	JD
Chromium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Cobalt	3.1		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Lead	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Lithium	45.3		µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Selenium	1.4		µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Thallium	< 0.10		µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:34 PM	JD
Mercury	< 0.0100	D	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	8/20/2020	10:35 AM	JD
Solids, Total Dissolved	1230		mg/L		50.0	SM 2540, C-2011 (mod)	8/6/2020	8:10 AM	JD

Lab Identification #: 20081728-04

ALS Environmental

Sample Received Date: 8/21/2020
 Sample Received Time: 11:30 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	23		mg/L	0.62	2.0	EPA 300.0 Rev 2.1 (1993)	8/27/2020	12:24 PM	JDR
Fluoride	< 0.10		mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	8/26/2020	10:26 PM	JDR
Sulfate	140		mg/L	1.4	25	EPA 300.0 Rev 2.1 (1993)	8/26/2020	11:24 PM	JDR

Lab Identification #: 30379183004

Pace

Sample Received Date: 8/25/2020
 Sample Received Time: 10:15 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: NR

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	1.71 ± 1.10 (1.86)		pCi/L			Total Radium Calculation	9/14/2020	2:03 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

09:48 AM 10/13/2020

Eric Hamilton - QA/QC Chemist

10:02 AM 10/15/2020



Report Date: 10/19/2020

Certificate of Analysis

Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

Sample Collection Date: 07/31/2020
 Sample Collection Time: 1:41 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	527.17	MSL		07/31/2020	1:41 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	07/31/2020	1:41 PM	BTB
Conductivity	912.0	µS/cm	SM 2510, B-2011	07/31/2020	1:41 PM	BTB
Temperature	64.58	°F	SM 2550, B-2010	07/31/2020	1:41 PM	BTB
Oxidation-Reduction Potential	106.8	mV	SM 2580, B-2011	07/31/2020	1:41 PM	BTB
pH	7.04	S.U.	SM 4500-H+, B-2011	07/31/2020	1:41 PM	BTB
Oxygen, dissolved	3.19	mg/L	SM 4500-O	07/31/2020	1:41 PM	BTB

Lab Identification #: 2000409

EKPC - Central Laboratory Analyses

Sample Received Date: 08/03/2020
 Sample Received Time: 2:00 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)	9/21/2020	2:38 PM	JD
Arsenic	< 1.0		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Barium	92.9		µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Beryllium	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Boron	278		µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Cadmium	< 0.10		µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	4:50 PM	JD
Calcium	119000	D	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:45 PM	JD
Chromium	< 1.0		µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Cobalt	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Lead	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Lithium	29.1		µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Molybdenum	< 1.0		µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Selenium	< 1.0		µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Thallium	< 0.10		µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:38 PM	JD
Mercury	< 0.0050	D	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	8/20/2020	11:06 AM	JD
Solids, Total Dissolved	598		mg/L		50.0	SM 2540, C-2011 (mod)	8/6/2020	8:10 AM	JD

Lab Identification #: 20081728-05

ALS Environmental

Sample Received Date: 8/21/2020
 Sample Received Time: 11:30 AM
 Sample Receipt Temperatures (°C): < 6
 Sample Received By: JS

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	10		mg/L	0.31	1.0	EPA 300.0 Rev 2.1 (1993)	8/27/2020	12:22 AM	JDR
Fluoride	< 0.10		mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	8/27/2020	12:22 AM	JDR
Sulfate	190		mg/L	1.1	20	EPA 300.0 Rev 2.1 (1993)	8/27/2020	12:41 AM	JDR

Lab Identification #: 30379183005

Pace

Sample Received Date: 8/25/2020
 Sample Received Time: 10:15 AM
 Sample Receipt Temperatures (°C): N/A
 Sample Received By: NR

Parameter	Result	Note	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	1.32 ± 0.981 (1.79)		pCi/L			Total Radium Calculation	9/14/2020	2:03 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
 09:48 AM 10/13/2020

Eric Hamilton - QA/QC Chemist
 10:02 AM 10/15/2020

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: 8/31/2020
 Sample Collection Time: 10:34 AM
 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	702.54	MSL		8/31/2020	10:34 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	8/31/2020	10:34 AM	BTB
Conductivity	2406	µS/cm	SM 2510, B-2011	8/31/2020	10:34 AM	BTB
Temperature	56.84	°F	SM 2550, B-2010	8/31/2020	10:34 AM	BTB
Oxidation-Reduction Potential	122.2	mV	SM 2580, B-2011	8/31/2020	10:34 AM	BTB
pH	6.08	S.U.	SM 4500-H+, B-2011	8/31/2020	10:34 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	8/31/2020	10:34 AM	BTB

Lab Identification #: 2000416

EKPC - Central Laboratory Analyses

 Sample Received Date: 9/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:20 PM Sample Received By: JD

Parameter	Result	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)	9/21/2020	2:54 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:54 PM	JD
Barium	68.6	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:54 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:54 PM	JD
Boron	1410	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:54 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	5:14 PM	JD
Calcium	360000	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:51 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:54 PM	JD
Cobalt	4.6	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:54 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	5:14 PM	JD
Lithium	104	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:54 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:54 PM	JD
Selenium	1.9	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:54 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	5:14 PM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	9/23/2020	12:46 PM	JD
Solids, Total Dissolved	1820	mg/L		50.0	SM 2540, C-2011 (mod)	9/4/2020	12:22 PM	JD

Lab Identification #: 20091192-01

ALS Environmental

 Sample Received Date: 9/16/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:30 AM Sample Received By: KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	49	mg/L	1.2	4.0	EPA 300.0 Rev 2.1 (1993)	9/19/2020	7:05 PM	JDR
Fluoride	< 0.40	mg/L	0.27	0.40	EPA 300.0 Rev 2.1 (1993)	9/19/2020	7:05 PM	JDR
Sulfate	390	mg/L	4.5	80	EPA 300.0 Rev 2.1 (1993)	9/19/2020	7:23 PM	JDR

Lab Identification #: 30383634001

Pace

 Sample Received Date: 9/17/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 10:00 AM Sample Received By: NR

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	2.26 ± 1.36 (2.28)	pCi/L			Total Radium Calculation	10/6/2020	2:00 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

10:59 AM 10/22/2020



Eric Hamilton - QA/QC Chemist

09:01 AM 10/23/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-02
 AKGW No.: 8006-4555
 Well Depth (Ft.): 43.02
 Well Elevation (Ft. MSL): 570.93
 Gradient: Up

 Sample Collection Date: 8/31/2020
 Sample Collection Time: 11:53 AM
 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	547.93	MSL		8/31/2020	11:53 AM	BTB
Turbidity	2.07	NTU	SM 2130, B-2001	8/31/2020	11:53 AM	BTB
Conductivity	1497	µS/cm	SM 2510, B-2011	8/31/2020	11:53 AM	BTB
Temperature	58.69	°F	SM 2550, B-2010	8/31/2020	11:53 AM	BTB
Oxidation-Reduction Potential	-65.5	mV	SM 2580, B-2011	8/31/2020	11:53 AM	BTB
pH	7.62	S.U.	SM 4500-H+, B-2011	8/31/2020	11:53 AM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	8/31/2020	11:53 AM	BTB

Lab Identification #: 2000417

EKPC - Central Laboratory Analyses

 Sample Received Date: 9/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:20 PM Sample Received By: JD

Parameter	Result	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)	9/21/2020	2:58 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Barium	84.6	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Boron	1050	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	5:17 PM	JD
Calcium	47900	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:53 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Lithium	70.7	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Molybdenum	2.7	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	2:58 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	9/23/2020	12:52 PM	JD
Solids, Total Dissolved	756	mg/L		50.0	SM 2540, C-2011 (mod)	9/4/2020	12:22 PM	JD

Lab Identification #: 20091192-02

ALS Environmental

 Sample Received Date: 9/16/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:30 AM Sample Received By: KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	150	mg/L	5.0	16	EPA 300.0 Rev 2.1 (1993)	9/19/2020	8:00 PM	JDR
Fluoride	0.36	mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	9/19/2020	7:41 PM	JDR
Sulfate	34	mg/L	0.91	16	EPA 300.0 Rev 2.1 (1993)	9/19/2020	8:00 PM	JDR

Lab Identification #: 30383634002

Pace

 Sample Received Date: 9/17/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 10:00 AM Sample Received By: NR

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	2.99 ± 1.33 (1.99)	pCi/L			Total Radium Calculation	10/6/2020	2:00 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

10:59 AM 10/22/2020



Eric Hamilton - QA/QC Chemist

09:01 AM 10/23/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

 Sample Collection Date: 8/31/2020
 Sample Collection Time: 4:00 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	560.2	MSL		8/31/2020	4:00 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	8/31/2020	4:00 PM	BTB
Conductivity	3351	µS/cm	SM 2510, B-2011	8/31/2020	4:00 PM	BTB
Temperature	61.57	°F	SM 2550, B-2010	8/31/2020	4:00 PM	BTB
Oxidation-Reduction Potential	52.4	mV	SM 2580, B-2011	8/31/2020	4:00 PM	BTB
pH	7.20	S.U.	SM 4500-H+, B-2011	8/31/2020	4:00 PM	BTB
Oxygen, dissolved	1.05	mg/L	SM 4500-O	8/31/2020	4:00 PM	BTB
Lab Identification #:						2000418

EKPC - Central Laboratory Analyses

 Sample Received Date: 9/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:20 PM Sample Received By: JD

Parameter	Result	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)	9/21/2020	3:10 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:10 PM	JD
Barium	124	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:10 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:10 PM	JD
Boron	3230	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:10 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	5:22 PM	JD
Calcium	77800	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:54 PM	JD
Chromium	1.2	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:10 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:10 PM	JD
Lead	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	3:17 PM	JD
Lithium	189	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:10 PM	JD
Molybdenum	2.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:10 PM	JD
Selenium	2.4	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:10 PM	JD
Thallium	< 0.40	µg/L	0.16	0.40	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	3:37 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	9/23/2020	12:59 PM	JD
Solids, Total Dissolved	1920	mg/L		50.0	SM 2540, C-2011 (mod)	9/4/2020	12:22 PM	JD
Lab Identification #:						20091192-03		

ALS Environmental

 Sample Received Date: 9/16/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:30 AM Sample Received By: KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	630	mg/L	16	50	EPA 300.0 Rev 2.1 (1993)	9/19/2020	8:36 PM	JDR
Fluoride	0.69	mg/L	0.13	0.20	EPA 300.0 Rev 2.1 (1993)	9/19/2020	8:18 PM	JDR
Sulfate	340	mg/L	2.8	50	EPA 300.0 Rev 2.1 (1993)	9/19/2020	8:36 PM	JDR
Lab Identification #:						30383634003		

Pace

 Sample Received Date: 9/17/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 10:00 AM Sample Received By: NR

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	0.578 ± 1.10 (2.25)	pCi/L			Total Radium Calculation	10/6/2020	2:00 PM	CMC

Comments / Notes:

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

 Electronically Approved By : 

 Jared Daugherty - Chemist
 10:59 AM 10/22/2020



 Eric Hamilton - QA/QC Chemist
 09:01 AM 10/23/2020

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: 8/31/2020
 Sample Collection Time: 2:40 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	523.66	MSL		8/31/2020	2:40 PM	BTB
Turbidity	2.23	NTU	SM 2130, B-2001	8/31/2020	2:40 PM	BTB
Conductivity	2350	µS/cm	SM 2510, B-2011	8/31/2020	2:40 PM	BTB
Temperature	61.07	°F	SM 2550, B-2010	8/31/2020	2:40 PM	BTB
Oxidation-Reduction Potential	35.1	mV	SM 2580, B-2011	8/31/2020	2:40 PM	BTB
pH	6.33	S.U.	SM 4500-H+, B-2011	8/31/2020	2:40 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	8/31/2020	2:40 PM	BTB

Lab Identification #: 2000419

EKPC - Central Laboratory Analyses

 Sample Received Date: 9/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:20 PM Sample Received By: JD

Parameter	Result	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)	9/21/2020	3:14 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Barium	106	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Boron	1090	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	5:26 PM	JD
Calcium	203000	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:55 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Cobalt	2.9	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Lithium	45.6	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Selenium	1.4	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:14 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	9/23/2020	1:05 PM	JD
Solids, Total Dissolved	1210	mg/L		50.0	SM 2540, C-2011 (mod)	9/4/2020	12:22 PM	JD

Lab Identification #: 20091192-04

ALS Environmental

 Sample Received Date: 9/16/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 11:30 AM Sample Received By: KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	22	mg/L	0.62	2.0	EPA 300.0 Rev 2.1 (1993)	9/19/2020	9:31 PM	JDR
Fluoride	0.22	mg/L	0.13	0.20	EPA 300.0 Rev 2.1 (1993)	9/19/2020	9:31 PM	JDR
Sulfate	260	mg/L	2.3	40	EPA 300.0 Rev 2.1 (1993)	9/19/2020	9:49 PM	JDR

Lab Identification #: 30383634004

Pace

 Sample Received Date: 9/17/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 10:00 AM Sample Received By: NR

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	2.56 ± 1.56 (2.17)	pCi/L			Total Radium Calculation	10/6/2020	2:00 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

10:59 AM 10/22/2020



Eric Hamilton - QA/QC Chemist

09:01 AM 10/23/2020



Report Date: Monday, November 9, 2020

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	8/31/2020
Well ID No.:	PH-MW-05	Sample Collection Time:	1:28 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	527.1	MSL		8/31/2020	1:28 PM	BTB
Turbidity	1.01	NTU	SM 2130, B-2001	8/31/2020	1:28 PM	BTB
Conductivity	913.0	µS/cm	SM 2510, B-2011	8/31/2020	1:28 PM	BTB
Temperature	62.02	°F	SM 2550, B-2010	8/31/2020	1:28 PM	BTB
Oxidation-Reduction Potential	121.5	mV	SM 2580, B-2011	8/31/2020	1:28 PM	BTB
pH	7.14	S.U.	SM 4500-H+, B-2011	8/31/2020	1:28 PM	BTB
Oxygen, dissolved	4.69	mg/L	SM 4500-O	8/31/2020	1:28 PM	BTB
				Lab Identification #:	2000420	

EKPC - Central Laboratory Analyses

Sample Received Date:	9/1/2020	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	12:20 PM	Sample Received By:	JD

Parameter	Result	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)	9/21/2020	3:18 PM	JD
Arsenic	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Barium	100	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Boron	270	µg/L	3.4	50.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Cadmium	< 0.10	µg/L	0.08	0.10	EPA 200.8, Rev. 5.4 (1994)	10/1/2020	5:29 PM	JD
Calcium	121000	µg/L	1350	2500	EPA 200.8, Rev. 5.4 (1994)	10/5/2020	3:56 PM	JD
Chromium	< 1.0	µg/L	0.5	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Lithium	29.1	µg/L	10.5	25.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Molybdenum	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Selenium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Thallium	< 0.10	µg/L	0.04	0.10	EPA 200.8, Rev. 5.4 (1994)	9/21/2020	3:18 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	9/23/2020	1:08 PM	JD
Solids, Total Dissolved	610	mg/L		50.0	SM 2540, C-2011 (mod)	9/4/2020	12:22 PM	JD
						Lab Identification #:	20091192-05	

ALS Environmental

Sample Received Date:	9/16/2020	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	11:30 AM	Sample Received By:	KRW

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	11	mg/L	0.62	2.0	EPA 300.0 Rev 2.1 (1993)	9/19/2020	10:44 PM	JDR
Fluoride	< 0.20	mg/L	0.13	0.20	EPA 300.0 Rev 2.1 (1993)	9/19/2020	10:44 PM	JDR
Sulfate	190	mg/L	1.1	20	EPA 300.0 Rev 2.1 (1993)	9/19/2020	11:02 PM	JDR
						Lab Identification #:	30383634005	

Pace

Sample Received Date:	9/17/2020	Sample Receipt Temperatures (°C):	N/A
Sample Received Time:	10:00 AM	Sample Received By:	NR

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	1.12 ± 0.902 (1.66)	pCi/L			Total Radium Calculation	10/7/2020	3:25 PM	JAL

Comments / Notes:

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

Electronically Approved By : 

Jared Daugherty - Chemist
10:59 AM 10/22/2020



Eric Hamilton - QA/QC Chemist
09:01 AM 10/23/2020

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: 9/30/2020
 Sample Collection Time: 11:21 AM
 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	702.29	MSL		9/30/2020	11:21 AM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	9/30/2020	11:21 AM	BTB
Conductivity	2482	µS/cm	SM 2510, B-2011	9/30/2020	11:21 AM	BTB
Temperature	54.95	°F	SM 2550, B-2010	9/30/2020	11:21 AM	BTB
Oxidation-Reduction Potential	90.1	mV	SM 2580, B-2011	9/30/2020	11:21 AM	BTB
pH	5.98	S.U.	SM 4500-H+, B-2011	9/30/2020	11:21 AM	BTB
Oxygen, dissolved	2.3	mg/L	SM 4500-O	9/30/2020	11:21 AM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000452

 Sample Received Date: 10/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:20 PM Sample Received By: JD

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Arsenic	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Barium	58.6	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Boron	1430	µg/L	6.3	50.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Cadmium	< 0.10	µg/L	0.05	0.10	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Calcium	356000	µg/L	1230	2500	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	2:04 PM	JD
Chromium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Cobalt	4.5	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Lithium	92.1	µg/L	4.6	25.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Molybdenum	< 1.0	µg/L	0.3	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Selenium	1.6	µg/L	0.8	1.0	EPA 200.8, Rev. 5.4 (1994)	10/26/2020	1:31 PM	JD
Thallium	< 0.10	µg/L	0.02	0.10	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:25 PM	JD
Mercury	< 0.0200	µg/L	0.0180	0.0200	EPA 245.7 Rev 2.0 (2005)	10/1/2020	2:09 PM	JD
Solids, Total Dissolved	1830	mg/L		50.0	SM 2540, C-2011 (mod)	10/2/2020	12:33 PM	JD

Lab Identification #: 20100468-03

ALS Environmental

 Sample Received Date: 10/6/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:30 PM Sample Received By: DS

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	66	mg/L	12	40	EPA 300.0 Rev 2.1 (1993)	10/8/2020	5:47 PM	JDR
Fluoride	< 0.20	mg/L	0.13	0.20	EPA 300.0 Rev 2.1 (1993)	10/8/2020	5:27 PM	JDR
Sulfate	380	mg/L	2.3	40	EPA 300.0 Rev 2.1 (1993)	10/8/2020	5:47 PM	JDR

Lab Identification #: 30386600001

Pace

 Sample Received Date: 10/9/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	1.51 ± 1.02 (1.74)	pCi/L			Total Radium Calculation	10/27/2020	2:45 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

02:26 PM 12/07/2020



Eric Hamilton - QA/QC Chemist

04:02 PM 12/11/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-02
 AKGW No.: 8006-4555
 Well Depth (Ft.): 43.02
 Well Elevation (Ft. MSL): 570.93
 Gradient: Up

 Sample Collection Date: 9/30/2020
 Sample Collection Time: 12:36 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	547.85	MSL		9/30/2020	12:36 PM	BTB
Turbidity	1.51	NTU	SM 2130, B-2001	9/30/2020	12:36 PM	BTB
Conductivity	1709	µS/cm	SM 2510, B-2011	9/30/2020	12:36 PM	BTB
Temperature	58.73	°F	SM 2550, B-2010	9/30/2020	12:36 PM	BTB
Oxidation-Reduction Potential	-152.5	mV	SM 2580, B-2011	9/30/2020	12:36 PM	BTB
pH	7.72	S.U.	SM 4500-H+, B-2011	9/30/2020	12:36 PM	BTB
Oxygen, dissolved	< 1.0	mg/L	SM 4500-O	9/30/2020	12:36 PM	BTB

EKPC - Central Laboratory Analyses

Lab Identification #: 2000453

 Sample Received Date: 10/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:20 PM Sample Received By: JD

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Arsenic	1.3	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Barium	57.2	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Boron	1150	µg/L	6.3	50.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Cadmium	< 0.10	µg/L	0.05	0.10	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Calcium	34500	µg/L	1230	2500	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	2:05 PM	JD
Chromium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Lithium	79.2	µg/L	4.6	25.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Molybdenum	4.5	µg/L	0.3	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Selenium	1.1	µg/L	0.8	1.0	EPA 200.8, Rev. 5.4 (1994)	10/26/2020	1:35 PM	JD
Thallium	< 0.10	µg/L	0.02	0.10	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:29 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	10/1/2020	2:15 PM	JD
Solids, Total Dissolved	872	mg/L		50.0	SM 2540, C-2011 (mod)	10/2/2020	12:33 PM	JD

Lab Identification #: 20100468-04

ALS Environmental

 Sample Received Date: 10/6/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:30 PM Sample Received By: DS

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	210	mg/L	12	40	EPA 300.0 Rev 2.1 (1993)	10/8/2020	7:42 PM	JDR
Fluoride	0.46	mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	10/8/2020	7:23 PM	JDR
Sulfate	33	mg/L	0.11	2.0	EPA 300.0 Rev 2.1 (1993)	10/9/2020	12:46 PM	JDR

Lab Identification #: 30386600002

Pace

 Sample Received Date: 10/9/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	0.782 ± 1.08 (2.14)	pCi/L			Total Radium Calculation	10/27/2020	2:45 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

02:26 PM 12/07/2020



Eric Hamilton - QA/QC Chemist

04:02 PM 12/11/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-03
 AKGW No.: 8006-4556
 Well Depth (Ft.): 42.25
 Well Elevation (Ft. MSL): 593.30
 Gradient: Down

 Sample Collection Date: 9/30/2020
 Sample Collection Time: 5:03 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	559.68	MSL		9/30/2020	5:03 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	9/30/2020	5:03 PM	BTB
Conductivity	3575	µS/cm	SM 2510, B-2011	9/30/2020	5:03 PM	BTB
Temperature	59.14	°F	SM 2550, B-2010	9/30/2020	5:03 PM	BTB
Oxidation-Reduction Potential	199.5	mV	SM 2580, B-2011	9/30/2020	5:03 PM	BTB
pH	7.08	S.U.	SM 4500-H+, B-2011	9/30/2020	5:03 PM	BTB
Oxygen, dissolved	1.26	mg/L	SM 4500-O	9/30/2020	5:03 PM	BTB

Lab Identification #: 2000454

EKPC - Central Laboratory Analyses

 Sample Received Date: 10/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:20 PM Sample Received By: JD

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Arsenic	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Barium	92.4	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Boron	3100	µg/L	6.3	50.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Cadmium	< 0.10	µg/L	0.05	0.10	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Calcium	78700	µg/L	1230	2500	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	2:06 PM	JD
Chromium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Lead	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	1:44 PM	JD
Lithium	175	µg/L	4.6	25.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Molybdenum	2.2	µg/L	0.3	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:34 PM	JD
Selenium	2.2	µg/L	0.8	1.0	EPA 200.8, Rev. 5.4 (1994)	10/26/2020	1:39 PM	JD
Thallium	< 0.20	µg/L	0.05	0.20	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	1:44 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	10/1/2020	2:26 PM	JD
Solids, Total Dissolved	2180	mg/L		50.0	SM 2540, C-2011 (mod)	10/2/2020	12:33 PM	JD

Lab Identification #: 20100468-05

ALS Environmental

 Sample Received Date: 10/6/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:30 PM Sample Received By: DS

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	660	mg/L	25	80	EPA 300.0 Rev 2.1 (1993)	10/8/2020	8:21 PM	JDR
Fluoride	1.2	mg/L	0.13	0.20	EPA 300.0 Rev 2.1 (1993)	10/8/2020	8:02 PM	JDR
Sulfate	400	mg/L	4.5	80	EPA 300.0 Rev 2.1 (1993)	10/8/2020	8:21 PM	JDR

Lab Identification #: 30386600003

Pace

 Sample Received Date: 10/9/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	0.388 ± 0.920 (1.85)	pCi/L			Total Radium Calculation	10/27/2020	2:45 PM	CMC

Comments / Notes:

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

Electronically Approved By :



 Jared Daugherty - Chemist
 02:26 PM 12/07/2020



 Eric Hamilton - QA/QC Chemist
 04:02 PM 12/11/2020



Report Date: Thursday, January 14, 2021

Certificate of Analysis

Station:	H.L. Spurlock Power Station	Sample Collection Date:	9/30/2020
Well ID No.:	PH-MW-04	Sample Collection Time:	3:38 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	523.54	MSL		9/30/2020	3:38 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	9/30/2020	3:38 PM	BTB
Conductivity	1970	µS/cm	SM 2510, B-2011	9/30/2020	3:38 PM	BTB
Temperature	61.61	°F	SM 2550, B-2010	9/30/2020	3:38 PM	BTB
Oxidation-Reduction Potential	82.5	mV	SM 2580, B-2011	9/30/2020	3:38 PM	BTB
pH	6.16	S.U.	SM 4500-H+, B-2011	9/30/2020	3:38 PM	BTB
Oxygen, dissolved	1.24	mg/L	SM 4500-O	9/30/2020	3:38 PM	BTB
						Lab Identification #: 2000455

EKPC - Central Laboratory Analyses			
Sample Received Date:	10/1/2020	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	12:20 PM	Sample Received By:	JD

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Arsenic	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Barium	86.7	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Boron	974	µg/L	6.3	50.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Cadmium	< 0.10	µg/L	0.05	0.10	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Calcium	185000	µg/L	1230	2500	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	2:07 PM	JD
Chromium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Cobalt	2.2	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Lithium	37.0	µg/L	4.6	25.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Molybdenum	< 1.0	µg/L	0.3	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Selenium	1.1	µg/L	0.8	1.0	EPA 200.8, Rev. 5.4 (1994)	10/26/2020	1:43 PM	JD
Thallium	< 0.10	µg/L	0.02	0.10	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:38 PM	JD
Mercury	< 0.0100	µg/L	0.0090	0.0100	EPA 245.7 Rev 2.0 (2005)	10/1/2020	2:32 PM	JD
Solids, Total Dissolved	1170	mg/L		50.0	SM 2540, C-2011 (mod)	10/2/2020	12:33 PM	JD
						Lab Identification #: 20100468-06		

ALS Environmental			
Sample Received Date:	10/6/2020	Sample Receipt Temperatures (°C):	< 6
Sample Received Time:	12:30 PM	Sample Received By:	DS


Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	23	mg/L	0.62	2.0	EPA 300.0 Rev 2.1 (1993)	10/8/2020	9:19 PM	JDR
Fluoride	< 0.20	mg/L	0.13	0.20	EPA 300.0 Rev 2.1 (1993)	10/8/2020	9:19 PM	JDR
Sulfate	240	mg/L	2.8	50	EPA 300.0 Rev 2.1 (1993)	10/8/2020	9:57 PM	JDR
						Lab Identification #: 30386600004		

Pace			
Sample Received Date:	10/9/2020	Sample Receipt Temperatures (°C):	N/A
Sample Received Time:	9:15 AM	Sample Received By:	JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	0.770 ± 0.879 (1.87)	pCi/L			Total Radium Calculation	10/27/2020	2:45 PM	CMC

Comments / Notes:

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

Electronically Approved By : 

Jared Daugherty - Chemist
02:26 PM 12/07/2020



Eric Hamilton - QA/QC Chemist
04:02 PM 12/11/2020

Certificate of Analysis

 Station: H.L. Spurlock Power Station
 Well ID No: PH-MW-05
 AKGW No.: 8006-4558
 Well Depth (Ft.): 37.45
 Well Elevation (Ft. MSL): 560.32
 Gradient: Down

 Sample Collection Date: 9/30/2020
 Sample Collection Time: 1:49 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	526.9	MSL		9/30/2020	1:49 PM	BTB
Turbidity	< 1.0	NTU	SM 2130, B-2001	9/30/2020	1:49 PM	BTB
Conductivity	905.0	µS/cm	SM 2510, B-2011	9/30/2020	1:49 PM	BTB
Temperature	65.48	°F	SM 2550, B-2010	9/30/2020	1:49 PM	BTB
Oxidation-Reduction Potential	216.8	mV	SM 2580, B-2011	9/30/2020	1:49 PM	BTB
pH	7.01	S.U.	SM 4500-H+, B-2011	9/30/2020	1:49 PM	BTB
Oxygen, dissolved	6.41	mg/L	SM 4500-O	9/30/2020	1:49 PM	BTB

Lab Identification #: 2000456

EKPC - Central Laboratory Analyses

 Sample Received Date: 10/1/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:20 PM Sample Received By: JD

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Antimony	< 1.0	µg/L	0.2	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Arsenic	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Barium	90.5	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Beryllium	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Boron	266	µg/L	6.3	50.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Cadmium	< 0.10	µg/L	0.05	0.10	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Calcium	117000	µg/L	1230	2500	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	2:08 PM	JD
Chromium	< 1.0	µg/L	0.4	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Cobalt	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Lead	< 1.0	µg/L	0.1	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Lithium	< 25.0	µg/L	4.6	25.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Molybdenum	< 1.0	µg/L	0.3	1.0	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Selenium	< 1.0	µg/L	0.8	1.0	EPA 200.8, Rev. 5.4 (1994)	10/26/2020	1:46 PM	JD
Thallium	< 0.10	µg/L	0.02	0.10	EPA 200.8, Rev. 5.4 (1994)	10/7/2020	12:50 PM	JD
Mercury	< 0.0050	µg/L	0.0045	0.0050	EPA 245.7 Rev 2.0 (2005)	10/1/2020	2:35 PM	JD
Solids, Total Dissolved	626	mg/L		50.0	SM 2540, C-2011 (mod)	10/2/2020	12:33 PM	JD

Lab Identification #: 20100468-04B MS

ALS Environmental

 Sample Received Date: 10/6/2020 Sample Receipt Temperatures (°C): < 6
 Sample Received Time: 12:30 PM Sample Received By: DS

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Chloride	11	mg/L	0.62	2.0	EPA 300.0 Rev 2.1 (1993)	10/8/2020	11:33 PM	JDR
Fluoride	0.14	mg/L	0.067	0.10	EPA 300.0 Rev 2.1 (1993)	10/9/2020	1:04 PM	JDR
Sulfate	180	mg/L	1.1	20	EPA 300.0 Rev 2.1 (1993)	10/8/2020	11:53 PM	JDR

Lab Identification #: 30386600005

Pace

 Sample Received Date: 10/9/2020 Sample Receipt Temperatures (°C): N/A
 Sample Received Time: 9:15 AM Sample Received By: JSM

Parameter	Result	Units	MDL	Report Limit	Analysis Method	Date Analyzed:	Time Analyzed:	Analyst:
Total Radium Calculation	0.0700 ± 0.814 (1.84)	pCi/L			Total Radium Calculation	10/27/2020	2:45 PM	CMC

Comments / Notes:

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

Electronically Approved By :



Jared Daugherty - Chemist

02:26 PM 12/07/2020



Eric Hamilton - QA/QC Chemist

04:02 PM 12/11/2020

APPENDIX D – Flow Calculations & Direction Maps

GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: January 31st, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 562.80 ft
 Downgradient Well Water Elev (h_2) = 529.17 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 33.63 ft
 Hyd. Grad.(i) = 0.045 ft/ft
 GW Flow Velocity ($K_h * i$)/ n_e = 2.37E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 703.03 ft
 h_2 = 547.50 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 $\left(\frac{\text{feet}}{\text{day}}\right)$

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

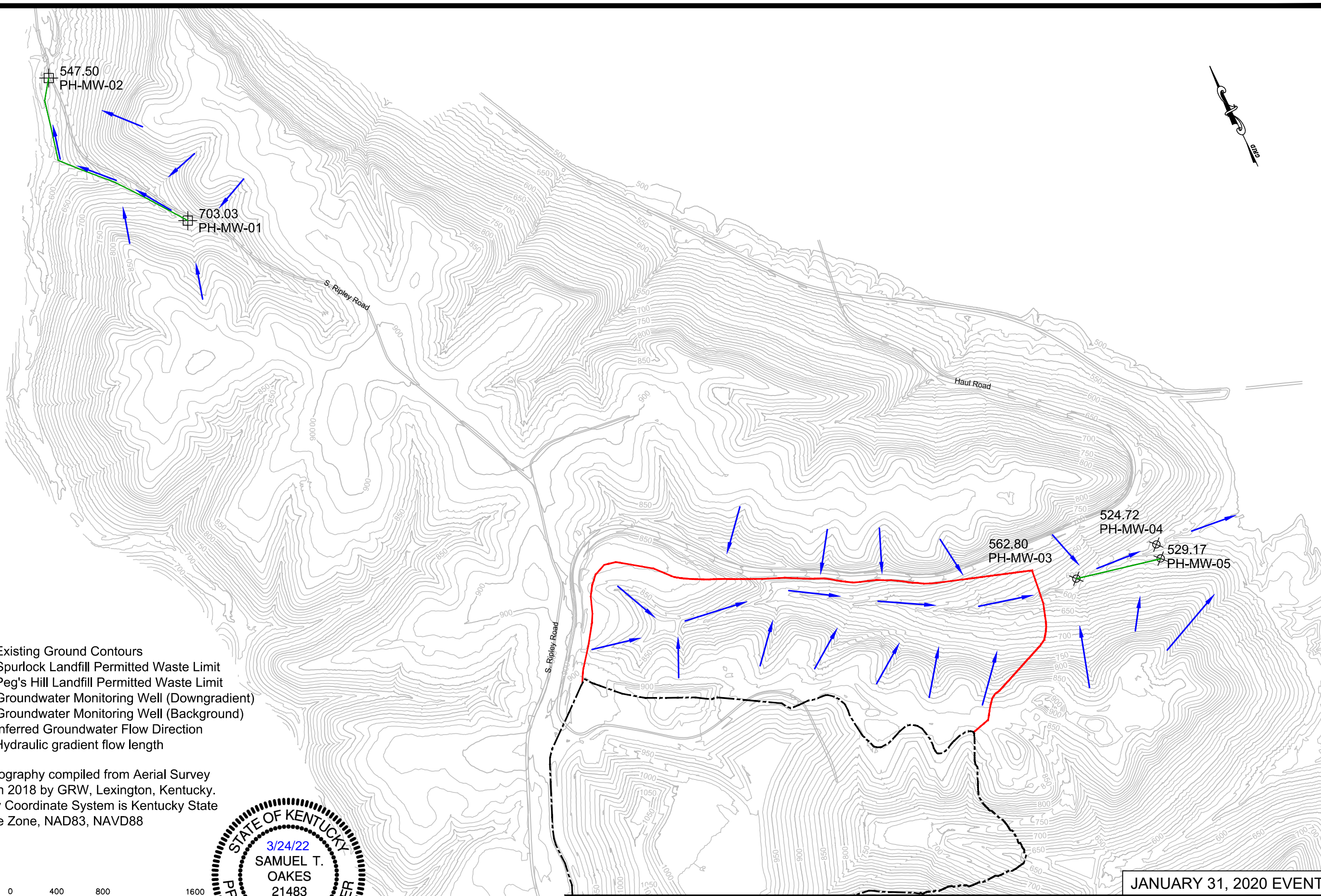
L = Distance between location 1 and 2

n_e = Effective porosity


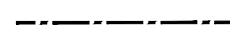





Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

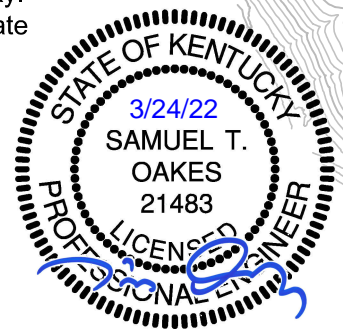
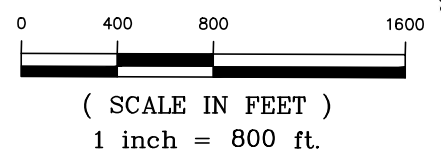




LEGEND

-  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



JANUARY 31, 2020 EVENT



Project: 2019047
 Checked By: STO
 Date: 03-15-22
 Scale: 1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: March 2nd, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 564.39 ft
 Downgradient Well Water Elev (h_2) = 529.60 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 34.79 ft
 Hyd. Grad.(i) = 0.046 ft/ft
 GW Flow Velocity ($K_h * i / n_e$) = 2.45E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 703.53 ft
 h_2 = 548.81 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 154.72 ft
 i = 0.077 ft/ft
 $(K_h * i) / n_e$ = 4.07E-03 ft/day

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

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

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

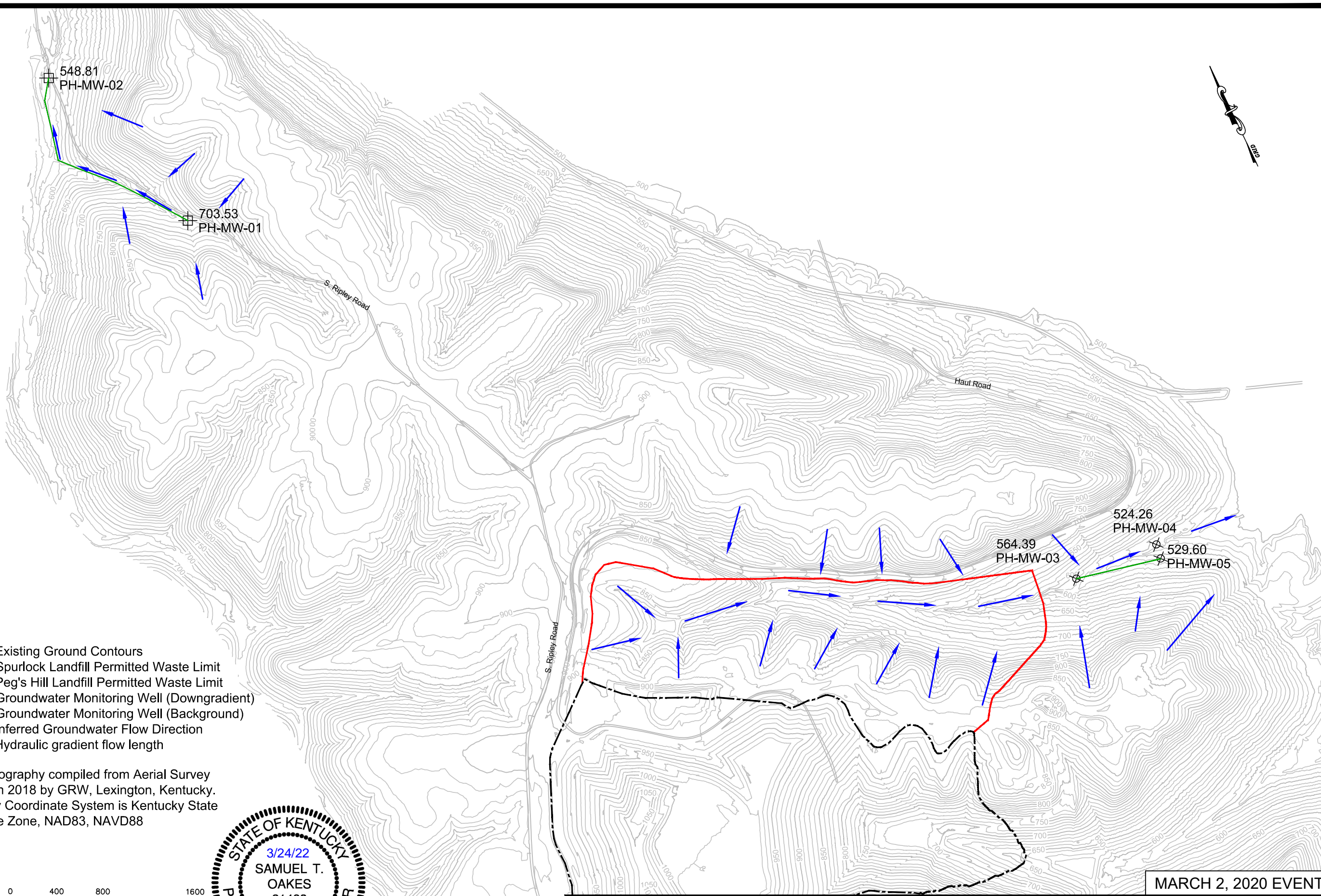
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

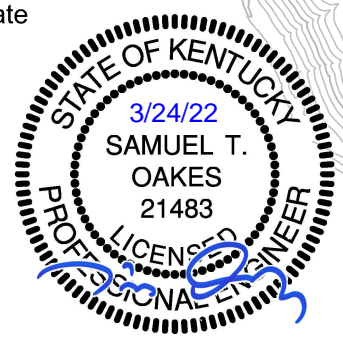
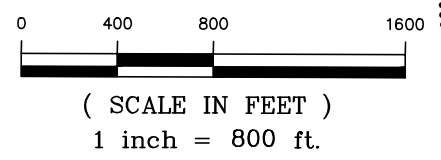




LEGEND

- 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



MARCH 2, 2020 EVENT



Project: 2019047
 Checked By: STO
 Date: 03-15-22
 Scale: 1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: March 31st, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 565.16 ft
 Downgradient Well Water Elev (h_2) = 529.47 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 35.69 ft
 Hyd. Grad.(i) = 0.048 ft/ft
 GW Flow Velocity (K_h*i/n_e) = 2.52E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 703.92 ft
 h_2 = 548.53 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 ($\frac{\text{feet}}{\text{day}}$)

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

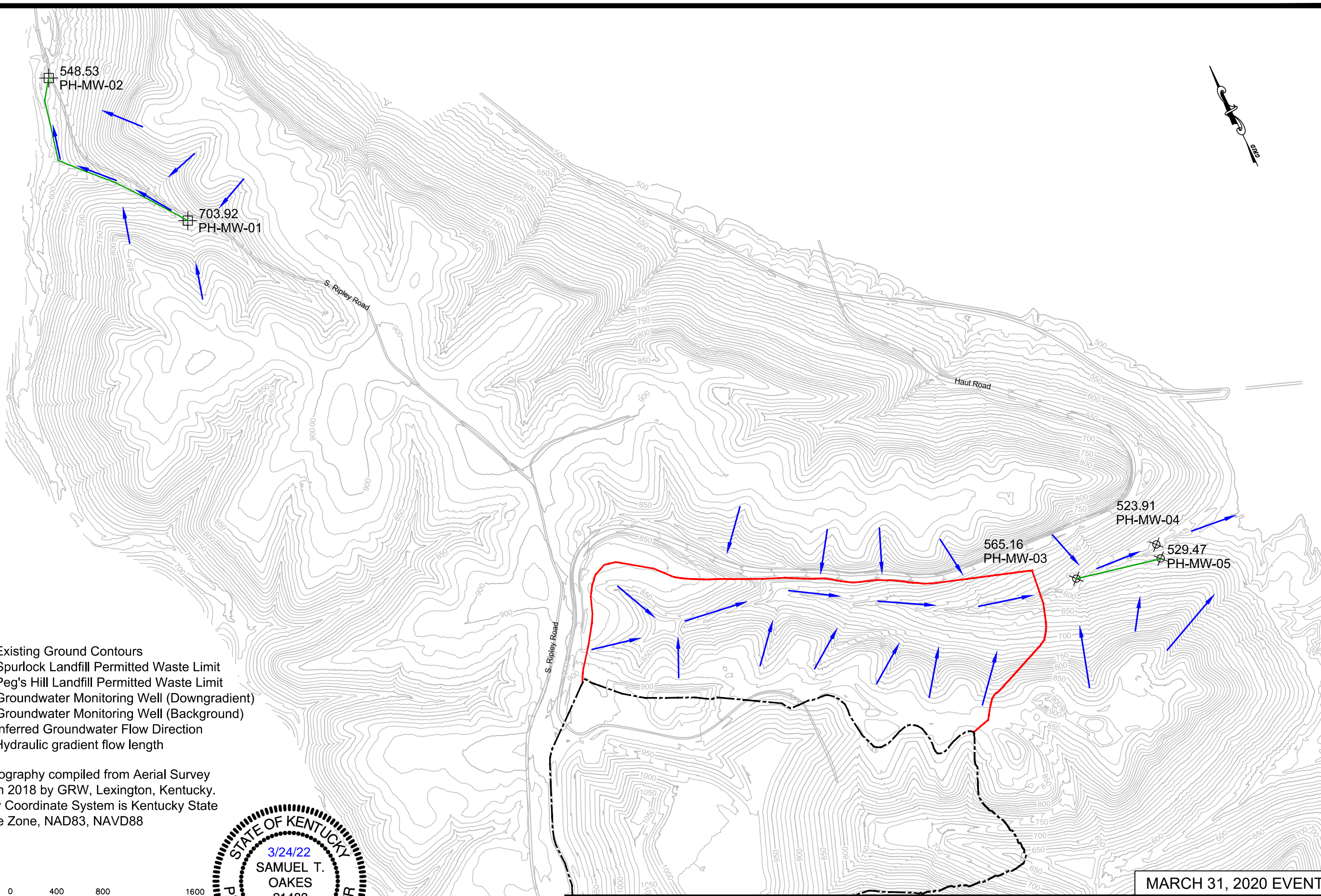
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

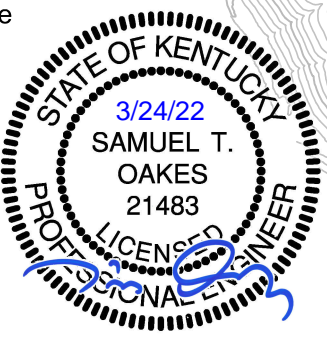
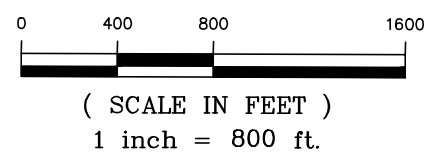




LEGEND

- 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



MARCH 31, 2020 EVENT



Project: 2019047
 Checked By: STO
 Date: 03-15-22
 Scale: 1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: April 30th, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 564.84 ft
 Downgradient Well Water Elev (h_2) = 529.35 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 35.49 ft
 Hyd. Grad.(i) = 0.047 ft/ft
 GW Flow Velocity ($K_h * i / n_e$) = 2.50E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 703.59 ft
 h_2 = 548.50 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 155.09 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 ($\frac{\text{feet}}{\text{day}}$)

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

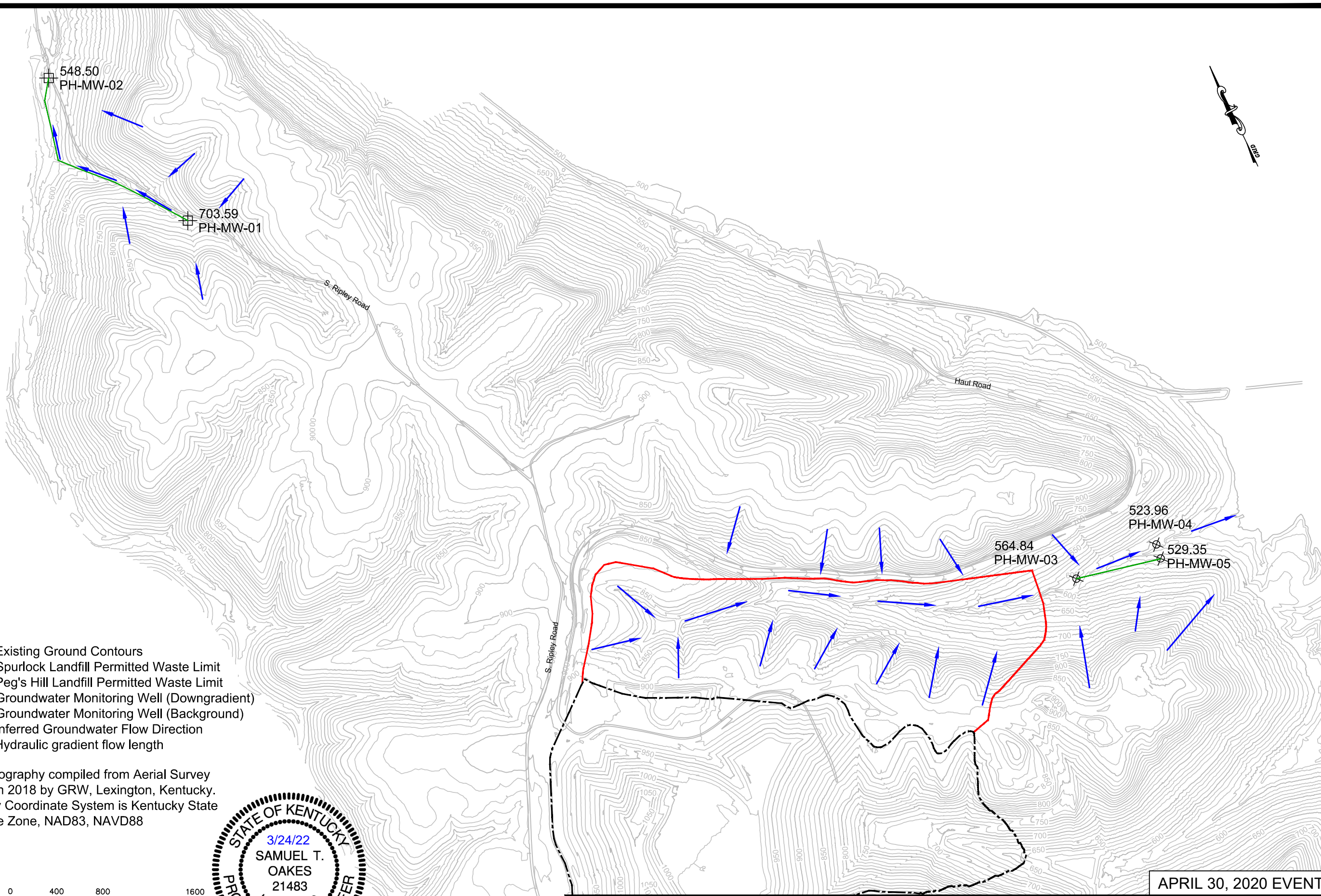
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.



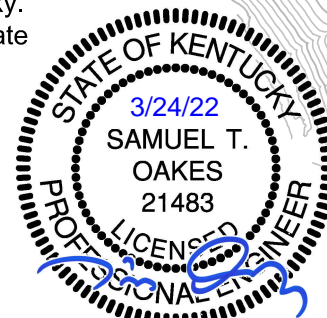
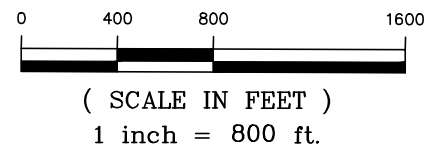


LEGEND

- 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



APRIL 30, 2020 EVENT



Project: 2019047
 Checked By: STO
 Date: 03-15-22
 Scale: 1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: May 29th, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 564.49 ft
 Downgradient Well Water Elev (h_2) = 529.51 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 34.98 ft
 Hyd. Grad.(i) = 0.047 ft/ft
 GW Flow Velocity ($K_h * i / n_e$) = 2.47E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 704.47 ft
 h_2 = 548.62 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 155.85 ft
 i = 0.077 ft/ft
 ($K_h * i$)/ n_e = 4.10E-03 ft/day

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

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

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

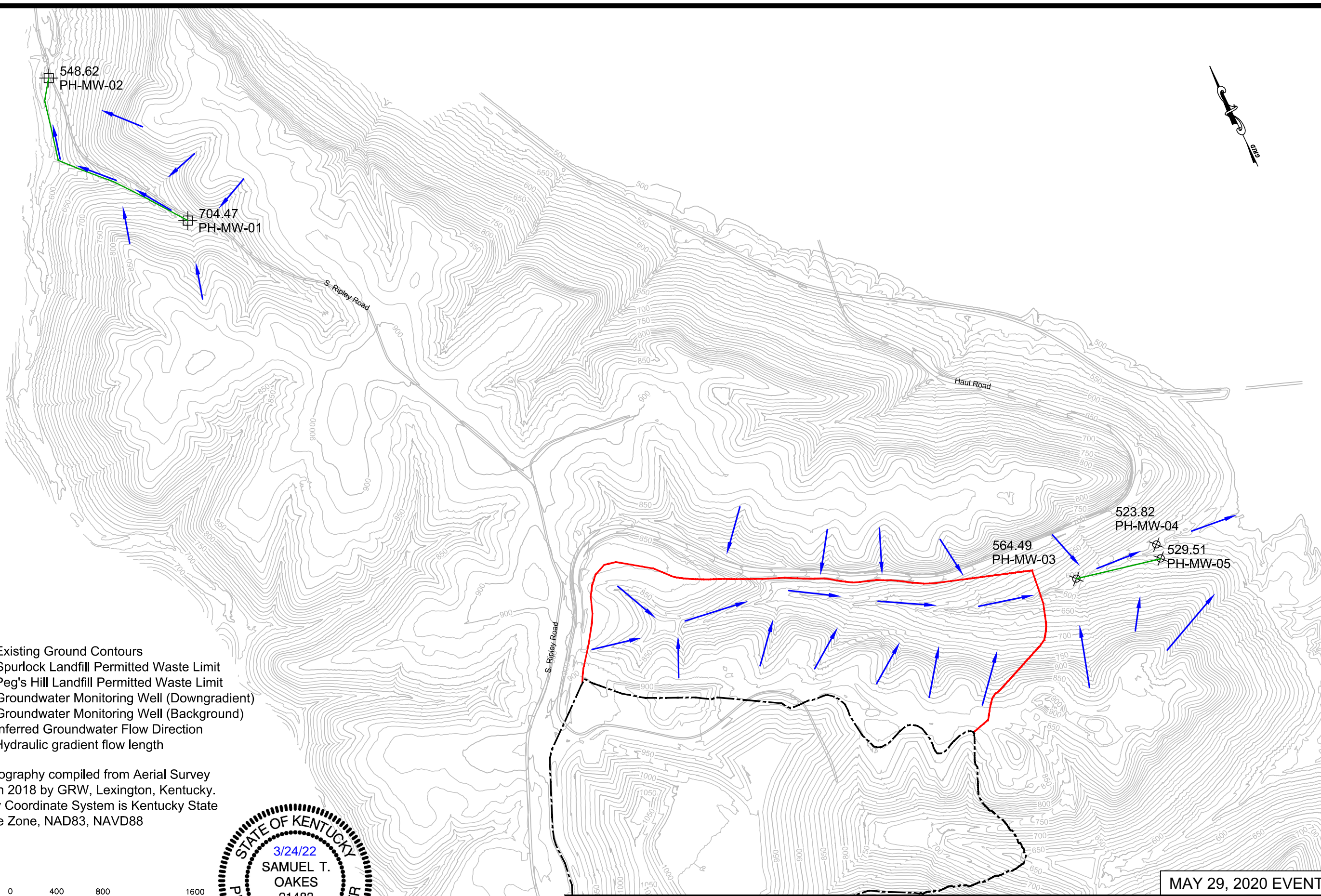
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

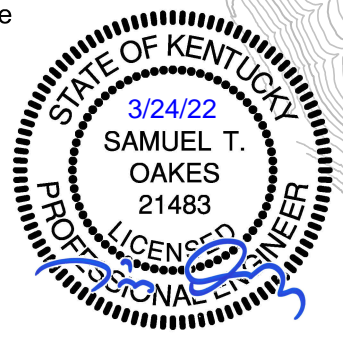
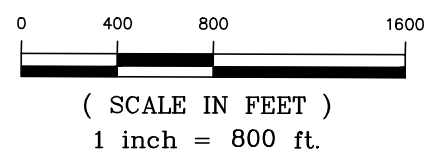




LEGEND

- 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



MAY 29, 2020 EVENT



Project:	2019047
Checked By:	STO
Date:	03-15-22
Scale:	1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: June 30th, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 562.45 ft
 Downgradient Well Water Elev (h_2) = 528.17 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 34.28 ft
 Hyd. Grad.(i) = 0.046 ft/ft
 GW Flow Velocity (K_h*i)/ n_e = 2.42E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 703.57 ft
 h_2 = 548.00 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 155.57 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 $\left(\frac{\text{feet}}{\text{day}}\right)$

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

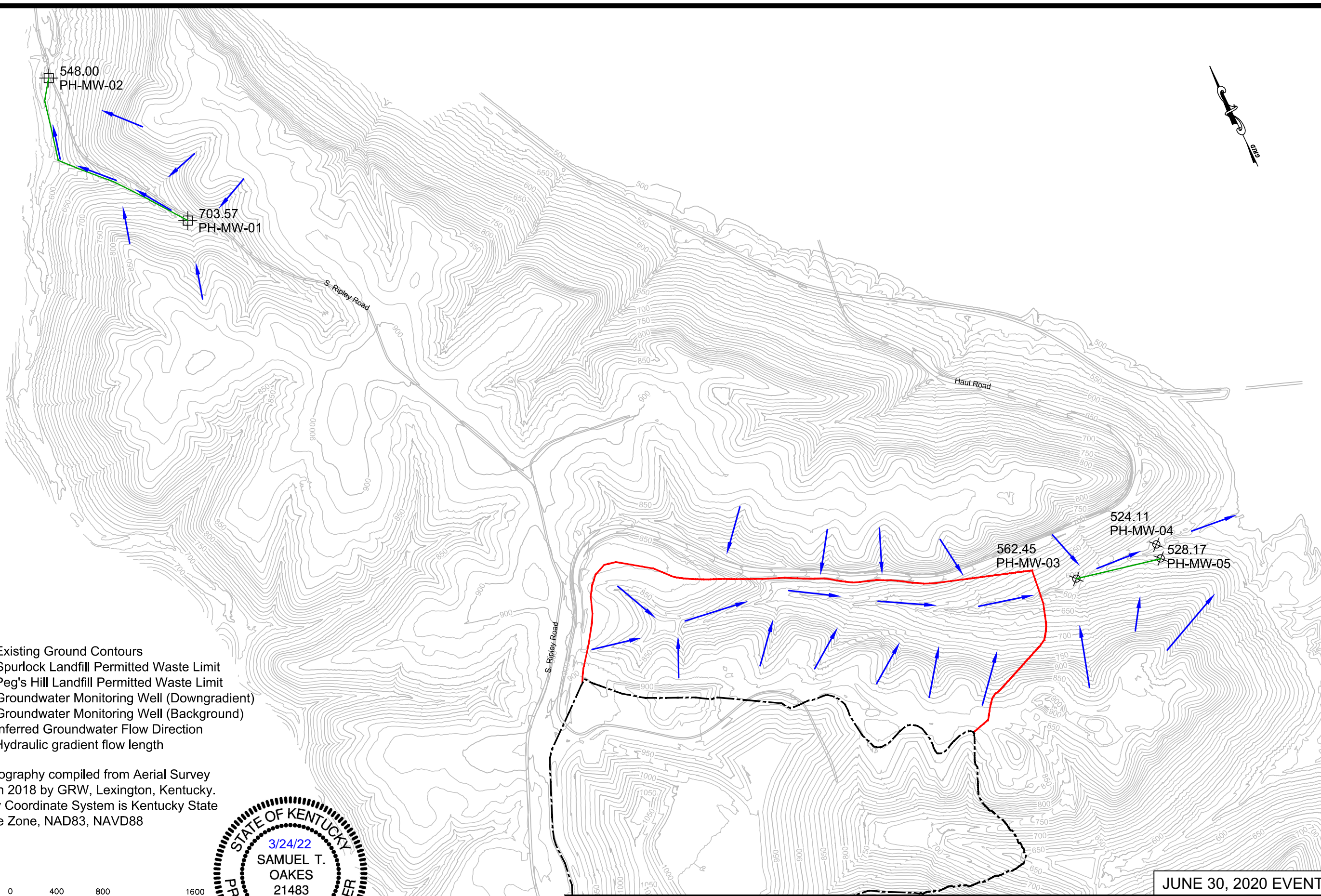
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

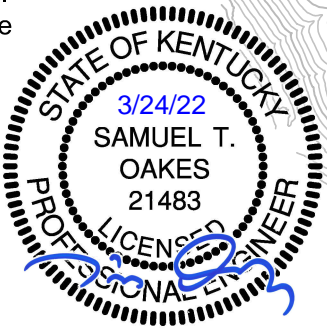
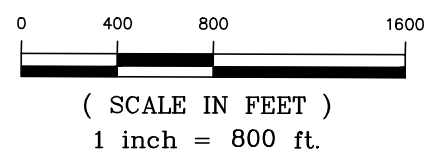




LEGEND

- 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



JUNE 30, 2020 EVENT



Project:	2019047
Checked By:	STO
Date:	03-15-22
Scale:	1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: July 31st, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 560.95 ft
 Downgradient Well Water Elev (h_2) = 527.17 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 33.78 ft
 Hyd. Grad.(i) = 0.045 ft/ft
 GW Flow Velocity (K_h*i/n_e) = 2.38E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 702.90 ft
 h_2 = 547.61 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 155.29 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 ($\frac{\text{feet}}{\text{day}}$)

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

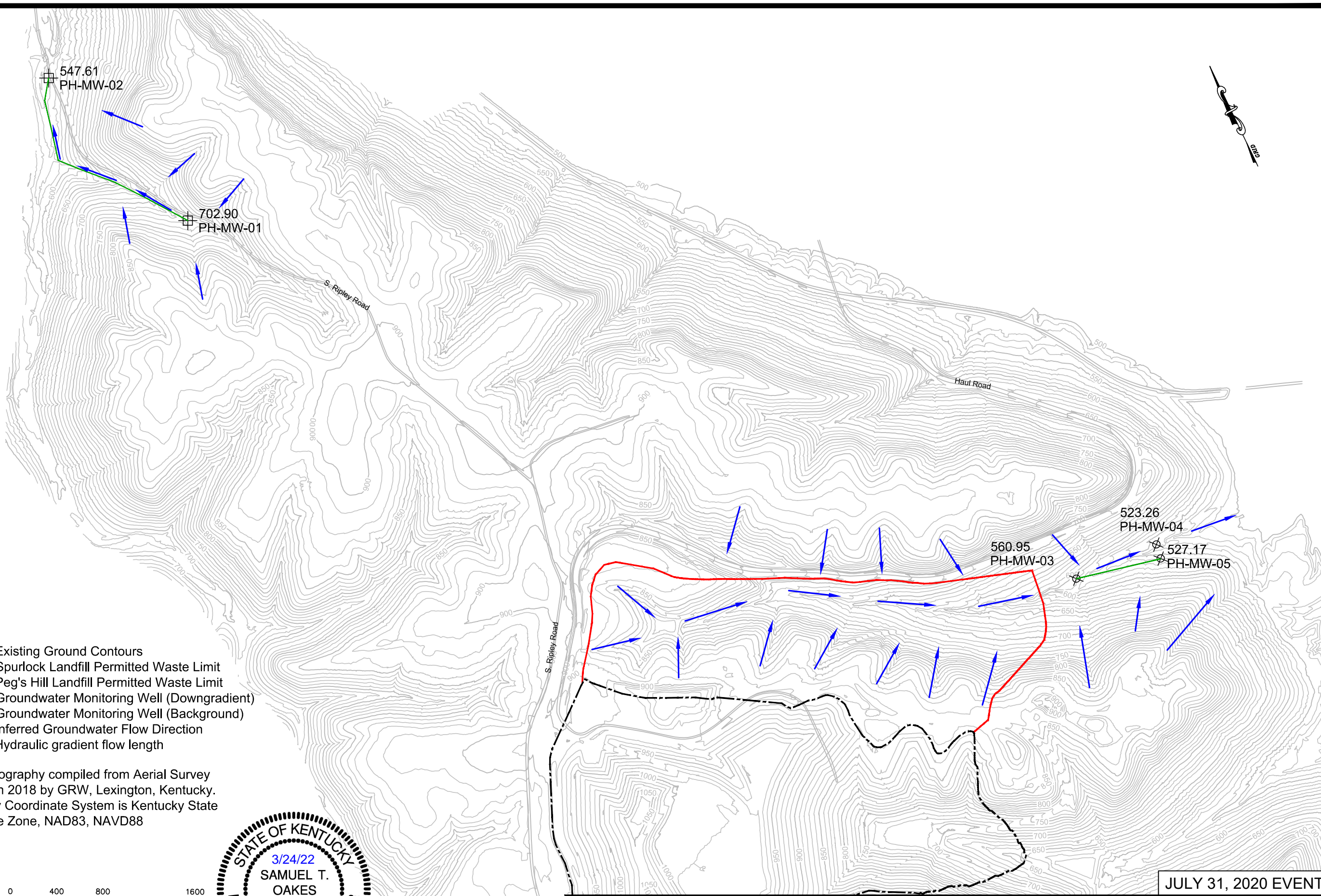
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

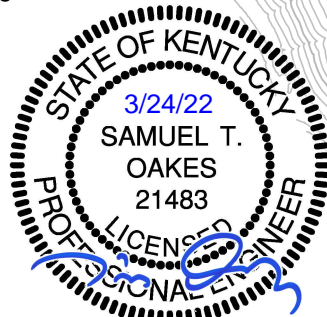
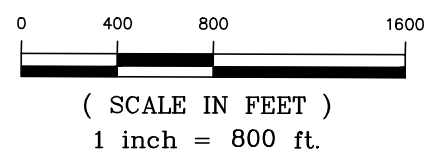




LEGEND

- 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



JULY 31, 2020 EVENT



Project: 2019047
 Checked By: STO
 Date: 03-15-22
 Scale: 1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: August 31st, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 560.20 ft
 Downgradient Well Water Elev (h_2) = 527.10 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 33.10 ft
 Hyd. Grad.(i) = 0.044 ft/ft
 GW Flow Velocity ($K_h * i / n_e$) = 2.33E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 702.54 ft
 h_2 = 547.93 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 154.61 ft
 i = 0.077 ft/ft
 $(K_h * i) / n_e$ = 4.07E-03 ft/day

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

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

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

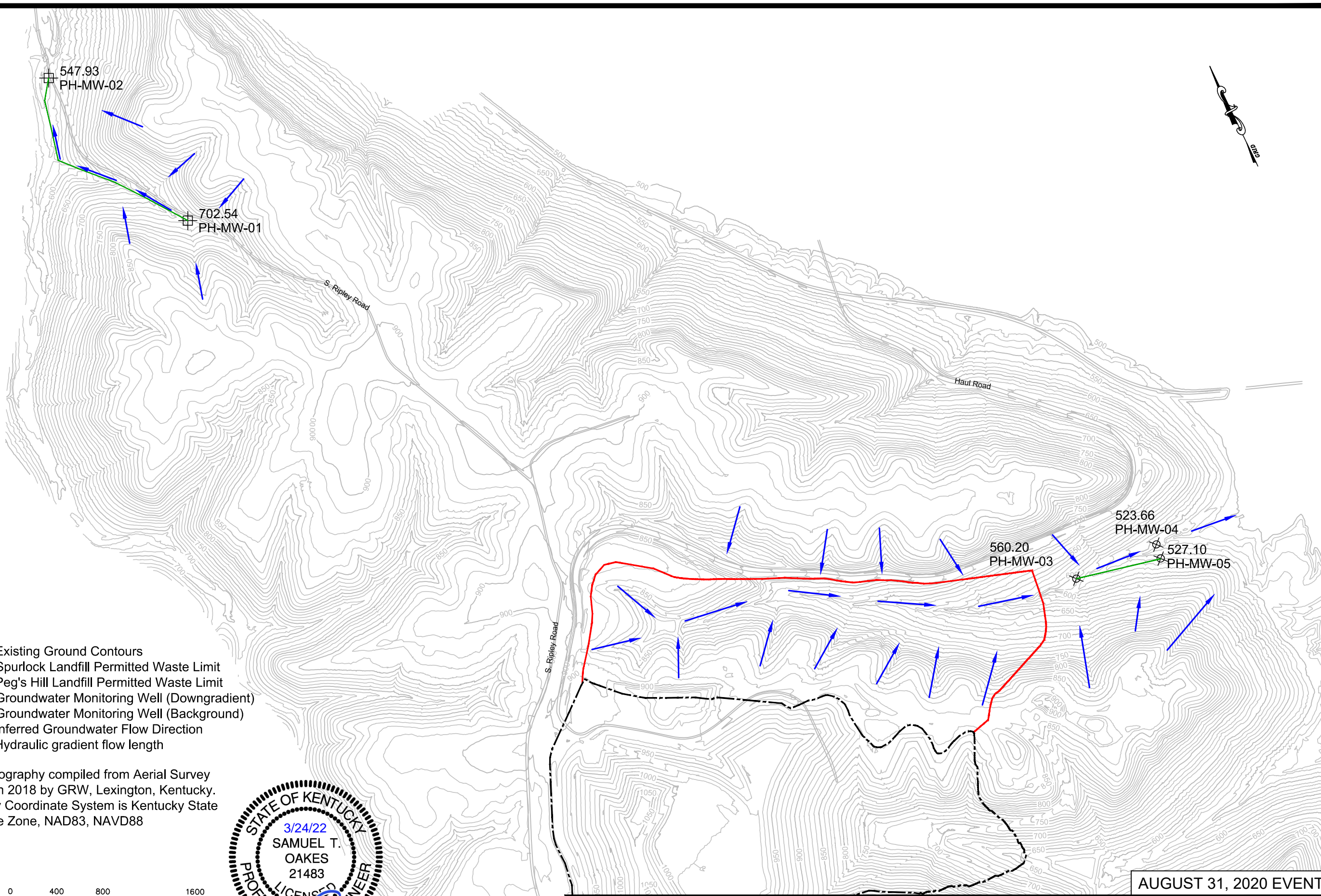
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

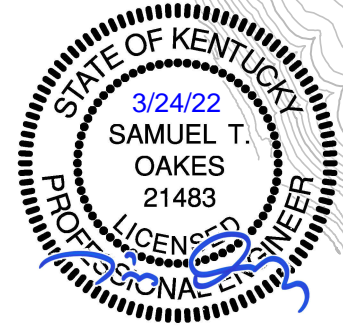
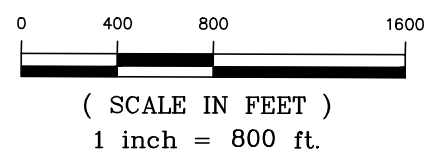




LEGEND

- 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



AUGUST 31, 2020 EVENT



Project: 2019047
 Checked By: STO
 Date: 03-15-22
 Scale: 1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: September 30th, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 559.68 ft
 Downgradient Well Water Elev (h_2) = 526.90 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 32.78 ft
 Hyd. Grad.(i) = 0.044 ft/ft
 GW Flow Velocity ($K_h * i / n_e$) = 2.31E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 702.29 ft
 h_2 = 547.85 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 154.44 ft
 i = 0.077 ft/ft
 $(K_h * i) / n_e$ = 4.06E-03 ft/day

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

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

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

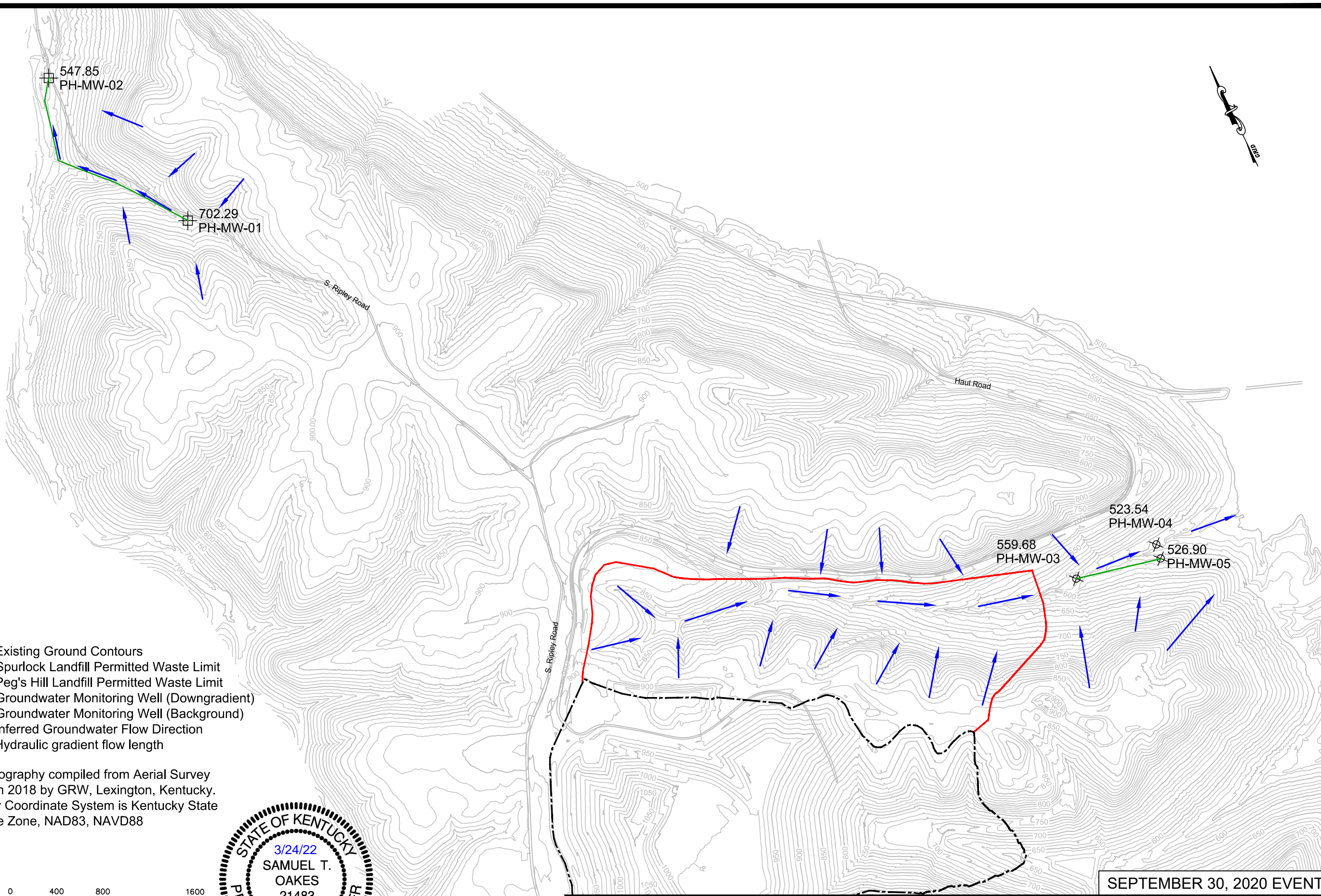
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.



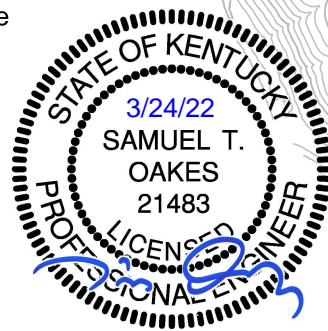
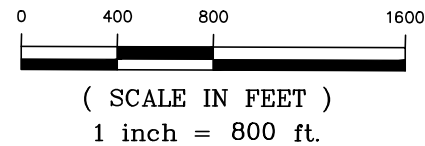


LEGEND

- 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



SEPTEMBER 30, 2020 EVENT



Project: 2019047
 Checked By: STO
 Date: 03-15-22
 Scale: 1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: October 30th, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 558.85 ft
 Downgradient Well Water Elev (h_2) = 526.61 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 32.24 ft
 Hyd. Grad.(i) = 0.043 ft/ft
 GW Flow Velocity ($K_h * i / n_e$) = 2.27E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 702.06 ft
 h_2 = 546.57 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 155.49 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 ($\frac{\text{feet}}{\text{day}}$)

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

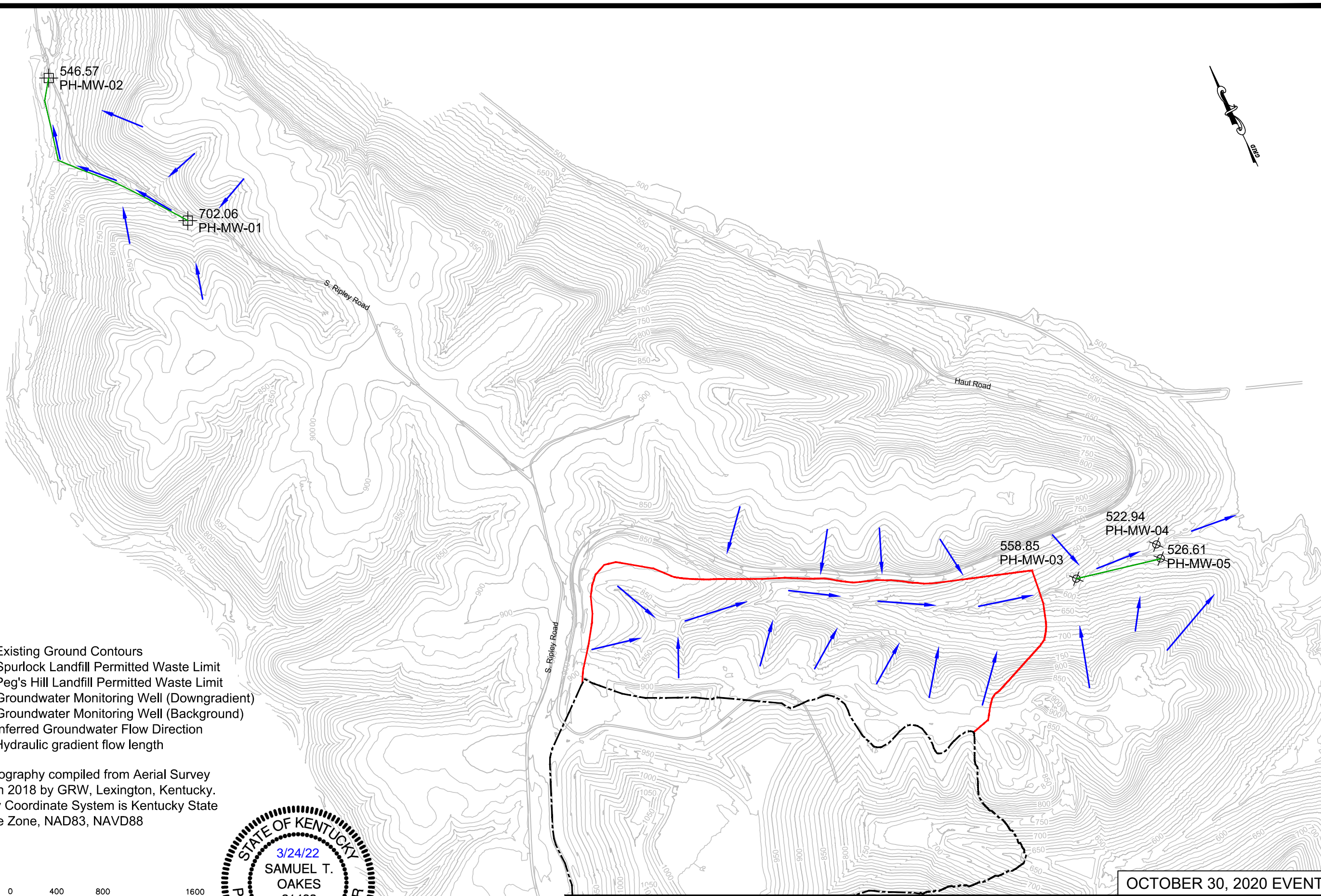
L = Distance between location 1 and 2

n_e = Effective porosity


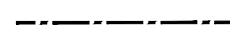





Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

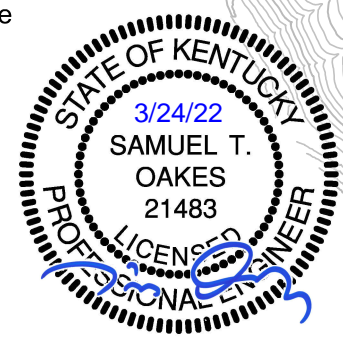
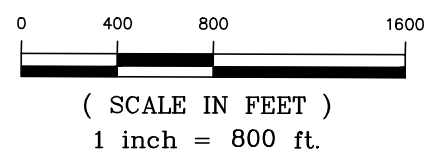




LEGEND

-  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



OCTOBER 30, 2020 EVENT



Project: 2019047
 Checked By: STO
 Date: 03-15-22
 Scale: 1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: November 30th, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 558.90 ft
 Downgradient Well Water Elev (h_2) = 527.28 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 31.62 ft
 Hyd. Grad.(i) = 0.042 ft/ft
 GW Flow Velocity ($K_h * i / n_e$) = 2.23E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 702.43 ft
 h_2 = 547.88 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 154.55 ft
 i = 0.077 ft/ft
 ($K_h * i / n_e$) = 4.06E-03 ft/day

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

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

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

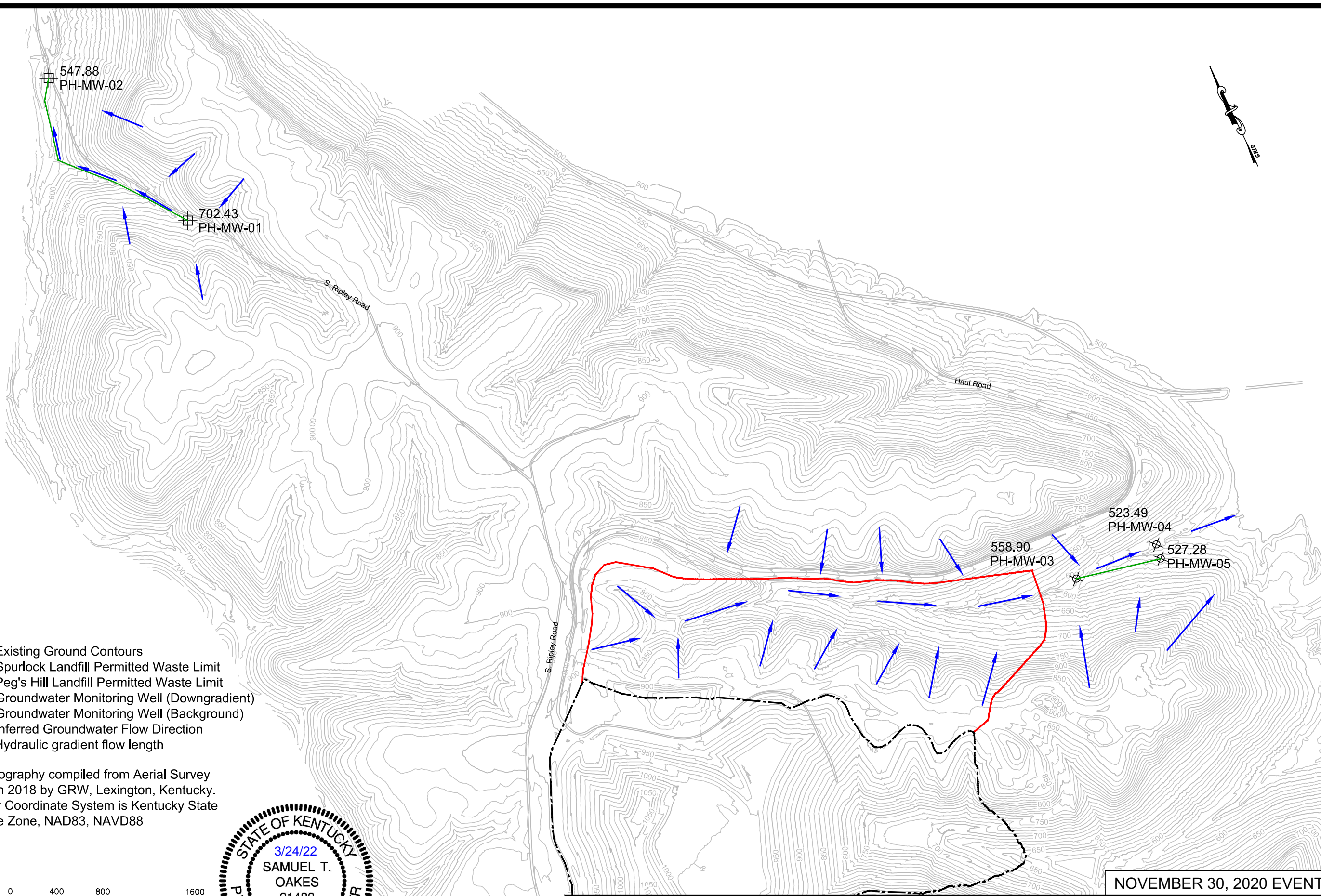
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

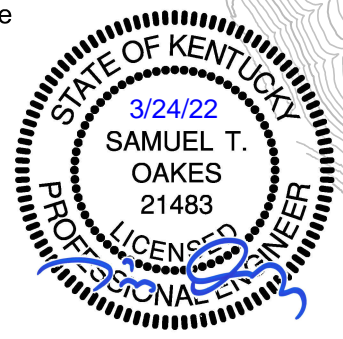
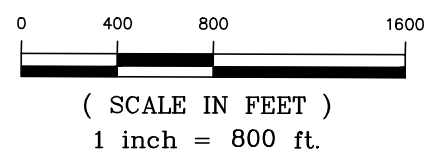




LEGEND

- 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



NOVEMBER 30, 2020 EVENT



Project:	2019047
Checked By:	STO
Date:	03-15-22
Scale:	1"=800'

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



GROUNDWATER FLOW VELOCITY CALCULATION

Facility Name: Peg's Hill Landfill
 Sampling Event Date: December 28th, 2020

INPUT VARIABLES: Downgradient wells ⁽¹⁾

Hydraulic Conductivity (K_h) = 3.67E-08 ft/s
 Upgradient Well Water Elev (h_1) = 559.34 ft
 Downgradient Well Water Elev (h_2) = 527.91 ft
 Flow Length (L) = 750 ft
 Effective Porosity (n_e) = 0.06 unitless

CALCULATIONS:

dh = 31.43 ft
 Hyd. Grad.(i) = 0.042 ft/ft
 GW Flow Velocity (K_h*i)/ n_e = 2.22E-03 ft/day

INPUT VARIABLES: Background wells ⁽²⁾

K_h = 3.67E-08 ft/s
 h_1 = 702.56 ft
 h_2 = 547.08 ft
 L = 2,012 ft
 n_e = 0.06 unitless

CALCULATIONS:

dh = 155.48 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 ($\frac{\text{feet}}{\text{day}}$)

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

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

h_1 and h_2 = Groundwater elevation at location 1 and 2

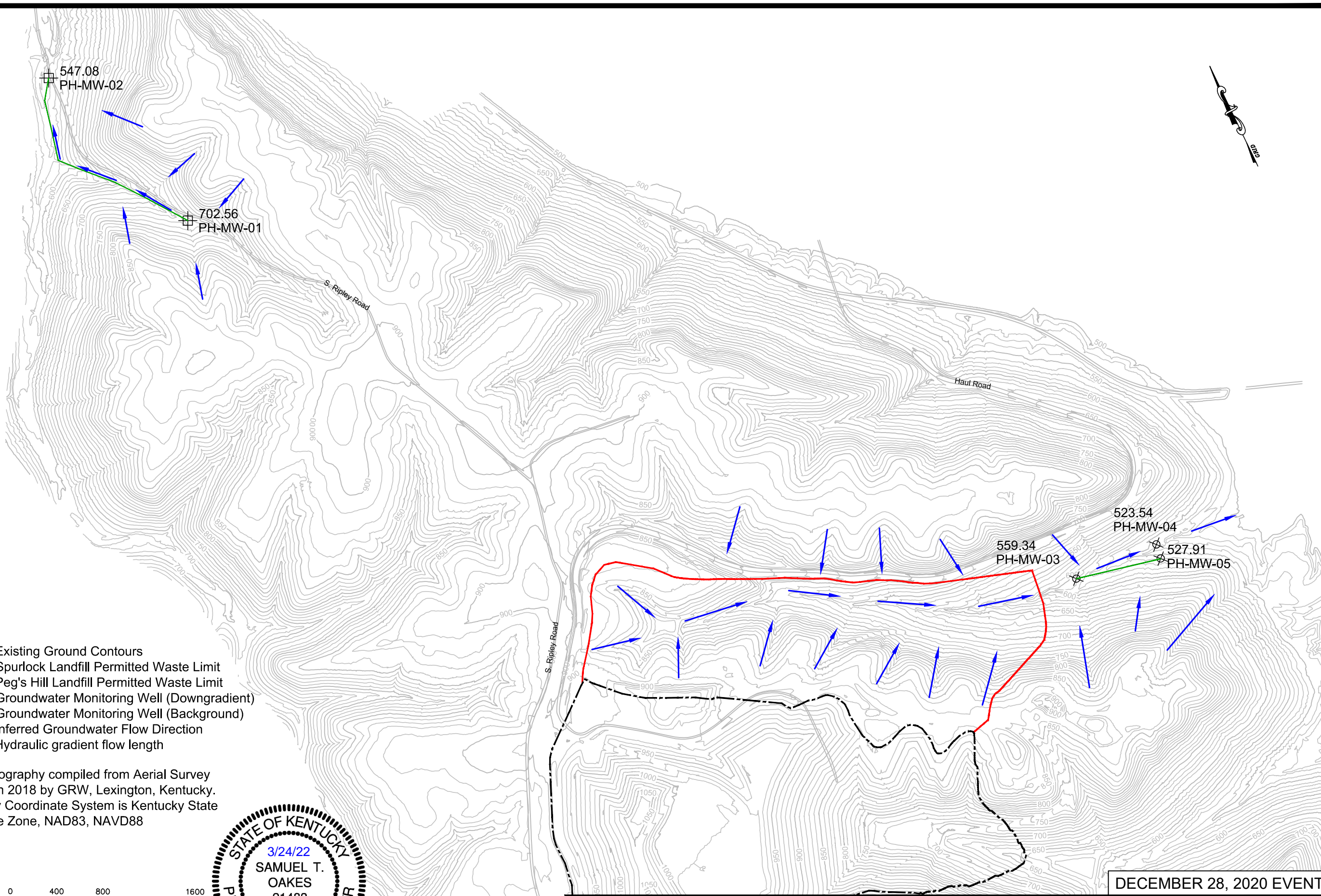
L = Distance between location 1 and 2

n_e = Effective porosity

Notes:

1. Groundwater elevation readings from the upgradient well PH-MW-03 used to determine h_1 . Groundwater elevation readings from downgradient well PH-MW-05 used to determine h_2 .
2. Groundwater elevation readings from background well PH-MW-01 used to determine h_1 . Groundwater elevation readings from background well PH-MW-02 used to determine h_2 .
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-03 to PH-MW-05.
7. Flow Length distance (background wells) calculated from PH-MW-01 to PH-MW-02.

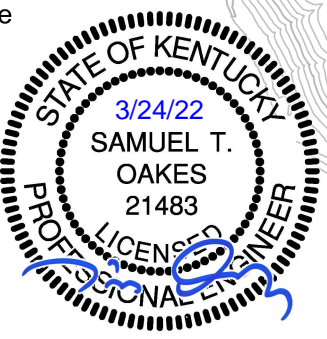
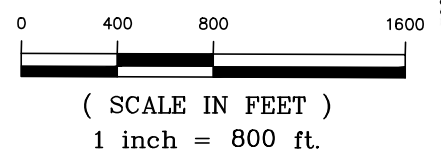




LEGEND

- 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



DECEMBER 28, 2020 EVENT



Project: 2019047
 Checked By: STO
 Date: 03-15-22
 Scale: 1"=800'

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

