



**2021 CCR ANNUAL GROUNDWATER
MONITORING AND CORRECTIVE ACTION
REPORT ADDENDUM NO. 1
MULTI-UNIT ASH POND SYSTEM
PETERSBURG GENERATING STATION**

PREPARED FOR:

**Mr. David Heger
Senior Counsel
AES US Services. LLC
One Monument Circle, Suite 701A
Indianapolis, IN 46204-2901**

PREPARED BY:

**Atlas Technical Consultants LLC
7988 Centerpoint Drive, Suite 100
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October 2, 2023



October 2, 2023

Atlas Project No. 170LF01504

Mr. David M. Heger
Senior Counsel
AES US Services, LLC
One Monument Circle, Suite 701A
Indianapolis, Indiana 46204-2901

**Re: 2021 CCR Annual Groundwater Monitoring and
Corrective Action Report Addendum No. 1
Indianapolis Power & Light Company d/b/a AES Indiana (AESI)
Petersburg Generating Station – Multi-Unit Ash Pond System
Petersburg, Indiana
ATC Project No. 170LF01504**

Dear Mr. Heger:

The Multi-Unit Ash Pond System at the Petersburg Generating Station (PGS) is subject to the groundwater monitoring and corrective action requirements described under 40 CFR § 257.90 through § 257.98 (Rule). An Annual Groundwater Monitoring and Corrective Action Report documenting the activities completed in 2021 for the Multi-Unit Ash Pond System was completed and placed in the facilities operating record on January 31, 2022, as required by the Rule. The Annual Groundwater Monitoring and Corrective Action Report (annual groundwater report) contained the specific information listed in § 257.90(e).

This report addendum has been prepared to supplement the operating record in recognition of comments issued by the United States Environmental Protection Agency (U.S. EPA) on January 11, 2022 to various utilities regarding their respective Part A extension applications. Those comments and U.S. EPA clarifications were understood to be U.S. EPA's expectations regarding the contents of a facility's annual groundwater reporting. In addition to the information listed in § 257.90(e), the US EPA indicated in their comments that annual reports should contain:

- Water level gauging for each sampling event along with a determination of groundwater flow direction(s) and rate(s);
- Laboratory analytical reports to verify that groundwater sampling and analysis requirements outlined in § 257.93 are being met; and
- Statistical analyses, including detailed discussion of the statistical analyses (e.g., statistical method applied, confidence levels, normality test results).

While this information is not specifically referred to in the in 257.90(e) of the Rule for inclusion in the annual reports, it has been routinely collected and maintained in AESI files, and is being provided in the attachments to this addendum as follows:

Attachment A – Groundwater Flow Direction and Rate

- Includes a table summarizing groundwater elevation measurements, as well as potentiometric surface maps for each sampling event with arrows to indicate the interpreted direction of groundwater flow and the groundwater flow rates.

Attachment B – Laboratory Analytical Reports

- Includes laboratory data packages with supporting information, such as, case narrative, sample and method summary, analytical results, quality control, and chain-of-custody documentation.

Attachment C – Statistical Analyses

- Includes tables summarizing the statistical outputs (e.g., frequency of detection, maximum detection, variance, standard deviation, coefficient of variance, outlier tests, trends, upper and lower confidence limits, and comparison against Groundwater Protection Standards), and supporting backup.

A discussion of the statistical analyses is provided below.

1. STATISTICAL ANALYSES

The statistical evaluation procedures created for the PGS Ash Pond System define the statistical tests to be used for this site's CCR groundwater detection monitoring system. The aforementioned evaluation methods specify statistical tests for the detection monitoring program (Appendix III parameters) and assessment monitoring program (Appendix IV parameters) described in 40 CFR 257. These evaluation methods were created to comply with the requirements of § 257.93(f).

This plan is based on the use of the commercial software DUMPStat¹ (Version 3.0). The DUMPStat program uses statistical tests, procedures, and testing sequences described in Statistical Methods for Groundwater Monitoring² (Gibbons et. al., 2009). The statistical methods for the PGS ash pond CCR monitoring system are designed to be consistent with ASTM International Standard Guide for Developing Appropriate Statistical Approaches for Groundwater Detection Monitoring Programs at *Waste Disposal Facilities* (D6312-17) along with federal and state guidance, and are also consistent with Indiana's regulations addressing statistical evaluation of groundwater at solid waste landfills.

The CCR ash pond groundwater monitoring system at the PGS consists of seventeen (17) monitoring wells: three (3) upgradient monitoring wells MW-2R, MW-3, and MW-4C and fourteen (14) downgradient monitoring wells; AP-1R, AP-2A, AP-2BO, AP-3, AP-3A, AP-4A, AP-4B, AP-4I, AP-5, AP-5A, AP-6A, AP-6B, AP-7, and AP-8. Original monitoring wells MW-1, MW-2, and MW-3 were installed in 1986. Monitoring well MW-2 was replaced by monitoring well MW-2R in 2017. Monitoring well MW-4C was installed in 1992. With the exception of AP-1R and AP-2BO,

¹ DUMPStat Version 3.0 was written by Robert D. Gibbons and is distributed and supported by Discerning Systems Inc.

² Gibbons, R.D., Bhaumik D. K., Aryal S., 2009, Statistical Methods for Groundwater Monitoring, Second Edition, John Wiley & Sons, Inc. New York, 374 pages.

the AP- series wells were installed between 2014 and 2015. Wells AP-1R and AP-2BO were installed in 2016 as replacements to original wells AP-1 and AP-2B, respectively. The wells were installed in accordance with the requirements of Federal CCR Rule § 257.91.

Statistical levels defined in this evaluation plan depend, in part, on the values defined for certain settings in DUMPStat. The Plan is based on making interwell comparisons for all wells and all parameters. The background database contains results from September 2016 through the respective November 2020 and May 2021 semi-annual events for the upgradient monitoring wells, and from September 2016 through the respective November 2020 and May 2021 semi-annual events for the downgradient wells. The minimum background sample size was set to eight (8). Under this plan, if a detection monitoring result in a compliance well exceeds a statistical limit, a statistically significant increase, or SSI, will be declared.

Semi-annual assessment monitoring sampling events were conducted in 2021 as required by § 257.95(b) and § 257.95(d)(1). Pursuant to 40 CFR 257.95(b), all Appendix IV constituents were sampled in 2021. Pursuant to 40 CFR 257.95(d)(1), semi-annual sampling of all Appendix III parameters and Appendix IV constituents detected in response to 40 CFR 257.95(b) was conducted in 2021. All sampling events were performed consistent with 40 CFR 257.93(e). Subsequent Statistically Significant Level (SSL) evaluation of the November 2020 and May 2021 data were performed within 90 days of completing the sampling and analysis pursuant to § 257.93(h)(2).

1.1 Background Data

Pursuant to 257.94(b), the monitoring well network has been sampled to establish a minimum eight background data sets prior to completion of initial statistical analyses. Groundwater samples were analysed for the Appendix III parameters: boron (total), calcium (total), chloride, fluoride, pH, sulfate, and total dissolved solids (TDS); and for the Appendix IV parameters: antimony (total), arsenic (total), barium (total), beryllium (total), cadmium (total), chromium (total), cobalt (total), fluoride, lead (total), lithium (total), mercury (total), molybdenum (total), selenium (total), thallium (total), and total radium.

Available historical data were used to calculate the background database for the system.

Included in this attachment are summaries of the historical data for the statistically evaluated parameters for the PGS ash ponds. Historical data from groundwater sampling events were imported into the DUMPStat database. **Attachment C, Table 1** contains groundwater quality data collected from the background monitoring wells MW-2R, MW-3, and MW-4C. Prediction limits based on groundwater quality reported from the background monitoring wells were calculated for each parameter and are presented in **Attachment C, Table 5**.

1.2 Defined Statistical Tests - Interwell Statistical Comparisons

Appendix IV assessment monitoring parameters are statistically evaluated using the appropriate upgradient versus downgradient statistical test also known as an interwell statistical comparison. To assign the appropriate upgradient versus downgradient statistical test, DUMPStat first checks the parameter concentration to determine the detection frequencies (**Attachment C, Table 3**). It

then applies the Shapiro-Wilk Test of Normality for Multiple Groups to determine if the data for each parameter are normally or lognormally distributed, or if a nonparametric prediction limit must be used (**Attachment C, Table 4**). The statistics are then calculated and the prediction limits established (**Attachment C, Table 5**). DUMPStat screens the background data using Dixon's test to remove the outliers. The results of the Dixon's test are listed in **Attachment C, Table 6**. The parameters that exceed statistical limits in the downgradient monitoring wells, along with the associated historical data for those parameters, are listed in **Attachment C, Table 7**. A statistical power curve is also included.

Among the background measurements, if the constituent fits normal/lognormal distribution, the parametric prediction limit is calculated; if the constituent does not fit normal/lognormal distribution, the non-parametric prediction limit is calculated.

As will be explained in a subsequent section, calculated prediction limits are used in the development of GWPSs for each Appendix IV constituent.

1.3 False Positive Rates and Statistical Power

Included in **Attachment C** is the power curve calculated by DUMPStat at the site for this interwell monitoring plan. As indicated in the US EPA Unified Guidance³ document, as a general guide, when background is approximately normal in distribution, a statistical test should be able to detect a 3-standard deviation increase at least 55-60% of the time, and a 4-standard deviation increase with at least 80-85% probability. The calculated statistical power curve indicates general compliance with this guidance; the facility's statistical program has the annual power to detect 3- and 4-standard deviation increases above the true background mean. It is expected that the power curves will also improve as additional background data are added over time.

1.4 Interwell Statistics Comparisons

Future groundwater quality results at monitoring wells AP-1R, AP-2A, AP-2BO, AP-3, AP-3A, AP-4A, AP-4B, AP-4I, AP-5, AP-5A, AP-6A, AP-6B, AP-7, and AP-8 will be statistically compared to results from monitoring wells MW-2R, MW-3, and MW-4C.

1.5 Background Sample Size

The number of background samples for Appendix IV parameters is listed in the "N" column of **Attachment C, Table 5**. The minimum background sample size is eight.

1.6 Appendix IV Assessment Monitoring – Statistical Procedures to Determine GWPS Exceedances

In accordance with 257.95(a), as SSIs have previously been identified for one or more Appendix III constituents at one or more downgradient wells, an Appendix IV assessment monitoring program has been established. Prediction limits are calculated for each Appendix IV parameter. A groundwater protection standard (GWPS) for each Appendix IV parameter will also be

³ Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance, March 2009, EPA 530-R-09-007.

established. The GWPS will be the larger of the background prediction limit, the regulatory standard (maximum contaminant level, MCL), or the USEPA Screening Level⁴ for those Appendix IV constituents (cobalt, lithium, molybdenum) that do not have a defined MCL.

Appendix IV parameters are evaluated by calculating the lower confidence limit (LCL) on the mean of the last four reported concentrations for each Appendix IV parameter in each downgradient (compliance) well to the GWPS. This approach is discussed in technical literature (Gibbons and Coleman, 2001, Equation 19.5, p. 231)⁵ and the US EPA Unified Guidance (2009). The 95% LCL of the mean of the last four measurements for each Appendix IV constituent will be calculated as follows:

$$LCL = \bar{x} - t_s / \sqrt{m}$$

LCL = lower confidence limit for mean;

t = one-tailed 100(1- α) percentage point of Students *t*-distribution on m-1 degrees of freedom;

m = number of sample measurements;

s/ \sqrt{m} = standard error of the mean; and

\bar{x} = sample mean of m measurements.

At each downgradient well, the lower confidence limit will be calculated to the 95% confidence level for each Appendix IV parameter. The 95% LCL will be compared to the associated GWPS (the greater of the background prediction limit, MCL, or USEPA Screening Level as described above). A GWPS exceedance will be identified if the 95% LCL exceeds the GWPS; this corresponds to identification of an SSL. The 95% LCL will be re-calculated following each sampling event using a rolling average of the four most recent sample results.

Appendix III detection monitoring will continue during the completion of the Appendix IV assessment monitoring program.

Respectfully submitted,
Atlas Technical Consultants LLC

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Senior Project Geologist

Robert T. Duncan

Robert T. Duncan, L.P.G.
Principal Geologist

⁴ USEPA Amendments to the National Minimum Criteria (Phase One, Part One), Disposal of Coal Combustion Residuals from Electric Utilities; effective August 29, 2018 (page 36444).

⁵ Gibbons, R.D., and Coleman, D.E., 2001. Statistical Methods for Detection and Quantification of Environmental Contamination, John Wiley & Sons, 384 pp.

Copies: Ms. Pilar Cuadra, AES US Services, LLC
Mr. Nicholas Williams, AES US Services, LLC

Attachment A: Groundwater Flow Direction and Rate

November 2020

Table 1
Gauging Summary
November 2, 2020
Petersburg Generating Station - Multiunit Ash Pond System
ATC Project No. 170LF00871

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-2R	11/2/2020	10:03	18.20	455.00	436.80
MW-3	11/2/2020	10:06	9.87	450.71	440.84
MW-4C	11/2/2020	10:10	5.20	454.44	449.24
AP-1R	11/2/2020	10:30	36.27	443.08	406.81
AP-2A	11/2/2020	10:35	31.96	437.87	405.91
AP-2BO	11/2/2020	10:38	30.76	436.86	406.10
AP-3	11/2/2020	14:57	15.12	421.59	406.47
AP-3A	11/2/2020	14:56	15.90	421.56	405.66
AP-4A	11/2/2020	15:03	15.99	421.69	405.70
AP-4I	11/2/2020	15:04	16.06	421.82	405.76
AP-4B	11/2/2020	15:05	16.04	421.72	405.68
AP-5	11/2/2020	15:13	14.88	422.01	407.13
AP-5A	11/2/2020	15:12	15.11	422.52	407.41
AP-6A	11/2/2020	15:19	16.75	424.33	407.58
AP-6B	11/2/2020	15:18	16.79	424.40	407.61
AP-7	11/2/2020	9:05	11.52	434.62	423.10
AP-8	11/2/2020	9:00	6.75	444.20	437.45
Nature and Extent Wells					
AP-9A	11/2/2020	10:45	30.51	436.83	406.32
AP-10A	11/2/2020	14:27	16.16	422.41	406.25
MW-19A	11/2/2020	14:32	13.70	421.41	407.71
MW-19I	11/2/2020	14:36	13.60	421.28	407.68
MW-19B	11/2/2020	14:35	13.90	421.51	407.61
MW-20A	11/2/2020	14:45	15.61	424.23	408.62
MW-20I	11/2/2020	14:44	15.41	424.00	408.59
MW-20B	11/2/2020	14:43	15.53	423.97	408.44
PZ-1A	11/2/2020	14:21	17.12	423.60	406.48
PZ-1I	11/2/2020	14:22	17.21	423.70	406.49
PZ-1B	11/2/2020	14:23	16.05	422.50	406.45
PZ-2A	11/2/2020	14:50	13.28	422.60	409.32
PZ-2I	11/2/2020	14:49	14.22	423.00	408.78
PZ-2B	11/2/2020	14:48	14.81	423.50	408.69
Piezometers					
AP-11A	11/2/2020	15:52	14.62	424.64	410.02
P-4 2019	11/2/2020	13:45	39.20	450.77	411.57
PW-APA-1B	11/2/2020	13:55	51.17	TBD	#VALUE!
PW-APA-1S	11/2/2020	13:53	35.06	TBD	#VALUE!
PW-APA-2B	11/2/2020	14:12	45.62	TBD	#VALUE!
PW-APA-2S	11/2/2020	14:10	36.96	TBD	#VALUE!
PW-APA-3B	11/2/2020	14:06	42.02	TBD	#VALUE!

Table 1
 Gauging Summary
 November 2, 2020
 Petersburg Generating Station - Multiunit Ash Pond System
 ATC Project No. 170LF00871

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
PW-APA-3S	11/2/2020	14:04	31.00	TBD	#VALUE!
PW-APA-4B	11/2/2020	13:27	23.18	TBD	#VALUE!
PW-APA-4S	11/2/2020	13:26	12.84	TBD	#VALUE!
IAPZ-1	11/2/2020	13:46	53.28	450.61	397.33

TOC = Top of casing

NR = Not recorded

TBD = TOC survey elevation to be determined

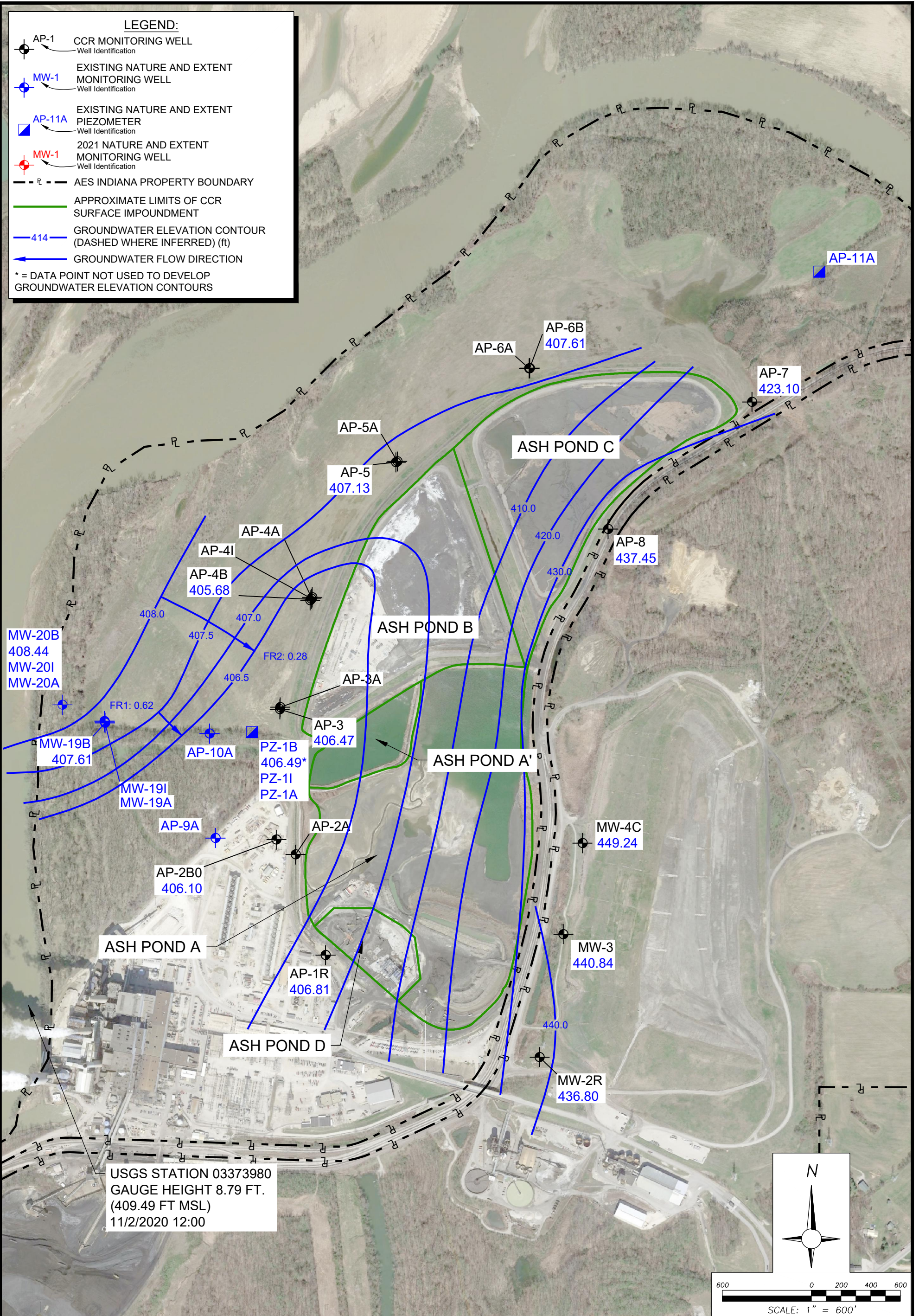
Green shading = IDs for P-4-2019 and IAPZ-1 could not be determined during gauging.

Flow Rate Calculations - November 2020
 AES Indiana Petersburg Generating Station - Multiunit Ash Pond System
 Petersburg, Indiana
 ATC Project No. 170LF01113

PS ASH POND SYSTEM SHALLOW ZONE FIGURE 1		ASH POND SYSTEM	
11/2/2020	Flow Rate Line	FR1	FR2
$v = Q/n_e A^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	1	1.5
ΔL (ft)	Flow Line Length	220	730
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2020-2021	48.5	48.5
I ($\Delta H/\Delta L$)		0.0045	0.00205
n_e (porosity, dimensionless)	As cited in AES Eagle Valley and Harding St 2016 C/PC Plans for sites with similar outwash deposits	0.35	0.35
v (ft/day)		0.62	0.28
DEEP ZONE FIGURE 2	Flow Rate Line	FR1	FR2
$v = Q/n_e A^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	2	0.5
ΔL (ft)	Flow Line Length	590	1070
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2020-2021	48.5	48.5
I ($\Delta H/\Delta L$)		0.0034	0.00047
n_e (porosity, dimensionless)	As cited in AES Eagle Valley and Harding St 2016 C/PC Plans for sites with similar outwash deposits	0.35	0.35
v (ft/day)		0.47	0.07

Notes

1 - Average linear velocity equation from Fetter, C.W., 1980, Applied Hydrogeology: Merrill Publishing



GROUNDWATER ELEVATION POTENTIOMETRIC SURFACE MAP
NOVEMBER 2, 2020 - SHALLOW ZONE
 AES INDIANA PETERSBURG GENERATING STATION
 ASH POND SYSTEM
 PETERSBURG, INDIANA

Project Number: 170LF01278	Drn. By: BH
Drawing File: SEE TOP LEFT	Ckd. By: MB
ATC	
	App'd By:
	Ckd. Date:

Date: 12/13/2022
 Scale: AS SHOWN
 Figure: 1

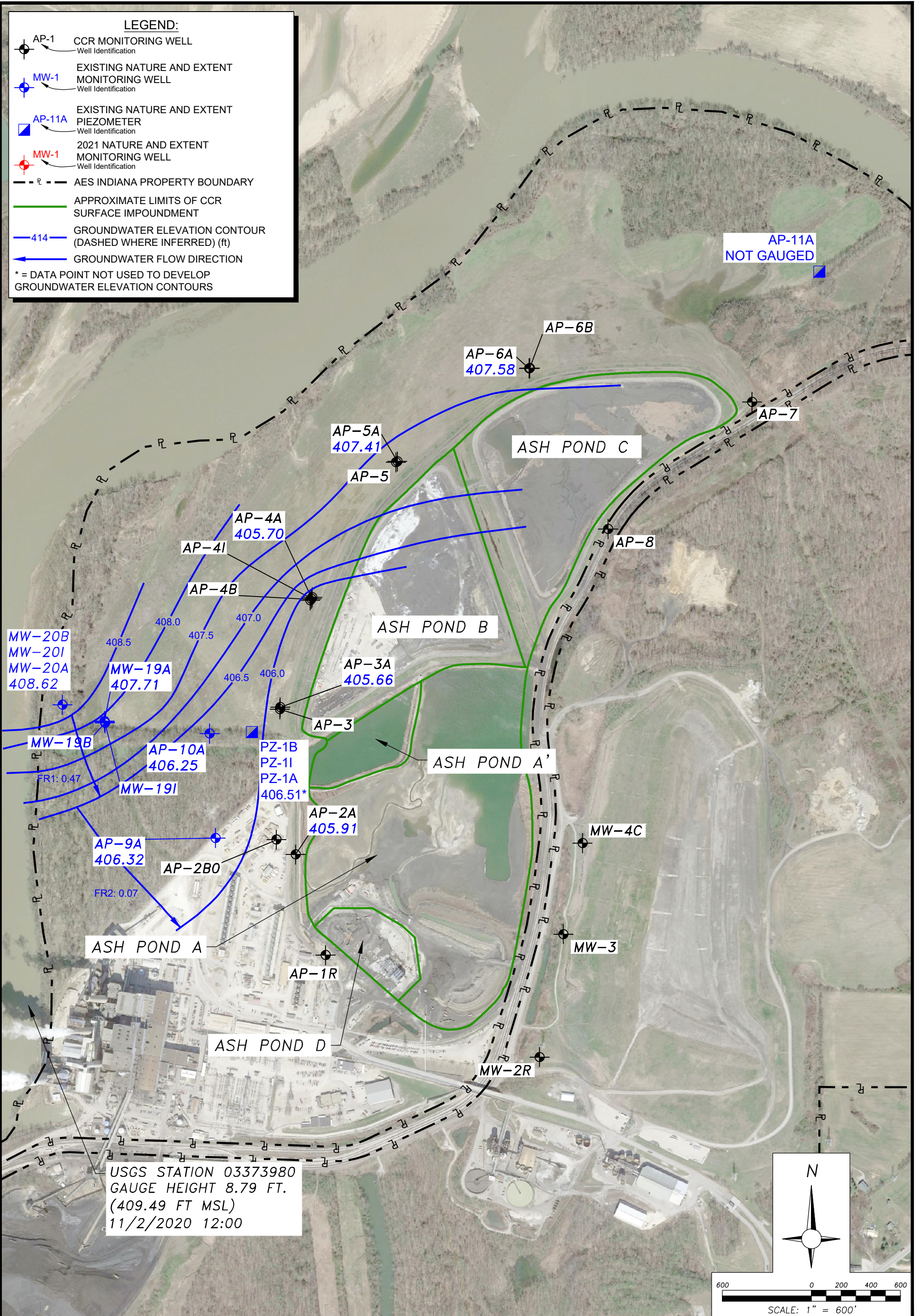


Figure: 2	Date: 12/13/2022	GROUNDWATER ELEVATION POTENTIOMETRIC SURFACE MAP NOVEMBER 2, 2020 - DEEP ZONE AES INDIANA PETERSBURG GENERATING STATION ASH POND SYSTEM PETERSBURG, INDIANA	Project Number: 170LF01278	Drn. By: BH
	Scale: AS SHOWN		Drawing File: SEE TOP LEFT	Ckd. By: MB
			App'd By:	
				Ckd. Date:

May 2021

Table 2
Gauging Summary
May 2, 2021
Petersburg Generating Station - Multiunit Ash Pond System
ATC Project No. 170LF01113

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-2R	5/2/2021	10:43	14.17	455.00	440.83
MW-3	5/2/2021	10:38	9.74	450.71	440.97
MW-4C	5/2/2021	10:34	5.55	454.44	448.89
AP-1R	5/2/2021	12:53	29.11	443.08	413.97
AP-2A	5/2/2021	13:00	24.98	437.87	412.89
AP-2BO	5/2/2021	13:03	23.71	436.86	413.15
AP-3	5/2/2021	13:19	8.75	421.59	412.84
AP-3A	5/2/2021	13:21	9.57	421.56	411.99
AP-4A	5/2/2021	13:24	10.11	421.69	411.58
AP-4I	5/2/2021	13:25	10.20	421.82	411.62
AP-4B	5/2/2021	13:26	10.15	421.72	411.57
AP-5	5/2/2021	12:40	8.98	422.01	413.03
AP-5A	5/2/2021	12:39	9.92	422.52	412.60
AP-6A	5/2/2021	12:34	10.91	424.33	413.42
AP-6B	5/2/2021	12:35	10.94	424.40	413.46
AP-7	5/2/2021	12:20	11.02	434.62	423.60
AP-8	5/2/2021	12:16	5.62	444.20	438.58
Nature and Extent Wells					
AP-9A	5/2/2021	13:07	23.47	436.83	413.36
AP-10A	5/2/2021	13:34	9.75	422.41	412.66
MW-19A	5/2/2021	13:41	7.62	421.41	413.79
MW-19I	5/2/2021	13:40	7.53	421.28	413.75
MW-19B	5/2/2021	13:39	7.95	421.51	413.56
MW-20A	5/2/2021	11:31	9.33	424.23	414.90
MW-20I	5/2/2021	13:49	9.08	424.00	414.92
MW-20B	5/2/2021	13:50	9.09	423.97	414.88
MW-21A	5/2/2021	13:12	22.53	437.09	414.56
MW-21I	5/2/2021	13:11	22.73	437.33	414.60
MW-21B	5/2/2021	13:10	22.70	437.24	414.54
PZ-1A	5/2/2021	13:29	10.50	423.63	413.13
PZ-1I	5/2/2021	13:30	10.61	423.69	413.08
PZ-1B	5/2/2021	13:31	9.47	422.54	413.07
PZ-2A	5/2/2021	13:44	7.39	422.55	415.16
PZ-2I	5/2/2021	13:45	7.85	423.02	415.17
PZ-2B	5/2/2021	13:46	8.30	423.50	415.20
Piezometers					
AP-11A	5/2/2021	12:29	9.50	424.64	415.14

TOC = Top of casing

NR = Not recorded

TBD = TOC survey elevation to be determined

Green shading = IDs for P-4-2019 and IAPZ-1 could not be determined during gauging.

Flow Rate Calculations - May 2021

AES Indiana Petersburg Generating Station - Multiunit Ash Pond System

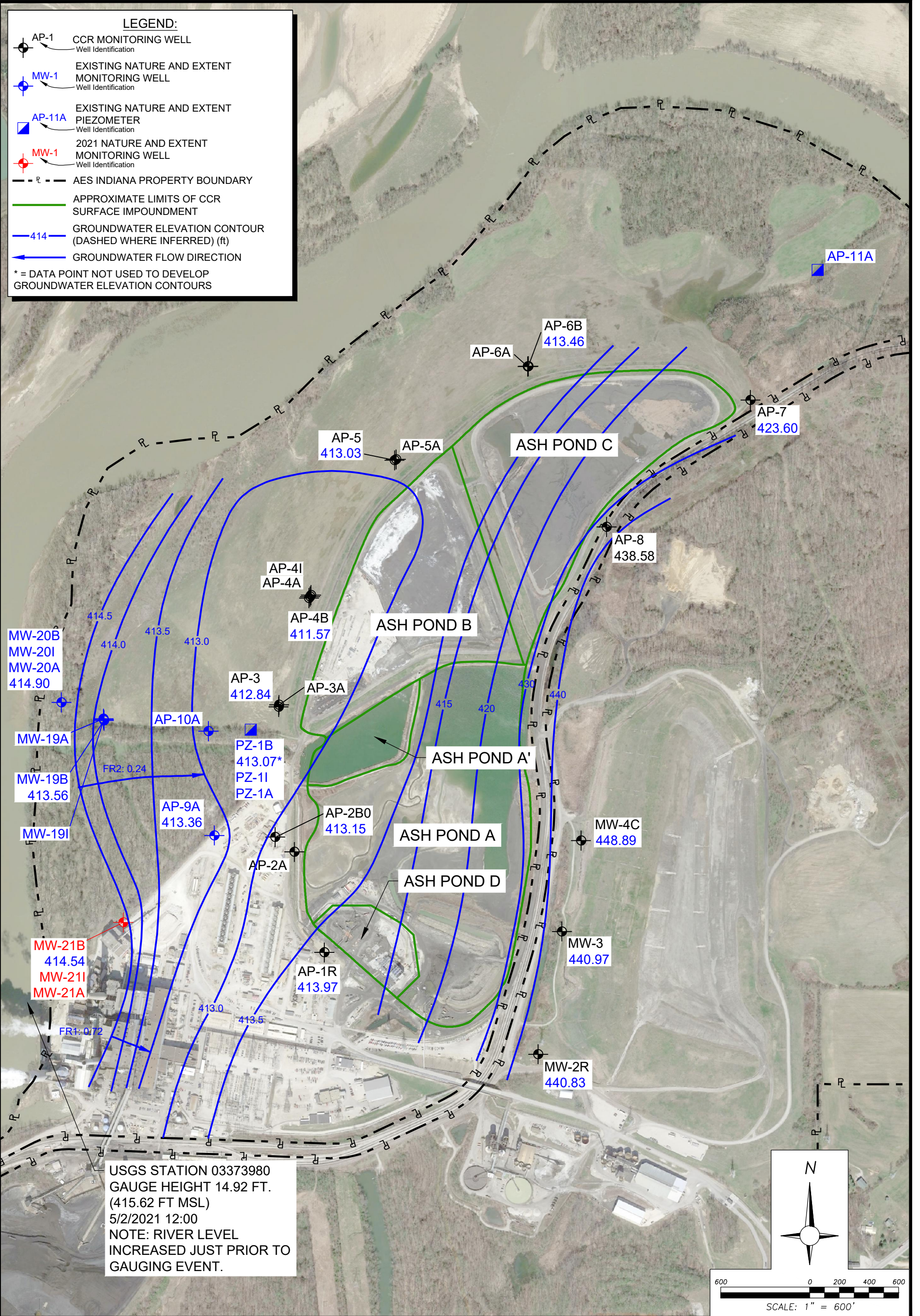
Petersburg, Indiana

ATC Project No. 170LF01113

PS ASH POND SYSTEM SHALLOW ZONE FIGURE 3		ASH POND SYSTEM	
5/2/2021	Flow Rate Line	FR1	FR2
$v = Q/n_e A^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	1.5	1.5
ΔL (ft)	Flow Line Length	290	860
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2020-2021	48.5	48.5
I ($\Delta H/\Delta L$)		0.0052	0.0017
n_e (porosity, dimensionless)	As cited in AES Eagle Valley and Harding St 2016 C/PC Plans for sites with similar outwash deposits	0.35	0.35
v (ft/day)		0.72	0.24
DEEP ZONE FIGURE 4	Flow Rate Line	FR1	FR2
$v = Q/n_e A^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	1.5	2
ΔL (ft)	Flow Line Length	310	1210
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2020-2021	48.5	48.5
I ($\Delta H/\Delta L$)		0.0048	0.0017
n_e (porosity, dimensionless)	As cited in AES Eagle Valley and Harding St 2016 C/PC Plans for sites with similar outwash deposits	0.35	0.35
v (ft/day)		0.67	0.24

Notes

1 - Average linear velocity equation from Fetter, C.W., 1980, Applied Hydrogeology: Merrill Publishing



LEGEND:

- AP-1 CCR MONITORING WELL
Well Identification
- MW-1 EXISTING NATURE AND EXTENT MONITORING WELL
Well Identification
- AP-11A EXISTING NATURE AND EXTENT PIEZOMETER
Well Identification
- MW-1 2021 NATURE AND EXTENT MONITORING WELL
Well Identification
- - - AES INDIANA PROPERTY BOUNDARY
- APPROXIMATE LIMITS OF CCR SURFACE IMPOUNDMENT
- 414 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED) (ft)
- GROUNDWATER FLOW DIRECTION

* = DATA POINT NOT USED TO DEVELOP GROUNDWATER ELEVATION CONTOURS

USGS STATION 03373980
GAUGE HEIGHT 14.92 FT.
(415.62 FT MSL)
5/2/2021 12:00
NOTE: RIVER LEVEL INCREASED JUST PRIOR TO GAUGING EVENT.

N

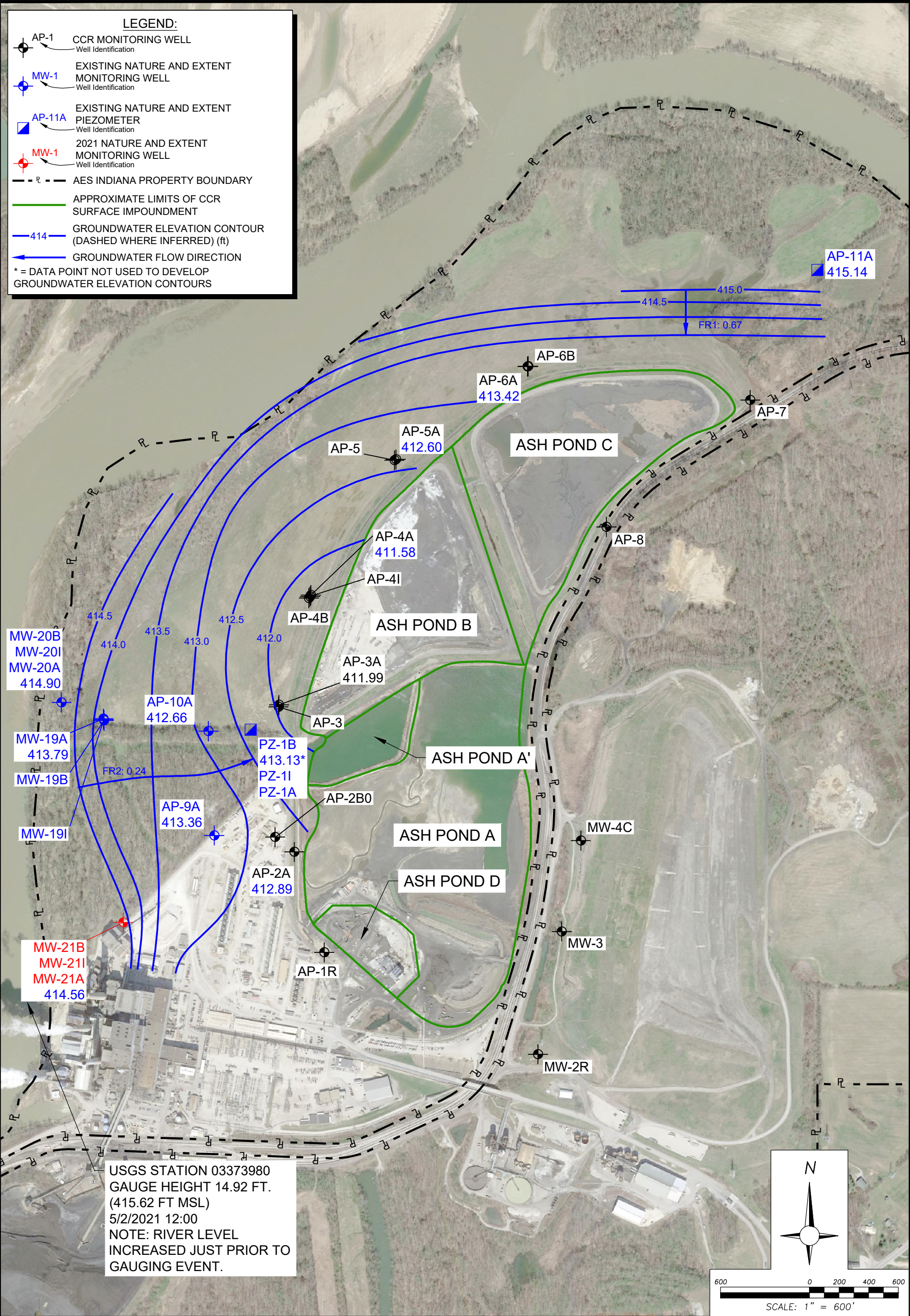
600 0 200 400 600

SCALE: 1" = 600'

3	Date:	12/13/2022	GROUNDWATER ELEVATION POTENTIOMETRIC SURFACE MAP MAY 2, 2021 - SHALLOW ZONE AES INDIANA PETERSBURG GENERATING STATION ASH POND SYSTEM PETERSBURG, INDIANA	Project Number:	170LF01278	Drn. By:	BH
	Scale:	AS SHOWN		Drawing File:	SEE TOP LEFT	Ckd. By:	MB
	Figure:					App'd By:	
					Ckd. Date:		

LEGEND:

- AP-1 CCR MONITORING WELL
Well Identification
- MW-1 EXISTING NATURE AND EXTENT MONITORING WELL
Well Identification
- AP-11A EXISTING NATURE AND EXTENT PIEZOMETER
Well Identification
- MW-1 2021 NATURE AND EXTENT MONITORING WELL
Well Identification
- - - AES INDIANA PROPERTY BOUNDARY
- APPROXIMATE LIMITS OF CCR SURFACE IMPOUNDMENT
- 414 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED) (ft)
- GROUNDWATER FLOW DIRECTION
- * = DATA POINT NOT USED TO DEVELOP GROUNDWATER ELEVATION CONTOURS



USGS STATION 03373980
 GAUGE HEIGHT 14.92 FT.
 (415.62 FT MSL)
 5/2/2021 12:00
 NOTE: RIVER LEVEL
 INCREASED JUST PRIOR TO
 GAUGING EVENT.

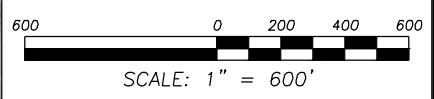


Figure: 4	Date: 12/13/2022	<p>GROUNDWATER ELEVATION POTENTIOMETRIC SURFACE MAP MAY 2, 2021 - DEEP ZONE AES INDIANA PETERSBURG GENERATING STATION ASH POND SYSTEM PETERSBURG, INDIANA</p>	Project Number: 170LF01278	Drn. By: BH	
	Scale: AS SHOWN		Drawing File: SEE TOP LEFT	Ckd. By: MB	
	AS SHOWN				App'd By:
					Ckd. Date:

Attachment B: Laboratory Certificates of Analyses

November 2020

February 05, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling Profile 2
Pace Project No.: 50272328

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 05, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

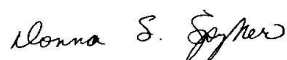
The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

This revision replaces the report dated 010421. Revised compound list. dss 020521

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Donna Spyker
donna.spyker@pacelabs.com
(317)228-3100
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

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SAMPLE SUMMARY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50272328001	MW-2R	Water	11/03/20 11:10	11/05/20 12:30
50272328002	MW-3	Water	11/03/20 12:34	11/05/20 12:30
50272328003	MW-4C	Water	11/03/20 14:08	11/05/20 12:30
50272328004	DUP 1	Water	11/03/20 08:00	11/05/20 12:30
50272328005	Field Blank 1	Water	11/03/20 12:23	11/05/20 12:30
50272328006	MW-4C MS	Water	11/03/20 14:08	11/05/20 12:30
50272328007	MW-4C MSD	Water	11/03/20 14:08	11/05/20 12:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50272328001	MW-2R	EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
50272328002	MW-3	SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
50272328003	MW-4C	SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272328004	DUP 1	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
50272328005	Field Blank 1	EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	KJE, RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
EPA 903.1	MK1	1	PASI-PA		
EPA 904.0	VAL	1	PASI-PA		

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272328006	MW-4C MS	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272328007	MW-4C MSD	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272328001	MW-2R					
EPA 9056	Chloride	75.2	mg/L	2.5	11/14/20 16:21	
EPA 9056	Fluoride	0.12	mg/L	0.10	11/14/20 16:06	
EPA 9056	Sulfate	1480	mg/L	25.0	11/14/20 16:40	
EPA 6010	Barium	45.0	ug/L	10.0	11/11/20 13:39	
EPA 6010	Boron	2170	ug/L	100	11/11/20 13:39	
EPA 6010	Calcium	528000	ug/L	5000	11/11/20 14:48	
EPA 6010	Lithium	522	ug/L	20.0	11/11/20 13:39	
EPA 6010	Molybdenum	12.8	ug/L	10.0	11/11/20 13:39	
EPA 6020	Arsenic	8.9	ug/L	1.0	11/10/20 20:16	
EPA 6020	Cobalt	3.1	ug/L	1.0	11/10/20 20:16	
EPA 903.1	Radium-226	0.511 ± 0.421 (0.609) C:NA T:87%	pCi/L		12/02/20 12:42	
EPA 904.0	Radium-228	-0.0918 ± 0.427 (1.01) C:71% T:83%	pCi/L		12/01/20 13:52	
Total Radium Calculation	Total Radium	0.511 ± 0.848 (1.62)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	2320	mg/L	40.0	11/09/20 16:22	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/06/20 15:09	H3
50272328002	MW-3					
EPA 9056	Chloride	80.3	mg/L	2.5	11/14/20 17:12	
EPA 9056	Fluoride	0.17	mg/L	0.10	11/14/20 16:56	
EPA 9056	Sulfate	1180	mg/L	25.0	11/14/20 17:28	
EPA 6010	Barium	39.4	ug/L	10.0	11/11/20 13:42	
EPA 6010	Boron	989	ug/L	100	11/11/20 13:42	
EPA 6010	Calcium	346000	ug/L	5000	11/11/20 14:50	
EPA 6010	Lithium	1760	ug/L	20.0	11/11/20 13:42	
EPA 6010	Molybdenum	549	ug/L	10.0	11/11/20 13:42	
EPA 6020	Arsenic	20.5	ug/L	1.0	11/10/20 20:21	
EPA 6020	Cobalt	2.1	ug/L	1.0	11/10/20 20:21	
EPA 903.1	Radium-226	0.461 ± 0.387 (0.554) C:NA T:89%	pCi/L		12/02/20 12:42	
EPA 904.0	Radium-228	0.316 ± 0.424 (0.907) C:70% T:87%	pCi/L		12/01/20 13:53	
Total Radium Calculation	Total Radium	0.777 ± 0.811 (1.46)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	1820	mg/L	40.0	11/09/20 16:22	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	11/06/20 15:14	H3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272328003	MW-4C					
EPA 9056	Chloride	41.3	mg/L	2.5	11/14/20 19:09	
EPA 9056	Fluoride	0.12	mg/L	0.10	11/14/20 18:18	
EPA 9056	Sulfate	1490	mg/L	25.0	11/14/20 19:59	
EPA 6010	Barium	30.7	ug/L	10.0	11/11/20 13:44	
EPA 6010	Boron	4090	ug/L	100	11/11/20 13:44	
EPA 6010	Calcium	577000	ug/L	5000	11/11/20 14:52	
EPA 6010	Lithium	287	ug/L	20.0	11/11/20 13:44	
EPA 6020	Cobalt	1.0	ug/L	1.0	11/10/20 20:38	
EPA 903.1	Radium-226	0.423 ± 0.276 (0.283) C:NA T:86%	pCi/L		12/02/20 12:42	
EPA 904.0	Radium-228	0.799 ± 0.498 (0.938) C:69% T:83%	pCi/L		12/01/20 13:53	
Total Radium Calculation	Total Radium	1.22 ± 0.774 (1.22)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	2380	mg/L	40.0	11/09/20 16:22	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/06/20 15:18	H3
50272328004	DUP 1					
EPA 9056	Chloride	76.3	mg/L	2.5	11/14/20 21:37	
EPA 9056	Fluoride	0.17	mg/L	0.10	11/14/20 21:21	
EPA 9056	Sulfate	1190	mg/L	25.0	11/14/20 21:52	
EPA 6010	Barium	41.1	ug/L	10.0	11/11/20 14:00	
EPA 6010	Boron	1040	ug/L	100	11/11/20 14:00	
EPA 6010	Calcium	371000	ug/L	5000	11/11/20 14:59	
EPA 6010	Lithium	1820	ug/L	20.0	11/11/20 14:00	
EPA 6010	Molybdenum	573	ug/L	10.0	11/11/20 14:00	
EPA 6020	Arsenic	20.9	ug/L	1.0	11/10/20 20:25	
EPA 6020	Cobalt	2.2	ug/L	1.0	11/10/20 20:25	
EPA 903.1	Radium-226	0.650 ± 0.404 (0.399) C:NA T:79%	pCi/L		12/02/20 12:42	
EPA 904.0	Radium-228	0.311 ± 0.410 (0.877) C:74% T:90%	pCi/L		12/01/20 13:52	
Total Radium Calculation	Total Radium	0.961 ± 0.814 (1.28)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	1910	mg/L	40.0	11/09/20 16:23	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	11/06/20 14:58	H3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272328005	Field Blank 1					
EPA 903.1	Radium-226	0.187 ± 0.318 (0.561) C:NA T:93%	pCi/L		12/02/20 12:42	
EPA 904.0	Radium-228	0.0609 ± 0.378 (0.866) C:71% T:91%	pCi/L		12/01/20 13:53	
Total Radium Calculation	Total Radium	0.248 ± 0.696 (1.43)	pCi/L		12/02/20 15:44	
SM 4500-H+B	pH at 25 Degrees C	5.8	Std. Units	0.10	11/06/20 15:12	H3
50272328006	MW-4C MS					
EPA 903.1	Radium-226	101.32 %REC ± NA (NA) C:NA T:NA	pCi/L		12/02/20 12:42	
EPA 904.0	Radium-228	98.34 %REC ± NA (NA) C:NA T:NA	pCi/L		12/01/20 13:53	
50272328007	MW-4C MSD					
EPA 903.1	Radium-226	95.19 %REC 6.25 RPD ± NA (NA) C:NA T:NA	pCi/L		12/02/20 12:42	
EPA 904.0	Radium-228	92.72 %REC 5.88 RPD ± NA (NA) C:NA T:NA	pCi/L		12/01/20 13:53	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Sample: MW-2R	Lab ID: 50272328001	Collected: 11/03/20 11:10	Received: 11/05/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	75.2	mg/L	2.5	10		11/14/20 16:21	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		11/14/20 16:06	16984-48-8	
Sulfate	1480	mg/L	25.0	100		11/14/20 16:40	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	45.0	ug/L	10.0	1	11/09/20 13:26	11/11/20 13:39	7440-39-3	
Boron	2170	ug/L	100	1	11/09/20 13:26	11/11/20 13:39	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/11/20 13:39	7440-43-9	
Calcium	528000	ug/L	5000	5	11/09/20 13:26	11/11/20 14:48	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 13:39	7439-92-1	
Lithium	522	ug/L	20.0	1	11/09/20 13:26	11/11/20 13:39	7439-93-2	
Molybdenum	12.8	ug/L	10.0	1	11/09/20 13:26	11/11/20 13:39	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:16	7440-36-0	
Arsenic	8.9	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:16	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/07/20 10:11	11/10/20 20:16	7440-41-7	
Cobalt	3.1	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:16	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:16	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:16	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2320	mg/L	40.0	1		11/09/20 16:22		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/06/20 15:09		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Sample: MW-3	Lab ID: 50272328002	Collected: 11/03/20 12:34	Received: 11/05/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	80.3	mg/L	2.5	10		11/14/20 17:12	16887-00-6	
Fluoride	0.17	mg/L	0.10	1		11/14/20 16:56	16984-48-8	
Sulfate	1180	mg/L	25.0	100		11/14/20 17:28	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	39.4	ug/L	10.0	1	11/09/20 13:26	11/11/20 13:42	7440-39-3	
Boron	989	ug/L	100	1	11/09/20 13:26	11/11/20 13:42	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/11/20 13:42	7440-43-9	
Calcium	346000	ug/L	5000	5	11/09/20 13:26	11/11/20 14:50	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 13:42	7439-92-1	
Lithium	1760	ug/L	20.0	1	11/09/20 13:26	11/11/20 13:42	7439-93-2	
Molybdenum	549	ug/L	10.0	1	11/09/20 13:26	11/11/20 13:42	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:21	7440-36-0	
Arsenic	20.5	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:21	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/07/20 10:11	11/10/20 20:21	7440-41-7	
Cobalt	2.1	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:21	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:21	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:21	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1820	mg/L	40.0	1		11/09/20 16:22		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.6	Std. Units	0.10	1		11/06/20 15:14		H3

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Sample: MW-4C **Lab ID: 50272328003** Collected: 11/03/20 14:08 Received: 11/05/20 12:30 Matrix: Water

Comments: • Sample collection time on containers does not match COC; client was notified.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions		Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis						
Chloride	41.3	mg/L	2.5	10		11/14/20 19:09	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		11/14/20 18:18	16984-48-8	
Sulfate	1490	mg/L	25.0	100		11/14/20 19:59	14808-79-8	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Barium	30.7	ug/L	10.0	1	11/09/20 13:26	11/11/20 13:44	7440-39-3	
Boron	4090	ug/L	100	1	11/09/20 13:26	11/11/20 13:44	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/11/20 13:44	7440-43-9	
Calcium	577000	ug/L	5000	5	11/09/20 13:26	11/11/20 14:52	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 13:44	7439-92-1	
Lithium	287	ug/L	20.0	1	11/09/20 13:26	11/11/20 13:44	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 13:44	7439-98-7	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Antimony	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:38	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:38	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/07/20 10:11	11/10/20 20:38	7440-41-7	
Cobalt	1.0	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:38	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:38	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:38	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	2380	mg/L	40.0	1		11/09/20 16:22		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/06/20 15:18		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Sample: DUP 1	Lab ID: 50272328004	Collected: 11/03/20 08:00	Received: 11/05/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	76.3	mg/L	2.5	10		11/14/20 21:37	16887-00-6	
Fluoride	0.17	mg/L	0.10	1		11/14/20 21:21	16984-48-8	
Sulfate	1190	mg/L	25.0	100		11/14/20 21:52	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	41.1	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:00	7440-39-3	
Boron	1040	ug/L	100	1	11/09/20 13:26	11/11/20 14:00	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/11/20 14:00	7440-43-9	
Calcium	371000	ug/L	5000	5	11/09/20 13:26	11/11/20 14:59	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:00	7439-92-1	
Lithium	1820	ug/L	20.0	1	11/09/20 13:26	11/11/20 14:00	7439-93-2	
Molybdenum	573	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:00	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:25	7440-36-0	
Arsenic	20.9	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:25	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/07/20 10:11	11/10/20 20:25	7440-41-7	
Cobalt	2.2	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:25	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:25	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:25	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1910	mg/L	40.0	1		11/09/20 16:23		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.6	Std. Units	0.10	1		11/06/20 14:58		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Sample: Field Blank 1	Lab ID: 50272328005	Collected: 11/03/20 12:23	Received: 11/05/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	1		11/14/20 22:11	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/14/20 22:11	16984-48-8	
Sulfate	ND	mg/L	0.25	1		11/14/20 22:11	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:02	7440-39-3	
Boron	ND	ug/L	100	1	11/09/20 13:26	11/11/20 14:02	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/12/20 10:15	7440-43-9	
Calcium	ND	ug/L	1000	1	11/09/20 13:26	11/11/20 14:02	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:02	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/09/20 13:26	11/11/20 14:02	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:02	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:12	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:12	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/07/20 10:11	11/10/20 20:12	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:12	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/20 10:11	11/10/20 20:12	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	1		11/09/20 16:23		PL
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	5.8	Std. Units	0.10	1		11/06/20 15:12		H3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

QC Batch: 592861 Analysis Method: EPA 9056
 QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005

METHOD BLANK: 2735465 Matrix: Water
 Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/14/20 15:34	
Fluoride	mg/L	ND	0.10	11/14/20 15:34	
Sulfate	mg/L	ND	0.25	11/14/20 15:34	

LABORATORY CONTROL SAMPLE: 2735466

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	98	80-120	
Fluoride	mg/L	0.5	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2735467 2735468

Parameter	Units	50272328003		50272328004		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Spike Conc.	MSD Result								
Chloride	mg/L	41.3	12.5	12.5	53.5	53.8	97	100	80-120	1	15		
Fluoride	mg/L	0.12	0.5	0.5	0.61	0.60	98	97	80-120	1	15		
Sulfate	mg/L	1490	250	250	1720	1720	95	96	80-120	0	15		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

QC Batch: 591414 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005

METHOD BLANK: 2728311 Matrix: Water
 Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	11/11/20 13:35	
Boron	ug/L	ND	100	11/11/20 13:35	
Cadmium	ug/L	ND	2.0	11/11/20 13:35	
Calcium	ug/L	ND	1000	11/11/20 13:35	
Lead	ug/L	ND	10.0	11/11/20 13:35	
Lithium	ug/L	ND	20.0	11/11/20 13:35	
Molybdenum	ug/L	ND	10.0	11/11/20 13:35	

LABORATORY CONTROL SAMPLE: 2728312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	926	93	80-120	
Boron	ug/L	1000	925	92	80-120	
Cadmium	ug/L	1000	937	94	80-120	
Calcium	ug/L	10000	9350	94	80-120	
Lead	ug/L	1000	940	94	80-120	
Lithium	ug/L	1000	934	93	80-120	
Molybdenum	ug/L	1000	967	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2728313 2728314

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50272328003 Result	Spike Conc.	Spike Conc.	MS Result						
Barium	ug/L	30.7	1000	1000	1010	1020	98	99	75-125	1	20
Boron	ug/L	4090	1000	1000	5010	5090	92	101	75-125	2	20
Cadmium	ug/L	ND	1000	1000	1040	1050	104	105	75-125	1	20
Calcium	ug/L	577000	10000	10000	609000	578000	320	15	75-125	5	20 P6
Lead	ug/L	ND	1000	1000	964	974	96	97	75-125	1	20
Lithium	ug/L	287	1000	1000	1300	1320	101	103	75-125	1	20
Molybdenum	ug/L	ND	1000	1000	1040	1060	104	105	75-125	1	20

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

QC Batch:	591396	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005

METHOD BLANK: 2728219 Matrix: Water

Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/10/20 20:03	
Arsenic	ug/L	ND	1.0	11/10/20 20:03	
Beryllium	ug/L	ND	0.20	11/10/20 20:03	
Cobalt	ug/L	ND	1.0	11/10/20 20:03	
Selenium	ug/L	ND	1.0	11/10/20 20:03	
Thallium	ug/L	ND	1.0	11/10/20 20:03	

LABORATORY CONTROL SAMPLE: 2728220

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	43.4	108	80-120	
Arsenic	ug/L	40	39.6	99	80-120	
Beryllium	ug/L	40	39.1	98	80-120	
Cobalt	ug/L	40	42.2	105	80-120	
Selenium	ug/L	40	41.2	103	80-120	
Thallium	ug/L	40	42.1	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2728221 2728222

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	43.0	43.7	107	109	75-125	2	20
Arsenic	ug/L	ND	40	40	37.8	38.1	94	95	75-125	1	20
Beryllium	ug/L	ND	40	40	37.6	37.6	94	94	75-125	0	20
Cobalt	ug/L	1.0	40	40	38.3	38.1	93	93	75-125	0	20
Selenium	ug/L	ND	40	40	33.3	33.5	83	84	75-125	0	20
Thallium	ug/L	ND	40	40	43.3	43.1	108	108	75-125	1	20

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

QC Batch: 591776

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005

METHOD BLANK: 2730437

Matrix: Water

Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/09/20 15:56	

LABORATORY CONTROL SAMPLE: 2730438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	267	89	80-120	

SAMPLE DUPLICATE: 2730439

Parameter	Units	50272213005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	497	514	3	10	

SAMPLE DUPLICATE: 2730440

Parameter	Units	50272328003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2380	2440	2	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

QC Batch: 591486

Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B

Analysis Description: 4500H+B pH

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005

SAMPLE DUPLICATE: 2728718

Parameter	Units	50272328004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

SAMPLE DUPLICATE: 2728719

Parameter	Units	50272328003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.3	0	2	H3

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Sample: MW-2R **Lab ID: 50272328001** Collected: 11/03/20 11:10 Received: 11/05/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.511 ± 0.421 (0.609) C:NA T:87%	pCi/L	12/02/20 12:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	-0.0918 ± 0.427 (1.01) C:71% T:83%	pCi/L	12/01/20 13:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.511 ± 0.848 (1.62)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Sample: MW-3 **Lab ID: 50272328002** Collected: 11/03/20 12:34 Received: 11/05/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.461 ± 0.387 (0.554) C:NA T:89%	pCi/L	12/02/20 12:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.316 ± 0.424 (0.907) C:70% T:87%	pCi/L	12/01/20 13:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.777 ± 0.811 (1.46)	pCi/L	12/02/20 15:44	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Sample: MW-4C **Lab ID: 50272328003** Collected: 11/03/20 14:08 Received: 11/05/20 12:30 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample collection time on containers does not match COC; client was notified.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.423 ± 0.276 (0.283) C:NA T:86%	pCi/L	12/02/20 12:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.799 ± 0.498 (0.938) C:69% T:83%	pCi/L	12/01/20 13:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.22 ± 0.774 (1.22)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Sample: DUP 1 **Lab ID: 50272328004** Collected: 11/03/20 08:00 Received: 11/05/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.650 ± 0.404 (0.399) C:NA T:79%	pCi/L	12/02/20 12:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.311 ± 0.410 (0.877) C:74% T:90%	pCi/L	12/01/20 13:52	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.961 ± 0.814 (1.28)	pCi/L	12/02/20 15:44	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: Field Blank 1						
Lab ID: 50272328005						
Collected: 11/03/20 12:23						
Received: 11/05/20 12:30						
Matrix: Water						
PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.187 ± 0.318 (0.561) C:NA T:93%	pCi/L	12/02/20 12:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0609 ± 0.378 (0.866) C:71% T:91%	pCi/L	12/01/20 13:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.248 ± 0.696 (1.43)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-4C MS Lab ID: 50272328006 Collected: 11/03/20 14:08 Received: 11/05/20 12:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	101.32 %REC ± NA (NA) C:NA T:NA	pCi/L	12/02/20 12:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	98.34 %REC ± NA (NA) C:NA T:NA	pCi/L	12/01/20 13:53	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	95.19 %REC 6.25 RPD ± NA (NA) C:NA T:NA	pCi/L	12/02/20 12:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	92.72 %REC 5.88 RPD ± NA (NA) C:NA T:NA	pCi/L	12/01/20 13:53	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

QC Batch: 422649

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005, 50272328006, 50272328007

METHOD BLANK: 2042816

Matrix: Water

Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005, 50272328006, 50272328007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.155 ± 0.365 (0.812) C:73% T:79%	pCi/L	12/01/20 13:54	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

QC Batch: 422648

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005, 50272328006, 50272328007

METHOD BLANK: 2042815

Matrix: Water

Associated Lab Samples: 50272328001, 50272328002, 50272328003, 50272328004, 50272328005, 50272328006, 50272328007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.108 ± 0.292 (0.543) C:NA T:87%	pCi/L	12/02/20 12:42	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

PL The minimum mass of dried residue of 2.5 mg could not be obtained using the routine sample volume of 100 mL.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling Profile 2

Pace Project No.: 50272328

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50272328001	MW-2R	EPA 9056	592861		
50272328002	MW-3	EPA 9056	592861		
50272328003	MW-4C	EPA 9056	592861		
50272328004	DUP 1	EPA 9056	592861		
50272328005	Field Blank 1	EPA 9056	592861		
50272328001	MW-2R	EPA 3010	591414	EPA 6010	592369
50272328002	MW-3	EPA 3010	591414	EPA 6010	592369
50272328003	MW-4C	EPA 3010	591414	EPA 6010	592369
50272328004	DUP 1	EPA 3010	591414	EPA 6010	592369
50272328005	Field Blank 1	EPA 3010	591414	EPA 6010	592369
50272328001	MW-2R	EPA 200.2	591396	EPA 6020	591678
50272328002	MW-3	EPA 200.2	591396	EPA 6020	591678
50272328003	MW-4C	EPA 200.2	591396	EPA 6020	591678
50272328004	DUP 1	EPA 200.2	591396	EPA 6020	591678
50272328005	Field Blank 1	EPA 200.2	591396	EPA 6020	591678
50272328001	MW-2R	EPA 903.1	422648		
50272328002	MW-3	EPA 903.1	422648		
50272328003	MW-4C	EPA 903.1	422648		
50272328004	DUP 1	EPA 903.1	422648		
50272328005	Field Blank 1	EPA 903.1	422648		
50272328006	MW-4C MS	EPA 903.1	422648		
50272328007	MW-4C MSD	EPA 903.1	422648		
50272328001	MW-2R	EPA 904.0	422649		
50272328002	MW-3	EPA 904.0	422649		
50272328003	MW-4C	EPA 904.0	422649		
50272328004	DUP 1	EPA 904.0	422649		
50272328005	Field Blank 1	EPA 904.0	422649		
50272328006	MW-4C MS	EPA 904.0	422649		
50272328007	MW-4C MSD	EPA 904.0	422649		
50272328001	MW-2R	Total Radium Calculation	425524		
50272328002	MW-3	Total Radium Calculation	425524		
50272328003	MW-4C	Total Radium Calculation	425524		
50272328004	DUP 1	Total Radium Calculation	425524		
50272328005	Field Blank 1	Total Radium Calculation	425524		
50272328001	MW-2R	SM 2540C	591776		
50272328002	MW-3	SM 2540C	591776		
50272328003	MW-4C	SM 2540C	591776		
50272328004	DUP 1	SM 2540C	591776		
50272328005	Field Blank 1	SM 2540C	591776		
50272328001	MW-2R	SM 4500-H+B	591486		
50272328002	MW-3	SM 4500-H+B	591486		
50272328003	MW-4C	SM 4500-H+B	591486		
50272328004	DUP 1	SM 4500-H+B	591486		
50272328005	Field Blank 1	SM 4500-H+B	591486		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: ms 1/5/20 1440

Courier: Fed Ex UPS Client Pace USPS Other _____

Custody Seal on Cooler/Box Present: Yes No (If yes) Seals Intact: Yes No (leave blank if no seals were present)

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer: 1 2 3 4 5 6 A B C D E F Ice Type: Wat Blue None

Cooler Temperature: 5.5 C COMMENTS If temp. is over 6°C or under 0°C, was the PM notified?: Yes No
Temp should be above freezing to 6°C (Initial/Corrected)

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
Are samples from West Virginia? Document any containers out of temp.		<input checked="" type="checkbox"/>	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		<input checked="" type="checkbox"/>	Circle: <u>HNO3 (S2)</u> H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form	<input checked="" type="checkbox"/>		
Short Hold Time Analysis (48 hours or less)? Analysis:		<input checked="" type="checkbox"/>	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>Present</u>	<u>Absent</u>	<u>N/A</u>
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: _____		Residual Chlorine Check (Total/Amenable/Free Cyanide)			<input checked="" type="checkbox"/>
Rush TAT Requested (4 days or less):		<input checked="" type="checkbox"/>	Headspace Wisconsin Sulfide?			<input checked="" type="checkbox"/>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace in VOA Vials (>6mm):			<input checked="" type="checkbox"/>
Containers Intact?:	<input checked="" type="checkbox"/>		Trip Blank Present?		<input checked="" type="checkbox"/>	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<input checked="" type="checkbox"/>		Trip Blank Custody Seals?:		<input checked="" type="checkbox"/>	
Extra labels on Terracore Vials? (soils only)						

COMMENTS: 1.8/1.7 1.2/0.9 2.2/2.1 1.4/1.3 1.7/1.0 1.0/0.9 1.8/1.7 1.4/1.3

February 05, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR Sampling Profile2 Report5
Pace Project No.: 50272614

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.


The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

This revision replaces the report dated 010421. Revised compound list. dss 020521

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Donna Spyker
donna.spyker@pacelabs.com
(317)228-3100
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50272614001	AP-9A	Water	11/06/20 15:21	11/09/20 12:30
50272614002	AP-10A	Water	11/06/20 14:12	11/09/20 12:30
50272614003	MW-19A	Water	11/06/20 09:39	11/09/20 12:30
50272614004	MW-19I	Water	11/06/20 10:21	11/09/20 12:30
50272614005	MW-19B	Water	11/06/20 10:58	11/09/20 12:30
50272614006	MW-20A	Water	11/06/20 11:51	11/09/20 12:30
50272614007	MW-20I	Water	11/06/20 12:36	11/09/20 12:30
50272614008	MW-20B	Water	11/06/20 13:26	11/09/20 12:30
50272614009	DUP 4	Water	11/06/20 08:00	11/09/20 12:30
50272614010	Field Blank 4	Water	11/06/20 12:10	11/09/20 12:30

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50272614001	AP-9A	EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272614002	AP-10A	EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272614003	MW-19A	EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272614004	MW-19I	EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272614005	MW-19B	EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile2 Report5
Pace Project No.: 50272614

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50272614006	MW-20A	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272614007	MW-20I	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272614008	MW-20B	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272614009	DUP 4	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272614010	Field Blank 4	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272614001	AP-9A					
EPA 9056	Chloride	131	mg/L	25.0	11/19/20 12:45	
EPA 9056	Fluoride	0.22	mg/L	0.10	11/19/20 11:56	
EPA 9056	Sulfate	1710	mg/L	25.0	11/19/20 12:45	
EPA 6010	Barium	42.6	ug/L	10.0	11/18/20 22:28	
EPA 6010	Boron	32200	ug/L	100	11/18/20 22:28	
EPA 6010	Calcium	716000	ug/L	5000	11/18/20 23:36	
EPA 6010	Lithium	21.4	ug/L	20.0	11/18/20 22:28	
EPA 6010	Molybdenum	2190	ug/L	10.0	11/18/20 22:28	
EPA 6020	Arsenic	1.1	ug/L	1.0	11/13/20 11:01	
EPA 903.1	Radium-226	0.408 ± 0.324 (0.421) C:NA T:86%	pCi/L		12/02/20 12:09	
EPA 904.0	Radium-228	4.57 ± 1.26 (1.36) C:61% T:80%	pCi/L		11/30/20 17:42	
Total Radium Calculation	Total Radium	4.98 ± 1.58 (1.78)	pCi/L		12/03/20 10:32	
SM 2540C	Total Dissolved Solids	2860	mg/L	40.0	11/12/20 14:58	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/10/20 16:04	H3
50272614002	AP-10A					
EPA 9056	Chloride	134	mg/L	25.0	11/19/20 13:50	
EPA 9056	Fluoride	0.11	mg/L	0.10	11/19/20 13:34	
EPA 9056	Sulfate	1570	mg/L	25.0	11/19/20 13:50	
EPA 6010	Barium	32.2	ug/L	10.0	11/18/20 22:30	
EPA 6010	Boron	28200	ug/L	100	11/18/20 22:30	
EPA 6010	Calcium	702000	ug/L	5000	11/18/20 23:38	
EPA 6010	Molybdenum	721	ug/L	10.0	11/18/20 22:30	
EPA 903.1	Radium-226	-0.0489 ± 0.254 (0.588) C:NA T:92%	pCi/L		12/02/20 12:09	
EPA 904.0	Radium-228	1.18 ± 0.807 (1.56) C:55% T:83%	pCi/L		11/30/20 17:41	
Total Radium Calculation	Total Radium	1.18 ± 1.06 (2.15)	pCi/L		12/03/20 10:32	
SM 2540C	Total Dissolved Solids	2680	mg/L	40.0	11/12/20 14:58	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/10/20 16:06	H3
50272614003	MW-19A					
EPA 9056	Chloride	117	mg/L	2.5	11/19/20 14:56	
EPA 9056	Sulfate	1480	mg/L	25.0	11/19/20 15:12	
EPA 6010	Barium	37.6	ug/L	10.0	11/18/20 22:33	
EPA 6010	Boron	23700	ug/L	100	11/18/20 22:33	
EPA 6010	Calcium	618000	ug/L	5000	11/18/20 23:40	
EPA 6010	Molybdenum	788	ug/L	10.0	11/18/20 22:33	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272614003	MW-19A					
EPA 6020	Arsenic	1.0	ug/L	1.0	11/13/20 16:24	
EPA 903.1	Radium-226	0.258 ± 0.305 (0.479) C:NA T:86%	pCi/L		12/02/20 16:37	
EPA 904.0	Radium-228	1.66 ± 0.652 (1.02) C:61% T:83%	pCi/L		12/01/20 14:58	
Total Radium Calculation	Total Radium	1.92 ± 0.957 (1.50)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	2410	mg/L	40.0	11/12/20 14:59	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/10/20 16:07	H3
50272614004	MW-19I					
EPA 9056	Chloride	12.9	mg/L	2.5	11/19/20 15:45	
EPA 9056	Fluoride	0.11	mg/L	0.10	11/19/20 15:28	
EPA 9056	Sulfate	118	mg/L	2.5	11/19/20 15:45	
EPA 6010	Barium	68.2	ug/L	10.0	11/18/20 22:53	
EPA 6010	Boron	1290	ug/L	100	11/18/20 22:53	
EPA 6010	Calcium	125000	ug/L	1000	11/18/20 22:53	
EPA 6020	Cobalt	1.1	ug/L	1.0	11/13/20 16:42	
EPA 903.1	Radium-226	0.631 ± 0.610 (0.955) C:NA T:75%	pCi/L		12/02/20 16:37	
EPA 904.0	Radium-228	0.145 ± 0.529 (1.19) C:62% T:81%	pCi/L		12/01/20 14:58	
Total Radium Calculation	Total Radium	0.776 ± 1.14 (2.15)	pCi/L		12/03/20 10:32	
SM 2540C	Total Dissolved Solids	475	mg/L	10.0	11/12/20 16:42	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/10/20 16:08	H3
50272614005	MW-19B					
EPA 9056	Chloride	12.7	mg/L	5.0	11/19/20 16:18	
EPA 9056	Fluoride	0.13	mg/L	0.10	11/19/20 16:01	
EPA 9056	Sulfate	44.4	mg/L	5.0	11/19/20 16:18	
EPA 6010	Barium	62.6	ug/L	10.0	11/18/20 22:55	
EPA 6010	Boron	737	ug/L	100	11/18/20 22:55	
EPA 6010	Calcium	105000	ug/L	1000	11/18/20 22:55	
EPA 6020	Selenium	3.8	ug/L	1.0	11/13/20 16:46	
EPA 903.1	Radium-226	0.324 ± 0.383 (0.602) C:NA T:76%	pCi/L		12/02/20 16:54	

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SUMMARY OF DETECTION

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272614005	MW-19B					
EPA 904.0	Radium-228	0.485 ± 0.464 (0.956) C:65% T:89%	pCi/L		12/01/20 14:59	
Total Radium Calculation	Total Radium	0.809 ± 0.847 (1.56)	pCi/L		12/03/20 10:32	
SM 2540C	Total Dissolved Solids	364	mg/L	10.0	11/12/20 16:43	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/10/20 16:11	H3
50272614006	MW-20A					
EPA 9056	Chloride	62.4	mg/L	5.0	11/19/20 16:50	
EPA 9056	Sulfate	935	mg/L	50.0	11/20/20 10:44	
EPA 6010	Barium	34.6	ug/L	10.0	11/18/20 22:57	
EPA 6010	Boron	13900	ug/L	100	11/18/20 22:57	
EPA 6010	Calcium	401000	ug/L	5000	11/18/20 23:51	
EPA 6010	Molybdenum	282	ug/L	10.0	11/18/20 22:57	
EPA 6020	Arsenic	1.8	ug/L	1.0	11/13/20 15:41	
EPA 903.1	Radium-226	0.379 ± 0.488 (0.812) C:NA T:74%	pCi/L		12/02/20 16:54	
EPA 904.0	Radium-228	1.55 ± 0.626 (0.992) C:64% T:78%	pCi/L		12/01/20 14:59	
Total Radium Calculation	Total Radium	1.93 ± 1.11 (1.80)	pCi/L		12/03/20 10:32	
SM 2540C	Total Dissolved Solids	1630	mg/L	20.0	11/12/20 16:43	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/10/20 16:12	H3
50272614007	MW-20I					
EPA 9056	Chloride	8.9	mg/L	0.25	11/19/20 17:39	
EPA 9056	Sulfate	38.7	mg/L	5.0	11/19/20 17:56	
EPA 6010	Barium	60.0	ug/L	10.0	11/18/20 22:59	
EPA 6010	Boron	409	ug/L	100	11/18/20 22:59	
EPA 6010	Calcium	111000	ug/L	1000	11/18/20 22:59	
EPA 903.1	Radium-226	0.258 ± 0.337 (0.556) C:NA T:82%	pCi/L		12/02/20 16:54	
EPA 904.0	Radium-228	0.561 ± 0.416 (0.802) C:63% T:80%	pCi/L		12/01/20 14:50	
Total Radium Calculation	Total Radium	0.819 ± 0.753 (1.36)	pCi/L		12/03/20 10:32	
SM 2540C	Total Dissolved Solids	376	mg/L	10.0	11/12/20 16:43	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/10/20 16:13	H3

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SUMMARY OF DETECTION

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272614008	MW-20B					
EPA 9056	Chloride	16.4	mg/L	5.0	11/19/20 18:29	
EPA 9056	Sulfate	81.2	mg/L	5.0	11/19/20 18:29	
EPA 6010	Barium	136	ug/L	10.0	11/18/20 23:02	
EPA 6010	Boron	621	ug/L	100	11/18/20 23:02	
EPA 6010	Calcium	166000	ug/L	1000	11/18/20 23:02	
EPA 6020	Arsenic	1.3	ug/L	1.0	11/13/20 15:53	
EPA 6020	Cobalt	2.0	ug/L	1.0	11/13/20 15:53	
EPA 6020	Selenium	2.7	ug/L	1.0	11/13/20 15:53	
EPA 903.1	Radium-226	0.108 ± 0.299 (0.579) C:NA T:86%	pCi/L		12/02/20 16:54	
EPA 904.0	Radium-228	0.385 ± 0.469 (0.987) C:57% T:74%	pCi/L		12/01/20 14:50	
Total Radium Calculation	Total Radium	0.493 ± 0.768 (1.57)	pCi/L		12/03/20 10:32	
SM 2540C	Total Dissolved Solids	558	mg/L	10.0	11/12/20 16:44	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	11/10/20 16:14	H3
50272614009	DUP 4					
EPA 9056	Chloride	8.7	mg/L	0.25	11/19/20 18:45	
EPA 9056	Sulfate	38.5	mg/L	2.5	11/19/20 19:01	
EPA 6010	Barium	59.9	ug/L	10.0	11/18/20 23:04	
EPA 6010	Boron	323	ug/L	100	11/18/20 23:04	
EPA 6010	Calcium	110000	ug/L	1000	11/18/20 23:04	
EPA 903.1	Radium-226	-0.0557 ± 0.289 (0.669) C:NA T:81%	pCi/L		12/02/20 16:37	
EPA 904.0	Radium-228	1.13 ± 0.514 (0.856) C:62% T:88%	pCi/L		12/01/20 14:58	
Total Radium Calculation	Total Radium	1.13 ± 0.803 (1.53)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	361	mg/L	10.0	11/12/20 16:44	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/10/20 16:15	H3
50272614010	Field Blank 4					
EPA 903.1	Radium-226	0.116 ± 0.456 (0.873) C:NA T:84%	pCi/L		12/02/20 16:54	

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SUMMARY OF DETECTION

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272614010	Field Blank 4					
EPA 904.0	Radium-228	0.313 ± 0.416 (0.887) C:62% T:81%	pCi/L		12/01/20 14:59	
Total Radium Calculation	Total Radium	0.429 ± 0.872 (1.76)	pCi/L		12/03/20 10:32	
SM 4500-H+B	pH at 25 Degrees C	6.3	Std. Units	0.10	11/10/20 16:24	H3

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: AP-9A	Lab ID: 50272614001	Collected: 11/06/20 15:21	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	131	mg/L	25.0	100		11/19/20 12:45	16887-00-6	
Fluoride	0.22	mg/L	0.10	1		11/19/20 11:56	16984-48-8	
Sulfate	1710	mg/L	25.0	100		11/19/20 12:45	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	42.6	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:28	7440-39-3	
Boron	32200	ug/L	100	1	11/16/20 05:54	11/18/20 22:28	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 22:28	7440-43-9	
Calcium	716000	ug/L	5000	5	11/16/20 05:54	11/18/20 23:36	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:28	7439-92-1	
Lithium	21.4	ug/L	20.0	1	11/16/20 05:54	11/18/20 22:28	7439-93-2	
Molybdenum	2190	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:28	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 11:01	7440-36-0	
Arsenic	1.1	ug/L	1.0	1	11/11/20 08:02	11/13/20 11:01	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 11:01	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 11:01	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 11:01	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 11:01	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2860	mg/L	40.0	1		11/12/20 14:58		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.1	Std. Units	0.10	1		11/10/20 16:04		H3

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: AP-10A	Lab ID: 50272614002	Collected: 11/06/20 14:12	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	134	mg/L	25.0	100		11/19/20 13:50	16887-00-6	
Fluoride	0.11	mg/L	0.10	1		11/19/20 13:34	16984-48-8	
Sulfate	1570	mg/L	25.0	100		11/19/20 13:50	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	32.2	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:30	7440-39-3	
Boron	28200	ug/L	100	1	11/16/20 05:54	11/18/20 22:30	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 22:30	7440-43-9	
Calcium	702000	ug/L	5000	5	11/16/20 05:54	11/18/20 23:38	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:30	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 22:30	7439-93-2	
Molybdenum	721	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:30	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:19	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:19	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 16:19	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:19	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:19	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:19	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2680	mg/L	40.0	1		11/12/20 14:58		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.0	Std. Units	0.10	1		11/10/20 16:06		H3

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-19A	Lab ID: 50272614003	Collected: 11/06/20 09:39	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	117	mg/L	2.5	10		11/19/20 14:56	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/19/20 14:39	16984-48-8	
Sulfate	1480	mg/L	25.0	100		11/19/20 15:12	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	37.6	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:33	7440-39-3	
Boron	23700	ug/L	100	1	11/16/20 05:54	11/18/20 22:33	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 22:33	7440-43-9	
Calcium	618000	ug/L	5000	5	11/16/20 05:54	11/18/20 23:40	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:33	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 22:33	7439-93-2	
Molybdenum	788	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:33	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:24	7440-36-0	
Arsenic	1.0	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:24	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 16:24	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:24	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:24	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:24	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2410	mg/L	40.0	1		11/12/20 14:59		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.0	Std. Units	0.10	1		11/10/20 16:07		H3

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-191	Lab ID: 50272614004	Collected: 11/06/20 10:21	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	12.9	mg/L	2.5	10		11/19/20 15:45	16887-00-6	
Fluoride	0.11	mg/L	0.10	1		11/19/20 15:28	16984-48-8	
Sulfate	118	mg/L	2.5	10		11/19/20 15:45	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	68.2	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:53	7440-39-3	
Boron	1290	ug/L	100	1	11/16/20 05:54	11/18/20 22:53	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 22:53	7440-43-9	
Calcium	125000	ug/L	1000	1	11/16/20 05:54	11/18/20 22:53	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:53	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 22:53	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:53	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:42	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:42	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 16:42	7440-41-7	
Cobalt	1.1	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:42	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:42	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:42	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	475	mg/L	10.0	1		11/12/20 16:42		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/10/20 16:08		H3

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-19B	Lab ID: 50272614005	Collected: 11/06/20 10:58	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	12.7	mg/L	5.0	20		11/19/20 16:18	16887-00-6	
Fluoride	0.13	mg/L	0.10	1		11/19/20 16:01	16984-48-8	
Sulfate	44.4	mg/L	5.0	20		11/19/20 16:18	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	62.6	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:55	7440-39-3	
Boron	737	ug/L	100	1	11/16/20 05:54	11/18/20 22:55	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 22:55	7440-43-9	
Calcium	105000	ug/L	1000	1	11/16/20 05:54	11/18/20 22:55	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:55	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 22:55	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:55	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:46	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:46	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 16:46	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:46	7440-48-4	
Selenium	3.8	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:46	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:46	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	364	mg/L	10.0	1		11/12/20 16:43		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/10/20 16:11		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-20A	Lab ID: 50272614006	Collected: 11/06/20 11:51	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	62.4	mg/L	5.0	20		11/19/20 16:50	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/19/20 16:34	16984-48-8	
Sulfate	935	mg/L	50.0	200		11/20/20 10:44	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	34.6	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:57	7440-39-3	
Boron	13900	ug/L	100	1	11/16/20 05:54	11/18/20 22:57	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 22:57	7440-43-9	
Calcium	401000	ug/L	5000	5	11/16/20 05:54	11/18/20 23:51	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:57	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 22:57	7439-93-2	
Molybdenum	282	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:57	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:41	7440-36-0	
Arsenic	1.8	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:41	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 15:41	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:41	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:41	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:41	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1630	mg/L	20.0	1		11/12/20 16:43		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.0	Std. Units	0.10	1		11/10/20 16:12		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-201	Lab ID: 50272614007	Collected: 11/06/20 12:36	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	8.9	mg/L	0.25	1		11/19/20 17:39	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/19/20 17:39	16984-48-8	
Sulfate	38.7	mg/L	5.0	20		11/19/20 17:56	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	60.0	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:59	7440-39-3	
Boron	409	ug/L	100	1	11/16/20 05:54	11/18/20 22:59	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 22:59	7440-43-9	
Calcium	111000	ug/L	1000	1	11/16/20 05:54	11/18/20 22:59	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:59	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 22:59	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 22:59	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:47	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:47	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 15:47	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:47	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:47	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:47	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	376	mg/L	10.0	1		11/12/20 16:43		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/10/20 16:13		H3

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-20B	Lab ID: 50272614008	Collected: 11/06/20 13:26	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	16.4	mg/L	5.0	20		11/19/20 18:29	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/19/20 18:12	16984-48-8	
Sulfate	81.2	mg/L	5.0	20		11/19/20 18:29	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	136	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:02	7440-39-3	
Boron	621	ug/L	100	1	11/16/20 05:54	11/18/20 23:02	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:02	7440-43-9	
Calcium	166000	ug/L	1000	1	11/16/20 05:54	11/18/20 23:02	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:02	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:02	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:02	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:53	7440-36-0	
Arsenic	1.3	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:53	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 15:53	7440-41-7	
Cobalt	2.0	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:53	7440-48-4	
Selenium	2.7	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:53	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 15:53	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	558	mg/L	10.0	1		11/12/20 16:44		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.8	Std. Units	0.10	1		11/10/20 16:14		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: DUP 4								
Lab ID: 50272614009								
Collected: 11/06/20 08:00								
Received: 11/09/20 12:30								
Matrix: Water								
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	8.7	mg/L	0.25	1		11/19/20 18:45	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/19/20 18:45	16984-48-8	
Sulfate	38.5	mg/L	2.5	10		11/19/20 19:01	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	59.9	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:04	7440-39-3	
Boron	323	ug/L	100	1	11/16/20 05:54	11/18/20 23:04	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:04	7440-43-9	
Calcium	110000	ug/L	1000	1	11/16/20 05:54	11/18/20 23:04	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:04	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:04	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:04	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:10	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:10	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 16:10	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:10	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:10	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:10	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	361	mg/L	10.0	1		11/12/20 16:44		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.1	Std. Units	0.10	1		11/10/20 16:15		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: Field Blank 4	Lab ID: 50272614010	Collected: 11/06/20 12:10	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	1		11/19/20 19:50	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/19/20 19:50	16984-48-8	
Sulfate	ND	mg/L	0.25	1		11/19/20 19:50	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:06	7440-39-3	
Boron	ND	ug/L	100	1	11/16/20 05:54	11/18/20 23:06	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:06	7440-43-9	
Calcium	ND	ug/L	1000	1	11/16/20 05:54	11/18/20 23:06	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:06	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:06	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:06	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:14	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:14	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/20 08:02	11/13/20 16:14	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:14	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:14	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/20 08:02	11/13/20 16:14	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	1		11/12/20 16:44		PL
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.3	Std. Units	0.10	1		11/10/20 16:24		H3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

QC Batch:	594059	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50272614001, 50272614002, 50272614003, 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010		

METHOD BLANK:	2740567	Matrix:	Water
Associated Lab Samples:	50272614001, 50272614002, 50272614003, 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/19/20 11:23	
Fluoride	mg/L	ND	0.10	11/19/20 11:23	
Sulfate	mg/L	ND	0.25	11/19/20 11:23	

LABORATORY CONTROL SAMPLE: 2740568						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	94	80-120	
Fluoride	mg/L	0.5	0.49	98	80-120	
Sulfate	mg/L	2.5	2.4	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2740569												2740570	
Parameter	Units	50272614001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Chloride	mg/L	131	125	125	259	259	103	102	80-120	0	15		
Fluoride	mg/L	0.22	0.5	0.5	0.72	0.72	99	100	80-120	1	15		
Sulfate	mg/L	1710	250	250	2050	2050	136	137	80-120	0	15	MO	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

QC Batch:	592274	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272614001, 50272614002, 50272614003, 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010

METHOD BLANK:	2732379	Matrix:	Water
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Associated Lab Samples: 50272614001, 50272614002, 50272614003, 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	11/18/20 22:26	
Boron	ug/L	ND	100	11/18/20 22:26	
Cadmium	ug/L	ND	2.0	11/18/20 22:26	
Calcium	ug/L	ND	1000	11/18/20 22:26	
Lead	ug/L	ND	10.0	11/18/20 22:26	
Lithium	ug/L	ND	20.0	11/18/20 22:26	
Molybdenum	ug/L	ND	10.0	11/18/20 22:26	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	947	95	80-120	
Boron	ug/L	1000	961	96	80-120	
Cadmium	ug/L	1000	960	96	80-120	
Calcium	ug/L	10000	9550	96	80-120	
Lead	ug/L	1000	946	95	80-120	
Lithium	ug/L	1000	963	96	80-120	
Molybdenum	ug/L	1000	986	99	80-120	

Parameter	Units	2732381		2732382		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Barium	ug/L	37.6	1000	981	978	94	94	75-125	0	20	
Boron	ug/L	23700	1000	24000	24000	31	36	75-125	0	20	P6
Cadmium	ug/L	ND	1000	993	988	99	99	75-125	0	20	
Calcium	ug/L	618000	10000	608000	605000	-100	-135	75-125	1	20	P6
Lead	ug/L	ND	1000	910	914	91	91	75-125	0	20	
Lithium	ug/L	ND	1000	1030	1030	103	102	75-125	1	20	
Molybdenum	ug/L	788	1000	1760	1750	97	97	75-125	0	20	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

QC Batch:	592015	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272614001, 50272614002, 50272614003, 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010

METHOD BLANK:	2731200	Matrix:	Water
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Associated Lab Samples: 50272614001, 50272614002, 50272614003, 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/13/20 10:53	
Arsenic	ug/L	ND	1.0	11/13/20 10:53	
Beryllium	ug/L	ND	0.20	11/13/20 10:53	
Cobalt	ug/L	ND	1.0	11/13/20 10:53	
Selenium	ug/L	ND	1.0	11/13/20 10:53	
Thallium	ug/L	ND	1.0	11/13/20 10:53	

LABORATORY CONTROL SAMPLE: 2731201

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.1	105	80-120	
Arsenic	ug/L	40	39.9	100	80-120	
Beryllium	ug/L	40	41.3	103	80-120	
Cobalt	ug/L	40	41.5	104	80-120	
Selenium	ug/L	40	39.2	98	80-120	
Thallium	ug/L	40	41.7	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2731202 2731203

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50272614001 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	43.4	43.7	108	109	75-125	1	20
Arsenic	ug/L	1.1	40	40	40.9	40.6	99	99	75-125	1	20
Beryllium	ug/L	ND	40	40	38.9	37.1	97	93	75-125	5	20
Cobalt	ug/L	ND	40	40	39.2	39.2	97	97	75-125	0	20
Selenium	ug/L	ND	40	40	44.0	44.0	109	109	75-125	0	20
Thallium	ug/L	ND	40	40	42.7	43.1	107	108	75-125	1	20

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QUALITY CONTROL DATA

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

QC Batch: 592592	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272614001, 50272614002, 50272614003

METHOD BLANK: 2734004 Matrix: Water

Associated Lab Samples: 50272614001, 50272614002, 50272614003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/12/20 14:07	

LABORATORY CONTROL SAMPLE: 2734005

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	287	96	80-120	

SAMPLE DUPLICATE: 2734007

Parameter	Units	50272558002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	360	343	5	10	

SAMPLE DUPLICATE: 2734054

Parameter	Units	50272524009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1940	1970	2	10	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

QC Batch:	592757	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010

METHOD BLANK: 2734977 Matrix: Water

Associated Lab Samples: 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/12/20 16:42	

LABORATORY CONTROL SAMPLE: 2734978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	297	99	80-120	

SAMPLE DUPLICATE: 2734979

Parameter	Units	50272614006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1630	1650	1	10	

SAMPLE DUPLICATE: 2734980

Parameter	Units	50272623023 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	661	676	2	10	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

QC Batch:	592176	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272614001, 50272614002, 50272614003, 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010

SAMPLE DUPLICATE: 2731990

Parameter	Units	50272558002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

SAMPLE DUPLICATE: 2731991

Parameter	Units	50272614001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: AP-9A **Lab ID: 50272614001** Collected: 11/06/20 15:21 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.408 ± 0.324 (0.421) C:NA T:86%	pCi/L	12/02/20 12:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	4.57 ± 1.26 (1.36) C:61% T:80%	pCi/L	11/30/20 17:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	4.98 ± 1.58 (1.78)	pCi/L	12/03/20 10:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: AP-10A Lab ID: 50272614002 Collected: 11/06/20 14:12 Received: 11/09/20 12:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0489 ± 0.254 (0.588) C:NA T:92%	pCi/L	12/02/20 12:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.18 ± 0.807 (1.56) C:55% T:83%	pCi/L	11/30/20 17:41	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.18 ± 1.06 (2.15)	pCi/L	12/03/20 10:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-19A **Lab ID: 50272614003** Collected: 11/06/20 09:39 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.258 ± 0.305 (0.479) C:NA T:86%	pCi/L	12/02/20 16:37	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.66 ± 0.652 (1.02) C:61% T:83%	pCi/L	12/01/20 14:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.92 ± 0.957 (1.50)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-191 **Lab ID: 50272614004** Collected: 11/06/20 10:21 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.631 ± 0.610 (0.955) C:NA T:75%	pCi/L	12/02/20 16:37	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.145 ± 0.529 (1.19) C:62% T:81%	pCi/L	12/01/20 14:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.776 ± 1.14 (2.15)	pCi/L	12/03/20 10:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-19B Lab ID: 50272614005 Collected: 11/06/20 10:58 Received: 11/09/20 12:30 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.324 ± 0.383 (0.602) C:NA T:76%	pCi/L	12/02/20 16:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.485 ± 0.464 (0.956) C:65% T:89%	pCi/L	12/01/20 14:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.809 ± 0.847 (1.56)	pCi/L	12/03/20 10:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-20A **Lab ID: 50272614006** Collected: 11/06/20 11:51 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.379 ± 0.488 (0.812) C:NA T:74%	pCi/L	12/02/20 16:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.55 ± 0.626 (0.992) C:64% T:78%	pCi/L	12/01/20 14:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.93 ± 1.11 (1.80)	pCi/L	12/03/20 10:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: MW-20I **Lab ID: 50272614007** Collected: 11/06/20 12:36 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.258 ± 0.337 (0.556) C:NA T:82%	pCi/L	12/02/20 16:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.561 ± 0.416 (0.802) C:63% T:80%	pCi/L	12/01/20 14:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.819 ± 0.753 (1.36)	pCi/L	12/03/20 10:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-20B Lab ID: 50272614008 Collected: 11/06/20 13:26 Received: 11/09/20 12:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.108 ± 0.299 (0.579) C:NA T:86%	pCi/L	12/02/20 16:54	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.385 ± 0.469 (0.987) C:57% T:74%	pCi/L	12/01/20 14:50	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.493 ± 0.768 (1.57)	pCi/L	12/03/20 10:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Sample: DUP 4 **Lab ID: 50272614009** Collected: 11/06/20 08:00 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.0557 ± 0.289 (0.669) C:NA T:81%	pCi/L	12/02/20 16:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.13 ± 0.514 (0.856) C:62% T:88%	pCi/L	12/01/20 14:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.13 ± 0.803 (1.53)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: Field Blank 4 Lab ID: 50272614010 Collected: 11/06/20 12:10 Received: 11/09/20 12:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.116 ± 0.456 (0.873) C:NA T:84%	pCi/L	12/02/20 16:54	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.313 ± 0.416 (0.887) C:62% T:81%	pCi/L	12/01/20 14:59	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.429 ± 0.872 (1.76)	pCi/L	12/03/20 10:32	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

QC Batch: 422670

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50272614001, 50272614002

METHOD BLANK: 2042878

Matrix: Water

Associated Lab Samples: 50272614001, 50272614002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	1.51 ± 0.610 (0.953) C:66% T:75%	pCi/L	11/30/20 15:21	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

QC Batch: 422668

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50272614001, 50272614002

METHOD BLANK: 2042870

Matrix: Water

Associated Lab Samples: 50272614001, 50272614002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.117 ± 0.231 (0.552) C:NA T:85%	pCi/L	12/02/20 11:54	

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QUALIFIERS

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

PL The minimum mass of dried residue of 2.5 mg could not be obtained using the routine sample volume of 100 mL.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Sampling Profile2 Report5

Pace Project No.: 50272614

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50272614001	AP-9A	EPA 9056	594059		
50272614002	AP-10A	EPA 9056	594059		
50272614003	MW-19A	EPA 9056	594059		
50272614004	MW-19I	EPA 9056	594059		
50272614005	MW-19B	EPA 9056	594059		
50272614006	MW-20A	EPA 9056	594059		
50272614007	MW-20I	EPA 9056	594059		
50272614008	MW-20B	EPA 9056	594059		
50272614009	DUP 4	EPA 9056	594059		
50272614010	Field Blank 4	EPA 9056	594059		
50272614001	AP-9A	EPA 3010	592274	EPA 6010	594007
50272614002	AP-10A	EPA 3010	592274	EPA 6010	594007
50272614003	MW-19A	EPA 3010	592274	EPA 6010	594007
50272614004	MW-19I	EPA 3010	592274	EPA 6010	594007
50272614005	MW-19B	EPA 3010	592274	EPA 6010	594007
50272614006	MW-20A	EPA 3010	592274	EPA 6010	594007
50272614007	MW-20I	EPA 3010	592274	EPA 6010	594007
50272614008	MW-20B	EPA 3010	592274	EPA 6010	594007
50272614009	DUP 4	EPA 3010	592274	EPA 6010	594007
50272614010	Field Blank 4	EPA 3010	592274	EPA 6010	594007
50272614001	AP-9A	EPA 200.2	592015	EPA 6020	592443
50272614002	AP-10A	EPA 200.2	592015	EPA 6020	592443
50272614003	MW-19A	EPA 200.2	592015	EPA 6020	592443
50272614004	MW-19I	EPA 200.2	592015	EPA 6020	592443
50272614005	MW-19B	EPA 200.2	592015	EPA 6020	592443
50272614006	MW-20A	EPA 200.2	592015	EPA 6020	592443
50272614007	MW-20I	EPA 200.2	592015	EPA 6020	592443
50272614008	MW-20B	EPA 200.2	592015	EPA 6020	592443
50272614009	DUP 4	EPA 200.2	592015	EPA 6020	592443
50272614010	Field Blank 4	EPA 200.2	592015	EPA 6020	592443
50272614001	AP-9A	EPA 903.1	422668		
50272614002	AP-10A	EPA 903.1	422668		
50272614003	MW-19A	EPA 903.1	422662		
50272614004	MW-19I	EPA 903.1	422662		
50272614005	MW-19B	EPA 903.1	422662		
50272614006	MW-20A	EPA 903.1	422662		
50272614007	MW-20I	EPA 903.1	422662		
50272614008	MW-20B	EPA 903.1	422662		
50272614009	DUP 4	EPA 903.1	422662		
50272614010	Field Blank 4	EPA 903.1	422662		
50272614001	AP-9A	EPA 904.0	422670		
50272614002	AP-10A	EPA 904.0	422670		
50272614003	MW-19A	EPA 904.0	422664		
50272614004	MW-19I	EPA 904.0	422664		
50272614005	MW-19B	EPA 904.0	422664		
50272614006	MW-20A	EPA 904.0	422664		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Sampling Profile2 Report5
Pace Project No.: 50272614

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50272614007	MW-20I	EPA 904.0	422664		
50272614008	MW-20B	EPA 904.0	422664		
50272614009	DUP 4	EPA 904.0	422664		
50272614010	Field Blank 4	EPA 904.0	422664		
50272614001	AP-9A	Total Radium Calculation	425619		
50272614002	AP-10A	Total Radium Calculation	425619		
50272614003	MW-19A	Total Radium Calculation	425618		
50272614004	MW-19I	Total Radium Calculation	425619		
50272614005	MW-19B	Total Radium Calculation	425619		
50272614006	MW-20A	Total Radium Calculation	425619		
50272614007	MW-20I	Total Radium Calculation	425619		
50272614008	MW-20B	Total Radium Calculation	425619		
50272614009	DUP 4	Total Radium Calculation	425618		
50272614010	Field Blank 4	Total Radium Calculation	425619		
50272614001	AP-9A	SM 2540C	592592		
50272614002	AP-10A	SM 2540C	592592		
50272614003	MW-19A	SM 2540C	592592		
50272614004	MW-19I	SM 2540C	592757		
50272614005	MW-19B	SM 2540C	592757		
50272614006	MW-20A	SM 2540C	592757		
50272614007	MW-20I	SM 2540C	592757		
50272614008	MW-20B	SM 2540C	592757		
50272614009	DUP 4	SM 2540C	592757		
50272614010	Field Blank 4	SM 2540C	592757		
50272614001	AP-9A	SM 4500-H+B	592176		
50272614002	AP-10A	SM 4500-H+B	592176		
50272614003	MW-19A	SM 4500-H+B	592176		
50272614004	MW-19I	SM 4500-H+B	592176		
50272614005	MW-19B	SM 4500-H+B	592176		
50272614006	MW-20A	SM 4500-H+B	592176		
50272614007	MW-20I	SM 4500-H+B	592176		
50272614008	MW-20B	SM 4500-H+B	592176		
50272614009	DUP 4	SM 4500-H+B	592176		
50272614010	Field Blank 4	SM 4500-H+B	592176		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DP 4/9/20 1250

Courier: Fed Ex UPS Client Pace USPS Other _____

Custody Seal on Cooler/Box Present: Yes No (If yes)Seals Intact: Yes No (leave blank if no seals were present)

Packing Material: Bubble Wrap Bubble Bags None Other Zyloc

Thermometer: 1 2 3 4 5 6 ABCDEF Ice Type: Wet Blue None

Cooler Temperature: 2.0/1.9, 1.8/1.7, 2.4/2.3 If temp. is over 6°C or under 0°C, was the PM notified?: Yes No
 Temp should be above freezing to 6°C (Initial/Corrected)

All discrepancies will be written out in the comments section below.						
	Yes	No		Yes	No	N/A
Are samples from West Virginia? Document any containers out of temp.		/	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.	/		
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	Circle: <u>HNO3 (<2)</u> H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form			
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (Total/Amenable/Free Cyanide)			/
Rush TAT Requested (4 days or less):		/	Headspace Wisconsin Sulfide?			/
Custody Signatures Present?	/		Headspace in VOA Vials (>6mm):			/
Containers Intact?:	/		Trip Blank Present?		/	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Custody Seals?:			/
Extra labels on Terracore Vials? (soils only)		/				

COMMENTS:

Sample Container Count

Sample Line Item	WGUFU	SBS DI BK Kit R	DG9H VG9H	VOA VIAL HS (≥6mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H				Matrix	pH <2	pH >9	pH >10
2																											✓		
3																											✓		
4																											✓		
5																											✓		
6																											✓		
7																											✓		
8																											✓		
9																											✓		
10																											✓		
11																											✓		
12																											✓		

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac		
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic		
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic		
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic		
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic		
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic		
WGUFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic		
JGFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)		
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass				

AF	Air Filter
C	Air Cassettes
R	Terra core kit
SP5T	120mL Coliform Na Thiosulfate
U	Summa Can
ZPLC	Ziploc Bag

WT	Water
SL	Solid
NAL	Non-aqueous liquid
WP	Wipe

February 05, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR Profile 2 Report 4
Pace Project No.: 50272616

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

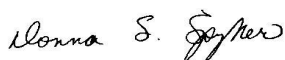
The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

This revision replaces the report dated 010421. Revised compound list. dss 020521

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Donna Spyker
donna.spyker@pacelabs.com
(317)228-3100
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50272616001	AP-3A	Water	11/07/20 09:19	11/09/20 12:30
50272616002	AP-4A	Water	11/07/20 10:03	11/09/20 12:30
50272616003	AP-4I	Water	11/07/20 10:49	11/09/20 12:30
50272616004	AP-4B	Water	11/07/20 11:26	11/09/20 12:30
50272616005	AP-5	Water	11/07/20 12:36	11/09/20 12:30
50272616006	AP-5A	Water	11/07/20 13:16	11/09/20 12:30
50272616007	AP-6A	Water	11/07/20 14:00	11/09/20 12:30
50272616008	AP-6B	Water	11/07/20 14:40	11/09/20 12:30
50272616009	AP-7	Water	11/05/20 14:45	11/09/20 12:30
50272616010	AP-8	Water	11/05/20 13:00	11/09/20 12:30
50272616011	DUP 2	Water	11/05/20 08:00	11/09/20 12:30
50272616012	Field Blank 2	Water	11/05/20 12:30	11/09/20 12:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Profile 2 Report 4
Pace Project No.: 50272616

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50272616001	AP-3A	EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
50272616002	AP-4A	SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
50272616003	AP-4I	SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
50272616004	AP-4B	SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
50272616005	AP-5	SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50272616006	AP-5A	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272616007	AP-6A	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272616008	AP-6B	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272616009	AP-7	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272616010	AP-8	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	JPK	7	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50272616011	DUP 2	EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272616012	Field Blank 2	EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272616001	AP-3A					
EPA 9056	Chloride	140	mg/L	25.0	11/19/20 20:56	
EPA 9056	Fluoride	0.12	mg/L	0.10	11/19/20 20:40	
EPA 9056	Sulfate	1600	mg/L	25.0	11/19/20 20:56	
EPA 6010	Barium	35.2	ug/L	10.0	11/18/20 23:08	
EPA 6010	Boron	27400	ug/L	100	11/18/20 23:08	
EPA 6010	Calcium	699000	ug/L	5000	11/18/20 23:53	
EPA 6010	Molybdenum	599	ug/L	10.0	11/18/20 23:08	
EPA 6020	Arsenic	1.6	ug/L	1.0	11/13/20 17:49	
EPA 903.1	Radium-226	0.0584 ± 0.344 (0.702)	pCi/L		12/02/20 16:22	
EPA 904.0	Radium-228	C:NA T:78% 1.29 ± 0.832 (1.59)	pCi/L		12/01/20 14:57	
		C:63% T:74%				
Total Radium Calculation	Total Radium	1.35 ± 1.18 (2.29)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	2610	mg/L	40.0	11/13/20 09:20	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	11/11/20 11:31	H3
50272616002	AP-4A					
EPA 9056	Chloride	128	mg/L	25.0	11/19/20 21:29	
EPA 9056	Fluoride	0.11	mg/L	0.10	11/19/20 21:12	
EPA 9056	Sulfate	1800	mg/L	25.0	11/19/20 21:29	
EPA 6010	Barium	32.2	ug/L	10.0	11/18/20 23:11	
EPA 6010	Boron	21000	ug/L	100	11/18/20 23:11	
EPA 6010	Calcium	640000	ug/L	5000	11/18/20 23:56	
EPA 6010	Lithium	49.8	ug/L	20.0	11/18/20 23:11	
EPA 6010	Molybdenum	228	ug/L	10.0	11/18/20 23:11	
EPA 903.1	Radium-226	0.0540 ± 0.318 (0.649)	pCi/L		12/02/20 16:22	
EPA 904.0	Radium-228	C:NA T:82% 1.66 ± 0.693 (1.12)	pCi/L		12/01/20 14:57	
		C:60% T:78%				
Total Radium Calculation	Total Radium	1.71 ± 1.01 (1.77)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	2740	mg/L	40.0	11/13/20 09:20	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	11/11/20 11:34	H3
50272616003	AP-4I					
EPA 9056	Chloride	108	mg/L	25.0	11/19/20 22:01	
EPA 9056	Fluoride	0.20	mg/L	0.10	11/19/20 21:45	
EPA 9056	Sulfate	1620	mg/L	25.0	11/19/20 22:01	
EPA 6010	Barium	30.6	ug/L	10.0	11/18/20 23:13	
EPA 6010	Boron	20000	ug/L	100	11/18/20 23:13	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272616003	AP-4I					
EPA 6010	Calcium	621000	ug/L	5000	11/18/20 23:58	
EPA 6010	Molybdenum	182	ug/L	10.0	11/18/20 23:13	
EPA 6020	Cobalt	2.1	ug/L	1.0	11/13/20 17:59	
EPA 903.1	Radium-226	0.625 ± 0.477 (0.678)	pCi/L		12/02/20 16:22	
EPA 904.0	Radium-228	C:NA T:84% 1.55 ± 0.685 (1.16)	pCi/L		12/01/20 14:57	
		C:59% T:82%				
Total Radium Calculation	Total Radium	2.18 ± 1.16 (1.84)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	2470	mg/L	40.0	11/13/20 09:20	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/11/20 11:35	H3
50272616004	AP-4B					
EPA 9056	Chloride	13.5	mg/L	5.0	11/19/20 23:07	
EPA 9056	Sulfate	352	mg/L	5.0	11/19/20 23:07	
EPA 6010	Barium	70.8	ug/L	10.0	11/18/20 23:20	
EPA 6010	Boron	1600	ug/L	100	11/18/20 23:20	
EPA 6010	Calcium	261000	ug/L	5000	11/19/20 00:00	
EPA 6020	Selenium	6.6	ug/L	1.0	11/16/20 16:16	
EPA 903.1	Radium-226	0.587 ± 0.389 (0.177)	pCi/L		12/02/20 16:37	
EPA 904.0	Radium-228	C:NA T:80% 0.680 ± 0.610 (1.25)	pCi/L		12/01/20 14:57	
		C:57% T:82%				
Total Radium Calculation	Total Radium	1.27 ± 0.999 (1.43)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	972	mg/L	20.0	11/13/20 09:21	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	11/11/20 11:37	H3
50272616005	AP-5					
EPA 9056	Chloride	80.6	mg/L	2.5	11/19/20 23:40	
EPA 9056	Fluoride	0.19	mg/L	0.10	11/19/20 23:23	
EPA 9056	Sulfate	1440	mg/L	25.0	11/19/20 23:56	
EPA 6010	Barium	35.3	ug/L	10.0	11/18/20 23:22	
EPA 6010	Boron	11300	ug/L	100	11/18/20 23:22	
EPA 6010	Calcium	608000	ug/L	5000	11/19/20 00:03	
EPA 6010	Lithium	23.7	ug/L	20.0	11/18/20 23:22	
EPA 6010	Molybdenum	131	ug/L	10.0	11/18/20 23:22	
EPA 6020	Cobalt	2.5	ug/L	1.0	11/16/20 16:27	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272616005						
EPA 903.1	Radium-226	0.368 ± 0.451 (0.741)	pCi/L		12/02/20 16:37	
EPA 904.0	Radium-228	C:NA T:81% 1.05 ± 0.614 (1.15)	pCi/L		12/01/20 14:57	
Total Radium Calculation	Total Radium	C:60% T:82% 1.42 ± 1.07 (1.89)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	2340	mg/L	40.0	11/13/20 09:22	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/11/20 11:39	H3
50272616006						
EPA 9056	Chloride	52.2	mg/L	2.5	11/20/20 00:29	
EPA 9056	Sulfate	1800	mg/L	25.0	11/20/20 00:45	
EPA 6010	Barium	30.8	ug/L	10.0	11/18/20 23:24	
EPA 6010	Boron	15600	ug/L	100	11/18/20 23:24	
EPA 6010	Calcium	644000	ug/L	5000	11/19/20 00:05	
EPA 6010	Molybdenum	236	ug/L	10.0	11/18/20 23:24	
EPA 903.1	Radium-226	0.561 ± 0.354 (0.152)	pCi/L		12/02/20 16:37	
EPA 904.0	Radium-228	C:NA T:80% 0.588 ± 0.491 (0.990)	pCi/L		12/01/20 14:58	
Total Radium Calculation	Total Radium	C:63% T:86% 1.15 ± 0.845 (1.14)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	2440	mg/L	40.0	11/13/20 09:22	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/11/20 11:40	H3
50272616007						
EPA 9056	Chloride	41.9	mg/L	2.5	11/20/20 01:51	
EPA 9056	Sulfate	1330	mg/L	25.0	11/20/20 02:07	
EPA 6010	Barium	27.7	ug/L	10.0	11/18/20 23:26	
EPA 6010	Boron	12300	ug/L	100	11/18/20 23:26	
EPA 6010	Calcium	476000	ug/L	5000	11/19/20 00:07	
EPA 903.1	Radium-226	0.000 ± 0.335 (0.695)	pCi/L		12/02/20 16:37	
EPA 904.0	Radium-228	C:NA T:85% 1.27 ± 0.638 (1.11)	pCi/L		12/01/20 14:58	
		C:57% T:79%				

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SUMMARY OF DETECTION

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272616007	AP-6A					
Total Radium Calculation	Total Radium	1.27 ± 0.973 (1.81)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	2180	mg/L	20.0	11/13/20 09:22	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/11/20 11:42	H3
50272616008	AP-6B					
EPA 9056	Chloride	12.0	mg/L	0.25	11/20/20 02:23	
EPA 9056	Sulfate	446	mg/L	25.0	11/20/20 02:56	
EPA 6010	Barium	30.4	ug/L	10.0	11/18/20 23:29	
EPA 6010	Boron	1210	ug/L	100	11/18/20 23:29	
EPA 6010	Calcium	239000	ug/L	5000	11/19/20 00:14	
EPA 903.1	Radium-226	0.106 ± 0.256 (0.494) C:NA T:81%	pCi/L		12/02/20 16:37	
EPA 904.0	Radium-228	0.615 ± 0.547 (1.11) C:66% T:73%	pCi/L		12/01/20 14:58	
Total Radium Calculation	Total Radium	0.721 ± 0.803 (1.60)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	990	mg/L	20.0	11/13/20 09:23	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	11/11/20 11:43	H3
50272616009	AP-7					
EPA 9056	Chloride	4.1	mg/L	0.25	11/20/20 03:13	
EPA 9056	Fluoride	0.16	mg/L	0.10	11/20/20 03:13	
EPA 9056	Sulfate	273	mg/L	25.0	11/20/20 03:29	
EPA 6010	Barium	67.8	ug/L	10.0	11/18/20 23:31	
EPA 6010	Boron	220	ug/L	100	11/18/20 23:31	
EPA 6010	Calcium	218000	ug/L	2000	11/19/20 00:16	
EPA 903.1	Radium-226	0.119 ± 0.406 (0.783) C:NA T:79%	pCi/L		12/02/20 16:22	
EPA 904.0	Radium-228	1.91 ± 0.918 (1.61) C:57% T:82%	pCi/L		12/01/20 14:57	
Total Radium Calculation	Total Radium	2.03 ± 1.32 (2.39)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	918	mg/L	20.0	11/12/20 10:48	
SM 4500-H+B	pH at 25 Degrees C	6.7	Std. Units	0.10	11/11/20 11:44	H3
50272616010	AP-8					
EPA 9056	Chloride	12.2	mg/L	0.25	11/20/20 04:18	
EPA 9056	Fluoride	0.76	mg/L	0.10	11/20/20 04:18	
EPA 9056	Sulfate	579	mg/L	25.0	11/20/20 04:51	

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SUMMARY OF DETECTION

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272616010	AP-8					
EPA 6010	Barium	14.6	ug/L	10.0	11/18/20 23:33	
EPA 6010	Boron	828	ug/L	100	11/18/20 23:33	
EPA 6010	Cadmium	6.7	ug/L	2.0	11/18/20 23:33	
EPA 6010	Calcium	128000	ug/L	1000	11/18/20 23:33	
EPA 6010	Lithium	57.3	ug/L	20.0	11/18/20 23:33	
EPA 6020	Arsenic	5.5	ug/L	1.0	11/17/20 19:06	
EPA 6020	Beryllium	2.2	ug/L	0.20	11/17/20 19:06	
EPA 6020	Cobalt	372	ug/L	5.0	11/17/20 18:34	
EPA 903.1	Radium-226	0.332 ± 0.309 (0.407)	pCi/L		12/02/20 16:22	
EPA 904.0	Radium-228	C:NA T:77% 1.11 ± 0.726 (1.42)	pCi/L		12/01/20 11:58	
		C:61% T:82%				
Total Radium Calculation	Total Radium	1.44 ± 1.04 (1.83)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	973	mg/L	10.0	11/12/20 10:48	
SM 4500-H+B	pH at 25 Degrees C	5.4	Std. Units	0.10	11/11/20 11:46	H3
50272616011	DUP 2					
EPA 9056	Chloride	11.1	mg/L	0.25	11/20/20 05:07	
EPA 9056	Fluoride	0.52	mg/L	0.10	11/20/20 05:07	
EPA 9056	Sulfate	539	mg/L	25.0	11/20/20 05:39	
EPA 6010	Barium	14.4	ug/L	10.0	11/18/20 12:37	
EPA 6010	Boron	871	ug/L	100	11/18/20 12:37	
EPA 6010	Cadmium	4.2	ug/L	2.0	11/18/20 12:37	
EPA 6010	Calcium	126000	ug/L	1000	11/18/20 12:37	
EPA 6010	Lithium	50.5	ug/L	20.0	11/18/20 12:37	
EPA 6020	Arsenic	4.9	ug/L	1.0	11/17/20 19:28	
EPA 6020	Beryllium	1.7	ug/L	0.20	11/17/20 19:28	
EPA 6020	Cobalt	311	ug/L	5.0	11/17/20 18:45	
EPA 903.1	Radium-226	0.214 ± 0.245 (0.145)	pCi/L		12/02/20 16:22	
EPA 904.0	Radium-228	C:NA T:83% 1.63 ± 0.759 (1.34)	pCi/L		12/01/20 11:58	
		C:62% T:75%				
Total Radium Calculation	Total Radium	1.84 ± 1.00 (1.49)	pCi/L		12/03/20 10:26	
SM 2540C	Total Dissolved Solids	956	mg/L	10.0	11/12/20 10:48	
SM 4500-H+B	pH at 25 Degrees C	5.5	Std. Units	0.10	11/11/20 11:49	H3

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SUMMARY OF DETECTION

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272616012	Field Blank 2					
EPA 903.1	Radium-226	0.210 ± 0.292 (0.488) C:NA T:77%	pCi/L		12/02/20 16:22	
EPA 904.0	Radium-228	0.633 ± 0.576 (1.19) C:60% T:90%	pCi/L		12/01/20 11:58	
Total Radium Calculation	Total Radium	0.843 ± 0.868 (1.68)	pCi/L		12/03/20 10:26	
SM 4500-H+B	pH at 25 Degrees C	5.8	Std. Units	0.10	11/11/20 11:53	H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-3A	Lab ID: 50272616001	Collected: 11/07/20 09:19	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	140	mg/L	25.0	100		11/19/20 20:56	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		11/19/20 20:40	16984-48-8	
Sulfate	1600	mg/L	25.0	100		11/19/20 20:56	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	35.2	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:08	7440-39-3	
Boron	27400	ug/L	100	1	11/16/20 05:54	11/18/20 23:08	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:08	7440-43-9	
Calcium	699000	ug/L	5000	5	11/16/20 05:54	11/18/20 23:53	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:08	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:08	7439-93-2	
Molybdenum	599	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:08	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:49	7440-36-0	
Arsenic	1.6	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:49	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/13/20 17:49	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:49	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:49	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:49	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2610	mg/L	40.0	1		11/13/20 09:20		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.9	Std. Units	0.10	1		11/11/20 11:31		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-4A	Lab ID: 50272616002	Collected: 11/07/20 10:03	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	128	mg/L	25.0	100		11/19/20 21:29	16887-00-6	
Fluoride	0.11	mg/L	0.10	1		11/19/20 21:12	16984-48-8	
Sulfate	1800	mg/L	25.0	100		11/19/20 21:29	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	32.2	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:11	7440-39-3	
Boron	21000	ug/L	100	1	11/16/20 05:54	11/18/20 23:11	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:11	7440-43-9	
Calcium	640000	ug/L	5000	5	11/16/20 05:54	11/18/20 23:56	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:11	7439-92-1	
Lithium	49.8	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:11	7439-93-2	
Molybdenum	228	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:11	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:54	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:54	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/13/20 17:54	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:54	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:54	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:54	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2740	mg/L	40.0	1		11/13/20 09:20		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.9	Std. Units	0.10	1		11/11/20 11:34		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-4I	Lab ID: 50272616003	Collected: 11/07/20 10:49	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	108	mg/L	25.0	100		11/19/20 22:01	16887-00-6	
Fluoride	0.20	mg/L	0.10	1		11/19/20 21:45	16984-48-8	
Sulfate	1620	mg/L	25.0	100		11/19/20 22:01	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	30.6	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:13	7440-39-3	
Boron	20000	ug/L	100	1	11/16/20 05:54	11/18/20 23:13	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:13	7440-43-9	
Calcium	621000	ug/L	5000	5	11/16/20 05:54	11/18/20 23:58	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:13	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:13	7439-93-2	
Molybdenum	182	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:13	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:59	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:59	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/13/20 17:59	7440-41-7	
Cobalt	2.1	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:59	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:59	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 17:59	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2470	mg/L	40.0	1		11/13/20 09:20		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.0	Std. Units	0.10	1		11/11/20 11:35		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-4B	Lab ID: 50272616004	Collected: 11/07/20 11:26	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	13.5	mg/L	5.0	20		11/19/20 23:07	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/19/20 22:51	16984-48-8	
Sulfate	352	mg/L	5.0	20		11/19/20 23:07	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	70.8	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:20	7440-39-3	
Boron	1600	ug/L	100	1	11/16/20 05:54	11/18/20 23:20	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:20	7440-43-9	
Calcium	261000	ug/L	5000	5	11/16/20 05:54	11/19/20 00:00	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:20	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:20	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:20	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:16	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:16	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/16/20 16:16	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:16	7440-48-4	
Selenium	6.6	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:16	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:16	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	972	mg/L	20.0	1		11/13/20 09:21		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.8	Std. Units	0.10	1		11/11/20 11:37		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-5	Lab ID: 50272616005	Collected: 11/07/20 12:36	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	80.6	mg/L	2.5	10		11/19/20 23:40	16887-00-6	
Fluoride	0.19	mg/L	0.10	1		11/19/20 23:23	16984-48-8	
Sulfate	1440	mg/L	25.0	100		11/19/20 23:56	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	35.3	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:22	7440-39-3	
Boron	11300	ug/L	100	1	11/16/20 05:54	11/18/20 23:22	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:22	7440-43-9	
Calcium	608000	ug/L	5000	5	11/16/20 05:54	11/19/20 00:03	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:22	7439-92-1	
Lithium	23.7	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:22	7439-93-2	
Molybdenum	131	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:22	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:27	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:27	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/16/20 16:27	7440-41-7	
Cobalt	2.5	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:27	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:27	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:27	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2340	mg/L	40.0	1		11/13/20 09:22		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.1	Std. Units	0.10	1		11/11/20 11:39		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-5A	Lab ID: 50272616006	Collected: 11/07/20 13:16	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	52.2	mg/L	2.5	10		11/20/20 00:29	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/20/20 00:12	16984-48-8	
Sulfate	1800	mg/L	25.0	100		11/20/20 00:45	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	30.8	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:24	7440-39-3	
Boron	15600	ug/L	100	1	11/16/20 05:54	11/18/20 23:24	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:24	7440-43-9	
Calcium	644000	ug/L	5000	5	11/16/20 05:54	11/19/20 00:05	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:24	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:24	7439-93-2	
Molybdenum	236	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:24	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:50	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:50	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/17/20 17:50	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:50	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:50	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:50	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2440	mg/L	40.0	1		11/13/20 09:22		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.0	Std. Units	0.10	1		11/11/20 11:40		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-6A	Lab ID: 50272616007	Collected: 11/07/20 14:00	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	41.9	mg/L	2.5	10		11/20/20 01:51	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/20/20 01:34	16984-48-8	
Sulfate	1330	mg/L	25.0	100		11/20/20 02:07	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	27.7	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:26	7440-39-3	
Boron	12300	ug/L	100	1	11/16/20 05:54	11/18/20 23:26	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:26	7440-43-9	
Calcium	476000	ug/L	5000	5	11/16/20 05:54	11/19/20 00:07	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:26	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:26	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:26	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:40	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:40	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/17/20 17:40	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:40	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:40	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:40	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2180	mg/L	20.0	1		11/13/20 09:22		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.0	Std. Units	0.10	1		11/11/20 11:42		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-6B	Lab ID: 50272616008	Collected: 11/07/20 14:40	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	12.0	mg/L	0.25	1		11/20/20 02:23	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/20/20 02:23	16984-48-8	
Sulfate	446	mg/L	25.0	100		11/20/20 02:56	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	30.4	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:29	7440-39-3	
Boron	1210	ug/L	100	1	11/16/20 05:54	11/18/20 23:29	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:29	7440-43-9	
Calcium	239000	ug/L	5000	5	11/16/20 05:54	11/19/20 00:14	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:29	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:29	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:29	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:49	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:49	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/16/20 16:49	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:49	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:49	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 16:49	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	990	mg/L	20.0	1		11/13/20 09:23		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.9	Std. Units	0.10	1		11/11/20 11:43		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: AP-7								
Lab ID: 50272616009								
Collected: 11/05/20 14:45								
Received: 11/09/20 12:30								
Matrix: Water								
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	4.1	mg/L	0.25	1		11/20/20 03:13	16887-00-6	
Fluoride	0.16	mg/L	0.10	1		11/20/20 03:13	16984-48-8	
Sulfate	273	mg/L	25.0	100		11/20/20 03:29	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	67.8	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:31	7440-39-3	
Boron	220	ug/L	100	1	11/16/20 05:54	11/18/20 23:31	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:31	7440-43-9	
Calcium	218000	ug/L	2000	2	11/16/20 05:54	11/19/20 00:16	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:31	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:31	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:31	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 17:00	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 17:00	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/16/20 17:00	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 17:00	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 17:00	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/16/20 17:00	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	918	mg/L	20.0	1		11/12/20 10:48		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.7	Std. Units	0.10	1		11/11/20 11:44		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-8	Lab ID: 50272616010	Collected: 11/05/20 13:00	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	12.2	mg/L	0.25	1		11/20/20 04:18	16887-00-6	
Fluoride	0.76	mg/L	0.10	1		11/20/20 04:18	16984-48-8	
Sulfate	579	mg/L	25.0	100		11/20/20 04:51	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	14.6	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:33	7440-39-3	
Boron	828	ug/L	100	1	11/16/20 05:54	11/18/20 23:33	7440-42-8	
Cadmium	6.7	ug/L	2.0	1	11/16/20 05:54	11/18/20 23:33	7440-43-9	
Calcium	128000	ug/L	1000	1	11/16/20 05:54	11/18/20 23:33	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:33	7439-92-1	
Lithium	57.3	ug/L	20.0	1	11/16/20 05:54	11/18/20 23:33	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 05:54	11/18/20 23:33	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 19:06	7440-36-0	
Arsenic	5.5	ug/L	1.0	1	11/12/20 08:52	11/17/20 19:06	7440-38-2	
Beryllium	2.2	ug/L	0.20	1	11/12/20 08:52	11/17/20 19:06	7440-41-7	
Cobalt	372	ug/L	5.0	5	11/12/20 08:52	11/17/20 18:34	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 19:06	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 19:06	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	973	mg/L	10.0	1		11/12/20 10:48		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	5.4	Std. Units	0.10	1		11/11/20 11:46		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: DUP 2	Lab ID: 50272616011	Collected: 11/05/20 08:00	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	11.1	mg/L	0.25	1		11/20/20 05:07	16887-00-6	
Fluoride	0.52	mg/L	0.10	1		11/20/20 05:07	16984-48-8	
Sulfate	539	mg/L	25.0	100		11/20/20 05:39	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	14.4	ug/L	10.0	1	11/16/20 06:03	11/18/20 12:37	7440-39-3	
Boron	871	ug/L	100	1	11/16/20 06:03	11/18/20 12:37	7440-42-8	
Cadmium	4.2	ug/L	2.0	1	11/16/20 06:03	11/18/20 12:37	7440-43-9	
Calcium	126000	ug/L	1000	1	11/16/20 06:03	11/18/20 12:37	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 06:03	11/18/20 12:37	7439-92-1	
Lithium	50.5	ug/L	20.0	1	11/16/20 06:03	11/18/20 12:37	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 06:03	11/18/20 12:37	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 19:28	7440-36-0	
Arsenic	4.9	ug/L	1.0	1	11/12/20 08:52	11/17/20 19:28	7440-38-2	
Beryllium	1.7	ug/L	0.20	1	11/12/20 08:52	11/17/20 19:28	7440-41-7	
Cobalt	311	ug/L	5.0	5	11/12/20 08:52	11/17/20 18:45	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 19:28	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 19:28	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	956	mg/L	10.0	1		11/12/20 10:48		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	5.5	Std. Units	0.10	1		11/11/20 11:49		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: Field Blank 2	Lab ID: 50272616012	Collected: 11/05/20 12:30	Received: 11/09/20 12:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	1		11/20/20 05:55	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/20/20 05:55	16984-48-8	
Sulfate	ND	mg/L	0.25	1		11/20/20 05:55	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	ND	ug/L	10.0	1	11/16/20 06:03	11/18/20 12:40	7440-39-3	
Boron	ND	ug/L	100	1	11/16/20 06:03	11/18/20 12:40	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 06:03	11/18/20 12:40	7440-43-9	
Calcium	ND	ug/L	1000	1	11/16/20 06:03	11/18/20 12:40	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 06:03	11/18/20 12:40	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 06:03	11/18/20 12:40	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 06:03	11/18/20 12:40	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 16:51	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 16:51	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/17/20 16:51	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 16:51	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 16:51	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 16:51	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	1		11/12/20 10:48		PL
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	5.8	Std. Units	0.10	1		11/11/20 11:53		H3

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4
Pace Project No.: 50272616

QC Batch:	594061	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272616001, 50272616002, 50272616003, 50272616004, 50272616005, 50272616006, 50272616007, 50272616008, 50272616009, 50272616010, 50272616011, 50272616012

METHOD BLANK: 2740573 Matrix: Water
Associated Lab Samples: 50272616001, 50272616002, 50272616003, 50272616004, 50272616005, 50272616006, 50272616007, 50272616008, 50272616009, 50272616010, 50272616011, 50272616012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/19/20 20:07	
Fluoride	mg/L	ND	0.10	11/19/20 20:07	
Sulfate	mg/L	ND	0.25	11/19/20 20:07	

LABORATORY CONTROL SAMPLE: 2740574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	93	80-120	
Fluoride	mg/L	0.5	0.51	101	80-120	
Sulfate	mg/L	2.5	2.5	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2740575 2740576

Parameter	Units	50272697003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	102	125	125	221	221	95	95	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.50	0.50	92	92	80-120	0	15	
Sulfate	mg/L	1510	250	250	1720	1720	85	85	80-120	0	15	

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

QC Batch: 592269

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272616011, 50272616012

METHOD BLANK: 2732359

Matrix: Water

Associated Lab Samples: 50272616011, 50272616012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	11/18/20 11:30	
Boron	ug/L	ND	100	11/18/20 11:30	
Cadmium	ug/L	ND	2.0	11/18/20 11:30	
Calcium	ug/L	ND	1000	11/18/20 11:30	
Lead	ug/L	ND	10.0	11/18/20 11:30	
Lithium	ug/L	ND	20.0	11/18/20 12:44	
Molybdenum	ug/L	ND	10.0	11/18/20 11:30	

LABORATORY CONTROL SAMPLE: 2732360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	959	96	80-120	
Boron	ug/L	1000	958	96	80-120	
Cadmium	ug/L	1000	948	95	80-120	
Calcium	ug/L	10000	10100	101	80-120	
Lead	ug/L	1000	961	96	80-120	
Lithium	ug/L	1000	979	98	80-120	
Molybdenum	ug/L	1000	1000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2732361 2732362

Parameter	Units	50272558003		2732361		2732362		% Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					
Barium	ug/L	0.077 mg/L	1000	1000	1020	1020	94	94	75-125	0	20	
Boron	ug/L	1.4 mg/L	1000	1000	2350	2390	91	94	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	958	957	96	96	75-125	0	20	
Calcium	ug/L	246 mg/L	10000	10000	251000	249000	46	22	75-125	1	20 P6	
Lead	ug/L	ND	1000	1000	938	930	94	93	75-125	1	20	
Lithium	ug/L	0.029 mg/L	1000	1000	1030	1030	100	100	75-125	0	20	
Molybdenum	ug/L	0.045 mg/L	1000	1000	1020	1040	97	100	75-125	3	20	

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

QC Batch:	592274	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272616001, 50272616002, 50272616003, 50272616004, 50272616005, 50272616006, 50272616007, 50272616008, 50272616009, 50272616010

METHOD BLANK:	2732379	Matrix:	Water
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Associated Lab Samples: 50272616001, 50272616002, 50272616003, 50272616004, 50272616005, 50272616006, 50272616007, 50272616008, 50272616009, 50272616010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	11/18/20 22:26	
Boron	ug/L	ND	100	11/18/20 22:26	
Cadmium	ug/L	ND	2.0	11/18/20 22:26	
Calcium	ug/L	ND	1000	11/18/20 22:26	
Lead	ug/L	ND	10.0	11/18/20 22:26	
Lithium	ug/L	ND	20.0	11/18/20 22:26	
Molybdenum	ug/L	ND	10.0	11/18/20 22:26	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	947	95	80-120	
Boron	ug/L	1000	961	96	80-120	
Cadmium	ug/L	1000	960	96	80-120	
Calcium	ug/L	10000	9550	96	80-120	
Lead	ug/L	1000	946	95	80-120	
Lithium	ug/L	1000	963	96	80-120	
Molybdenum	ug/L	1000	986	99	80-120	

Parameter	Units	MSD		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		50272614003	Result	Result	Result	Result	% Rec	% Rec					
Barium	ug/L	37.6	1000	1000	981	978	94	94	75-125	0	20		
Boron	ug/L	23700	1000	1000	24000	24000	31	36	75-125	0	20	P6	
Cadmium	ug/L	ND	1000	1000	993	988	99	99	75-125	0	20		
Calcium	ug/L	618000	10000	10000	608000	605000	-100	-135	75-125	1	20	P6	
Lead	ug/L	ND	1000	1000	910	914	91	91	75-125	0	20		
Lithium	ug/L	ND	1000	1000	1030	1030	103	102	75-125	1	20		
Molybdenum	ug/L	788	1000	1000	1760	1750	97	97	75-125	0	20		

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

QC Batch:	592361	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50272616001, 50272616002, 50272616003, 50272616004, 50272616005, 50272616006, 50272616007, 50272616008, 50272616009, 50272616010, 50272616011, 50272616012		

METHOD BLANK:	2732782	Matrix:	Water
Associated Lab Samples:	50272616001, 50272616002, 50272616003, 50272616004, 50272616005, 50272616006, 50272616007, 50272616008, 50272616009, 50272616010, 50272616011, 50272616012		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/13/20 05:21	
Arsenic	ug/L	ND	1.0	11/13/20 05:21	
Beryllium	ug/L	ND	0.20	11/13/20 05:21	
Cobalt	ug/L	ND	1.0	11/13/20 05:21	
Selenium	ug/L	ND	1.0	11/13/20 05:21	
Thallium	ug/L	ND	1.0	11/13/20 05:21	

LABORATORY CONTROL SAMPLE: 2732783

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.9	97	80-120	
Arsenic	ug/L	40	36.3	91	80-120	
Beryllium	ug/L	40	38.9	97	80-120	
Cobalt	ug/L	40	39.6	99	80-120	
Selenium	ug/L	40	39.4	99	80-120	
Thallium	ug/L	40	39.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2732784 2732785

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50272697003 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	37.5	37.9	94	94	75-125	1	20
Arsenic	ug/L	2.7	40	40	37.6	38.0	87	88	75-125	1	20
Beryllium	ug/L	ND	40	40	32.9	33.0	82	83	75-125	0	20
Cobalt	ug/L	3.0	40	40	38.5	38.8	89	90	75-125	1	20
Selenium	ug/L	ND	40	40	34.9	33.5	86	82	75-125	4	20
Thallium	ug/L	ND	40	40	43.0	43.6	107	109	75-125	1	20

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

QC Batch: 592567	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272616009, 50272616010, 50272616011, 50272616012

METHOD BLANK: 2733894 Matrix: Water
Associated Lab Samples: 50272616009, 50272616010, 50272616011, 50272616012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/12/20 10:47	

LABORATORY CONTROL SAMPLE: 2733895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	302	101	80-120	

SAMPLE DUPLICATE: 2733896

Parameter	Units	50272520004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1400	1420	1	10	

SAMPLE DUPLICATE: 2733897

Parameter	Units	50272616010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	973	973	0	10	

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

QC Batch:	592357	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272616001, 50272616002, 50272616003, 50272616004, 50272616005, 50272616006, 50272616007, 50272616008, 50272616009, 50272616010, 50272616011, 50272616012

SAMPLE DUPLICATE: 2732772

Parameter	Units	50272616011 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.5	5.4	1	2	H3

SAMPLE DUPLICATE: 2732773

Parameter	Units	50272555001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-3A **Lab ID: 50272616001** Collected: 11/07/20 09:19 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.0584 ± 0.344 (0.702) C:NA T:78%	pCi/L	12/02/20 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.29 ± 0.832 (1.59) C:63% T:74%	pCi/L	12/01/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.35 ± 1.18 (2.29)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-4A **Lab ID: 50272616002** Collected: 11/07/20 10:03 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.0540 ± 0.318 (0.649) C:NA T:82%	pCi/L	12/02/20 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.66 ± 0.693 (1.12) C:60% T:78%	pCi/L	12/01/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.71 ± 1.01 (1.77)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-4I **Lab ID: 50272616003** Collected: 11/07/20 10:49 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.625 ± 0.477 (0.678) C:NA T:84%	pCi/L	12/02/20 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.55 ± 0.685 (1.16) C:59% T:82%	pCi/L	12/01/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.18 ± 1.16 (1.84)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-4B **Lab ID: 50272616004** Collected: 11/07/20 11:26 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.587 ± 0.389 (0.177) C:NA T:80%	pCi/L	12/02/20 16:37	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.680 ± 0.610 (1.25) C:57% T:82%	pCi/L	12/01/20 14:57	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.27 ± 0.999 (1.43)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: AP-5 Lab ID: 50272616005 Collected: 11/07/20 12:36 Received: 11/09/20 12:30 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.368 ± 0.451 (0.741) C:NA T:81%	pCi/L	12/02/20 16:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.05 ± 0.614 (1.15) C:60% T:82%	pCi/L	12/01/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.42 ± 1.07 (1.89)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-5A **Lab ID: 50272616006** Collected: 11/07/20 13:16 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.561 ± 0.354 (0.152) C:NA T:80%	pCi/L	12/02/20 16:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.588 ± 0.491 (0.990) C:63% T:86%	pCi/L	12/01/20 14:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.15 ± 0.845 (1.14)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-6A **Lab ID: 50272616007** Collected: 11/07/20 14:00 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.335 (0.695) C:NA T:85%	pCi/L	12/02/20 16:37	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.27 ± 0.638 (1.11) C:57% T:79%	pCi/L	12/01/20 14:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.27 ± 0.973 (1.81)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-6B **Lab ID: 50272616008** Collected: 11/07/20 14:40 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.106 ± 0.256 (0.494) C:NA T:81%	pCi/L	12/02/20 16:37	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.615 ± 0.547 (1.11) C:66% T:73%	pCi/L	12/01/20 14:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.721 ± 0.803 (1.60)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-7 **Lab ID: 50272616009** Collected: 11/05/20 14:45 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.119 ± 0.406 (0.783) C:NA T:79%	pCi/L	12/02/20 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.91 ± 0.918 (1.61) C:57% T:82%	pCi/L	12/01/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.03 ± 1.32 (2.39)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: AP-8 **Lab ID: 50272616010** Collected: 11/05/20 13:00 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.332 ± 0.309 (0.407) C:NA T:77%	pCi/L	12/02/20 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.11 ± 0.726 (1.42) C:61% T:82%	pCi/L	12/01/20 11:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.44 ± 1.04 (1.83)	pCi/L	12/03/20 10:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Sample: DUP 2 **Lab ID: 50272616011** Collected: 11/05/20 08:00 Received: 11/09/20 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.214 ± 0.245 (0.145) C:NA T:83%	pCi/L	12/02/20 16:22	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.63 ± 0.759 (1.34) C:62% T:75%	pCi/L	12/01/20 11:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.84 ± 1.00 (1.49)	pCi/L	12/03/20 10:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: Field Blank 2 Lab ID: 50272616012 Collected: 11/05/20 12:30 Received: 11/09/20 12:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.210 ± 0.292 (0.488) C:NA T:77%	pCi/L	12/02/20 16:22	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.633 ± 0.576 (1.19) C:60% T:90%	pCi/L	12/01/20 11:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.843 ± 0.868 (1.68)	pCi/L	12/03/20 10:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

PL The minimum mass of dried residue of 2.5 mg could not be obtained using the routine sample volume of 100 mL.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50272616001	AP-3A	EPA 9056	594061		
50272616002	AP-4A	EPA 9056	594061		
50272616003	AP-4I	EPA 9056	594061		
50272616004	AP-4B	EPA 9056	594061		
50272616005	AP-5	EPA 9056	594061		
50272616006	AP-5A	EPA 9056	594061		
50272616007	AP-6A	EPA 9056	594061		
50272616008	AP-6B	EPA 9056	594061		
50272616009	AP-7	EPA 9056	594061		
50272616010	AP-8	EPA 9056	594061		
50272616011	DUP 2	EPA 9056	594061		
50272616012	Field Blank 2	EPA 9056	594061		
50272616001	AP-3A	EPA 3010	592274	EPA 6010	594007
50272616002	AP-4A	EPA 3010	592274	EPA 6010	594007
50272616003	AP-4I	EPA 3010	592274	EPA 6010	594007
50272616004	AP-4B	EPA 3010	592274	EPA 6010	594007
50272616005	AP-5	EPA 3010	592274	EPA 6010	594007
50272616006	AP-5A	EPA 3010	592274	EPA 6010	594007
50272616007	AP-6A	EPA 3010	592274	EPA 6010	594007
50272616008	AP-6B	EPA 3010	592274	EPA 6010	594007
50272616009	AP-7	EPA 3010	592274	EPA 6010	594007
50272616010	AP-8	EPA 3010	592274	EPA 6010	594007
50272616011	DUP 2	EPA 3010	592269	EPA 6010	593812
50272616012	Field Blank 2	EPA 3010	592269	EPA 6010	593812
50272616001	AP-3A	EPA 200.2	592361	EPA 6020	592688
50272616002	AP-4A	EPA 200.2	592361	EPA 6020	592688
50272616003	AP-4I	EPA 200.2	592361	EPA 6020	592688
50272616004	AP-4B	EPA 200.2	592361	EPA 6020	592688
50272616005	AP-5	EPA 200.2	592361	EPA 6020	592688
50272616006	AP-5A	EPA 200.2	592361	EPA 6020	592688
50272616007	AP-6A	EPA 200.2	592361	EPA 6020	592688
50272616008	AP-6B	EPA 200.2	592361	EPA 6020	592688
50272616009	AP-7	EPA 200.2	592361	EPA 6020	592688
50272616010	AP-8	EPA 200.2	592361	EPA 6020	592688
50272616011	DUP 2	EPA 200.2	592361	EPA 6020	592688
50272616012	Field Blank 2	EPA 200.2	592361	EPA 6020	592688
50272616001	AP-3A	EPA 903.1	422662		
50272616002	AP-4A	EPA 903.1	422662		
50272616003	AP-4I	EPA 903.1	422662		
50272616004	AP-4B	EPA 903.1	422662		
50272616005	AP-5	EPA 903.1	422662		
50272616006	AP-5A	EPA 903.1	422662		
50272616007	AP-6A	EPA 903.1	422662		
50272616008	AP-6B	EPA 903.1	422662		
50272616009	AP-7	EPA 903.1	422662		
50272616010	AP-8	EPA 903.1	422662		
50272616011	DUP 2	EPA 903.1	422662		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50272616012	Field Blank 2	EPA 903.1	422662		
50272616001	AP-3A	EPA 904.0	422664		
50272616002	AP-4A	EPA 904.0	422664		
50272616003	AP-4I	EPA 904.0	422664		
50272616004	AP-4B	EPA 904.0	422664		
50272616005	AP-5	EPA 904.0	422664		
50272616006	AP-5A	EPA 904.0	422664		
50272616007	AP-6A	EPA 904.0	422664		
50272616008	AP-6B	EPA 904.0	422664		
50272616009	AP-7	EPA 904.0	422664		
50272616010	AP-8	EPA 904.0	422664		
50272616011	DUP 2	EPA 904.0	422664		
50272616012	Field Blank 2	EPA 904.0	422664		
50272616001	AP-3A	Total Radium Calculation	425618		
50272616002	AP-4A	Total Radium Calculation	425618		
50272616003	AP-4I	Total Radium Calculation	425618		
50272616004	AP-4B	Total Radium Calculation	425618		
50272616005	AP-5	Total Radium Calculation	425618		
50272616006	AP-5A	Total Radium Calculation	425618		
50272616007	AP-6A	Total Radium Calculation	425618		
50272616008	AP-6B	Total Radium Calculation	425618		
50272616009	AP-7	Total Radium Calculation	425618		
50272616010	AP-8	Total Radium Calculation	425618		
50272616011	DUP 2	Total Radium Calculation	425618		
50272616012	Field Blank 2	Total Radium Calculation	425618		
50272616001	AP-3A	SM 2540C	592844		
50272616002	AP-4A	SM 2540C	592844		
50272616003	AP-4I	SM 2540C	592844		
50272616004	AP-4B	SM 2540C	592844		
50272616005	AP-5	SM 2540C	592844		
50272616006	AP-5A	SM 2540C	592844		
50272616007	AP-6A	SM 2540C	592844		
50272616008	AP-6B	SM 2540C	592844		
50272616009	AP-7	SM 2540C	592567		
50272616010	AP-8	SM 2540C	592567		
50272616011	DUP 2	SM 2540C	592567		
50272616012	Field Blank 2	SM 2540C	592567		
50272616001	AP-3A	SM 4500-H+B	592357		
50272616002	AP-4A	SM 4500-H+B	592357		
50272616003	AP-4I	SM 4500-H+B	592357		
50272616004	AP-4B	SM 4500-H+B	592357		
50272616005	AP-5	SM 4500-H+B	592357		
50272616006	AP-5A	SM 4500-H+B	592357		
50272616007	AP-6A	SM 4500-H+B	592357		
50272616008	AP-6B	SM 4500-H+B	592357		
50272616009	AP-7	SM 4500-H+B	592357		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Profile 2 Report 4

Pace Project No.: 50272616

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50272616010	AP-8	SM 4500-H+B	592357		
50272616011	DUP 2	SM 4500-H+B	592357		
50272616012	Field Blank 2	SM 4500-H+B	592357		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DP 11/9/20 1300

Courier: Fed Ex UPS Client Pace USPS Other _____

Custody Seal on Cooler/Box Present: Yes No (If yes)Seals Intact: Yes No (leave blank if no seals were present)

Packing Material: Bubble Wrap Bubble Bags None Other Ziploc

Thermometer: 1 2 3 4 5 6 ABCDEF Ice Type: Wet Blue None

Cooler Temperature: 1.7/1.6, 0.7/0.6, 1.8/1.7, 1.8/1.7 if temp. is over 6°C or under 0°C, was the PM notified?: Yes No
 Temp should be above freezing to 6°C (Initial/Corrected)

All discrepancies will be written out in the comments section below.						
	Yes	No		Yes	No	N/A
Are samples from West Virginia? Document any containers out of temp.		/	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.	/		
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	Circle: <u>HNO3 (<2)</u> H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form			
Short Hold Time Analysis (48 hours or less)? Analysis:		/		Present	Absent	N/A
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (SVOC 625 Pest/PCB 608)			/
Rush TAT Requested (4 days or less):		/	Residual Chlorine Check (Total/Amenable/Free Cyanide)			/
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			/
Containers Intact?:	/		Headspace in VOA Vials (>6mm):			/
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Present?		/	
Extra labels on Terracore Vials? (soils only)		/	Trip Blank Custody Seals?:			/

COMMENTS:

Sample Container Count

Sample Line Item	WGUFU	SBS DI BK Kit	R	DG9H	VG9H	VOA VIAL HS (>8mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Matrix	pH <2	pH >9	pH >10	
				1																									
2																													
3																													
4																													
5																2	1	1	1							WT	/		
6																↓	↓	↓	↓							↓	/		
7																										↓	/		
8																										↓	/		
9																										↓	/		
10																										↓	/		
11																										↓	/		
12																										↓	/		

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac		
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic	AF	Air Filter
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic	C	Air Cassettes
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic	R	Terra core kit
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic	SP5T	120mL Coliform Na Thiosulfate
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic	U	Summa Can
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac	ZPLC	Ziploc Bag
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic		
WGUFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic		
JGFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)		
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass			WT	Water
						SL	Solid
						NAL	Non-aqueous liquid
						WP	Wipe

Sample Container Count

Sample Line Item	WG FU	SBS DI BK Kit R	DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H				Matrix	pH <2	pH >9	pH >10
2															↓	↓	↓	↓									↓	✓		
3															↓	↓	↓	↓									↓	✓		
4																														
5																														
6															2	1	1	1									WT	✓		
7																														
8																														
9																														
10																														
11																														
12																														

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic	C	Air Cassettes
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic	R	Terra core kit
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic	SP5T	120mL Coliform Na Thiosulfate
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic	U	Summa Can
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic	ZPLC	Ziploc Bag
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic	WT	Water
WGFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic	SL	Solid
JGFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)	NAL	Non-aqueous liquid
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass			WP	Wipe

February 05, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR Profile 2 Report 4
Pace Project No.: 50272697

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

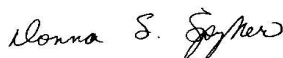
The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

This revision replaces the report dated 010421. Revised compound list. dss 020521

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Donna Spyker
donna.spyker@pacelabs.com
(317)228-3100
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50272697001	AP-1R	Water	11/09/20 12:08	11/10/20 11:00
50272697002	AP-2A	Water	11/09/20 12:59	11/10/20 11:00
50272697003	AP-2BO	Water	11/09/20 13:57	11/10/20 11:00
50272697004	AP-3	Water	11/07/20 08:44	11/10/20 11:00
50272697005	AP-2BO MS	Water	11/09/20 14:15	11/10/20 11:00
50272697006	AP-2BO MSD	Water	11/09/20 14:28	11/10/20 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50272697001	AP-1R	EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272697002	AP-2A	EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272697003	AP-2BO	EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272697004	AP-3	EPA 9056	NPW	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
50272697005	AP-2BO MS	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50272697006	AP-2BO MSD	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
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PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

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SUMMARY OF DETECTION

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272697001	AP-1R					
EPA 9056	Chloride	102	mg/L	25.0	11/20/20 06:27	
EPA 9056	Sulfate	967	mg/L	25.0	11/20/20 06:27	
EPA 6010	Barium	57.6	ug/L	10.0	11/19/20 12:25	
EPA 6010	Boron	8590	ug/L	100	11/19/20 12:25	
EPA 6010	Calcium	361000	ug/L	5000	11/19/20 13:05	
EPA 6010	Molybdenum	15.1	ug/L	10.0	11/19/20 12:25	
EPA 6020	Arsenic	1.9	ug/L	1.0	11/17/20 17:18	
EPA 903.1	Radium-226	0.117 ± 0.397 (0.765)	pCi/L		12/03/20 16:34	
EPA 904.0	Radium-228	C:NA T:88% 0.515 ± 0.457 (0.927)	pCi/L		12/02/20 13:48	
		C:67% T:85%				
Total Radium Calculation	Total Radium	0.632 ± 0.854 (1.69)	pCi/L		12/04/20 08:21	
SM 2540C	Total Dissolved Solids	1840	mg/L	20.0	11/13/20 12:45	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/11/20 14:14	H3
50272697002	AP-2A					
EPA 9056	Chloride	84.9	mg/L	25.0	11/20/20 07:31	
EPA 9056	Fluoride	0.18	mg/L	0.10	11/20/20 07:15	
EPA 9056	Sulfate	1470	mg/L	25.0	11/20/20 07:31	
EPA 6010	Barium	43.6	ug/L	10.0	11/19/20 12:27	
EPA 6010	Boron	17200	ug/L	100	11/19/20 12:27	
EPA 6010	Calcium	528000	ug/L	5000	11/19/20 13:07	
EPA 6010	Lithium	84.9	ug/L	20.0	11/19/20 12:27	
EPA 6010	Molybdenum	2430	ug/L	10.0	11/19/20 12:27	
EPA 6020	Arsenic	4.6	ug/L	1.0	11/17/20 18:12	
EPA 903.1	Radium-226	0.268 ± 0.434 (0.756)	pCi/L		12/03/20 16:34	
EPA 904.0	Radium-228	C:NA T:94% 0.731 ± 0.475 (0.907)	pCi/L		12/02/20 13:48	
		C:70% T:85%				
Total Radium Calculation	Total Radium	0.999 ± 0.909 (1.66)	pCi/L		12/04/20 08:21	
SM 2540C	Total Dissolved Solids	2380	mg/L	40.0	11/13/20 12:45	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/11/20 14:15	H3
50272697003	AP-2BO					
EPA 9056	Chloride	102	mg/L	25.0	11/20/20 08:34	
EPA 9056	Sulfate	1510	mg/L	25.0	11/20/20 08:34	
EPA 6010	Barium	23.4	ug/L	10.0	11/19/20 12:30	
EPA 6010	Boron	19600	ug/L	100	11/19/20 12:30	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272697003	AP-2BO					
EPA 6010	Calcium	536000	ug/L	5000	11/19/20 13:09	
EPA 6010	Molybdenum	235	ug/L	10.0	11/19/20 12:30	
EPA 6020	Arsenic	2.7	ug/L	1.0	11/13/20 05:32	
EPA 6020	Cobalt	3.0	ug/L	1.0	11/13/20 05:32	
EPA 903.1	Radium-226	0.679 ± 0.395 (0.420)	pCi/L		12/03/20 16:34	
EPA 904.0	Radium-228	C:NA T:78% 0.671 ± 0.481 (0.937)	pCi/L		12/02/20 13:48	
Total Radium Calculation	Total Radium	C:67% T:83% 1.35 ± 0.876 (1.36)	pCi/L		12/04/20 08:21	
SM 2540C	Total Dissolved Solids	2400	mg/L	40.0	11/13/20 12:45	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/11/20 14:16	H3
50272697004	AP-3					
EPA 9056	Chloride	46.6	mg/L	2.5	11/20/20 10:12	
EPA 9056	Sulfate	933	mg/L	25.0	11/20/20 10:28	
EPA 6010	Barium	28.3	ug/L	10.0	11/19/20 12:46	
EPA 6010	Boron	5100	ug/L	100	11/19/20 12:46	
EPA 6010	Calcium	423000	ug/L	5000	11/19/20 13:15	
EPA 6020	Selenium	1.4	ug/L	1.0	11/17/20 17:07	
EPA 903.1	Radium-226	0.0992 ± 0.227 (0.134)	pCi/L		12/03/20 16:34	
EPA 904.0	Radium-228	C:NA T:96% 0.344 ± 0.513 (1.11)	pCi/L		12/02/20 13:48	
Total Radium Calculation	Total Radium	C:70% T:83% 0.443 ± 0.740 (1.24)	pCi/L		12/04/20 08:21	
SM 2540C	Total Dissolved Solids	1800	mg/L	20.0	11/13/20 09:23	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	11/11/20 14:20	H3
50272697005	AP-2BO MS					
EPA 903.1	Radium-226	115.01 %REC ± NA (NA) C:NA T:NA%	pCi/L		12/03/20 16:55	
EPA 904.0	Radium-228	85.57 %REC ± NA (NA) C:NA T:NA	pCi/L		12/02/20 13:48	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272697006	AP-2BO MSD					
EPA 903.1	Radium-226	108.90 %REC 5.46 RPD ± NA (NA) C:NA	pCi/L		12/03/20 16:55	
EPA 904.0	Radium-228	95.08 %REC 10.53 RPD ± NA (NA) C:NA T:NA	pCi/L		12/02/20 13:49	

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: AP-1R								
Lab ID: 50272697001								
Collected: 11/09/20 12:08								
Received: 11/10/20 11:00								
Matrix: Water								
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	102	mg/L	25.0	100		11/20/20 06:27	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/20/20 06:11	16984-48-8	
Sulfate	967	mg/L	25.0	100		11/20/20 06:27	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	57.6	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:25	7440-39-3	
Boron	8590	ug/L	100	1	11/16/20 13:56	11/19/20 12:25	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 13:56	11/19/20 12:25	7440-43-9	
Calcium	361000	ug/L	5000	5	11/16/20 13:56	11/19/20 13:05	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:25	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 13:56	11/19/20 12:25	7439-93-2	
Molybdenum	15.1	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:25	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:18	7440-36-0	
Arsenic	1.9	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:18	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/17/20 17:18	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:18	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:18	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:18	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1840	mg/L	20.0	1		11/13/20 12:45		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.0	Std. Units	0.10	1		11/11/20 14:14		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: AP-2A								
Lab ID: 50272697002								
Collected: 11/09/20 12:59								
Received: 11/10/20 11:00								
Matrix: Water								
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	84.9	mg/L	25.0	100		11/20/20 07:31	16887-00-6	
Fluoride	0.18	mg/L	0.10	1		11/20/20 07:15	16984-48-8	
Sulfate	1470	mg/L	25.0	100		11/20/20 07:31	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	43.6	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:27	7440-39-3	
Boron	17200	ug/L	100	1	11/16/20 13:56	11/19/20 12:27	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 13:56	11/19/20 12:27	7440-43-9	
Calcium	528000	ug/L	5000	5	11/16/20 13:56	11/19/20 13:07	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:27	7439-92-1	
Lithium	84.9	ug/L	20.0	1	11/16/20 13:56	11/19/20 12:27	7439-93-2	
Molybdenum	2430	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:27	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 18:12	7440-36-0	
Arsenic	4.6	ug/L	1.0	1	11/12/20 08:52	11/17/20 18:12	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/17/20 18:12	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 18:12	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 18:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 18:12	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2380	mg/L	40.0	1		11/13/20 12:45		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/11/20 14:15		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Sample: AP-2BO	Lab ID: 50272697003	Collected: 11/09/20 13:57	Received: 11/10/20 11:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	102	mg/L	25.0	100		11/20/20 08:34	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/20/20 07:47	16984-48-8	
Sulfate	1510	mg/L	25.0	100		11/20/20 08:34	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	23.4	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:30	7440-39-3	
Boron	19600	ug/L	100	1	11/16/20 13:56	11/19/20 12:30	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 13:56	11/19/20 12:30	7440-43-9	
Calcium	536000	ug/L	5000	5	11/16/20 13:56	11/19/20 13:09	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:30	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 13:56	11/19/20 12:30	7439-93-2	
Molybdenum	235	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:30	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 05:32	7440-36-0	
Arsenic	2.7	ug/L	1.0	1	11/12/20 08:52	11/13/20 05:32	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/13/20 05:32	7440-41-7	
Cobalt	3.0	ug/L	1.0	1	11/12/20 08:52	11/13/20 05:32	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 05:32	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/13/20 05:32	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2400	mg/L	40.0	1		11/13/20 12:45		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.1	Std. Units	0.10	1		11/11/20 14:16		H3

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ANALYTICAL RESULTS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Sample: AP-3	Lab ID: 50272697004	Collected: 11/07/20 08:44	Received: 11/10/20 11:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	46.6	mg/L	2.5	10		11/20/20 10:12	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/20/20 09:55	16984-48-8	
Sulfate	933	mg/L	25.0	100		11/20/20 10:28	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	28.3	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:46	7440-39-3	
Boron	5100	ug/L	100	1	11/16/20 13:56	11/19/20 12:46	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/20 13:56	11/19/20 12:46	7440-43-9	
Calcium	423000	ug/L	5000	5	11/16/20 13:56	11/19/20 13:15	7440-70-2	
Lead	ND	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:46	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/20 13:56	11/19/20 12:46	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/16/20 13:56	11/19/20 12:46	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:07	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:07	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/12/20 08:52	11/17/20 17:07	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:07	7440-48-4	
Selenium	1.4	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:07	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/12/20 08:52	11/17/20 17:07	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1800	mg/L	20.0	1		11/13/20 09:23		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.8	Std. Units	0.10	1		11/11/20 14:20		H3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

QC Batch:	594061	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272697001, 50272697002, 50272697003, 50272697004

METHOD BLANK: 2740573 Matrix: Water
Associated Lab Samples: 50272697001, 50272697002, 50272697003, 50272697004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/19/20 20:07	
Fluoride	mg/L	ND	0.10	11/19/20 20:07	
Sulfate	mg/L	ND	0.25	11/19/20 20:07	

LABORATORY CONTROL SAMPLE: 2740574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	93	80-120	
Fluoride	mg/L	0.5	0.51	101	80-120	
Sulfate	mg/L	2.5	2.5	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2740575 2740576

Parameter	Units	50272697003		2740575		2740576		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	102	125	125	221	221	95	95	80-120	0	15		
Fluoride	mg/L	ND	0.5	0.5	0.50	0.50	92	92	80-120	0	15		
Sulfate	mg/L	1510	250	250	1720	1720	85	85	80-120	0	15		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

QC Batch: 592510 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50272697001, 50272697002, 50272697003, 50272697004

METHOD BLANK: 2733691 Matrix: Water
 Associated Lab Samples: 50272697001, 50272697002, 50272697003, 50272697004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	11/19/20 12:21	
Boron	ug/L	ND	100	11/19/20 12:21	
Cadmium	ug/L	ND	2.0	11/19/20 12:21	
Calcium	ug/L	ND	1000	11/19/20 12:21	
Lead	ug/L	ND	10.0	11/19/20 12:21	
Lithium	ug/L	ND	20.0	11/19/20 12:21	
Molybdenum	ug/L	ND	10.0	11/19/20 12:21	

LABORATORY CONTROL SAMPLE: 2733692

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	926	93	80-120	
Boron	ug/L	1000	990	99	80-120	
Cadmium	ug/L	1000	1010	101	80-120	
Calcium	ug/L	10000	9960	100	80-120	
Lead	ug/L	1000	985	99	80-120	
Lithium	ug/L	1000	988	99	80-120	
Molybdenum	ug/L	1000	997	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2733693 2733694

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50272697003 Result	Spike Conc.	Spike Conc.	Result						
Barium	ug/L	23.4	1000	1000	984	980	96	96	75-125	0	20
Boron	ug/L	19600	1000	1000	20800	20500	115	90	75-125	1	20
Cadmium	ug/L	ND	1000	1000	1060	1060	106	106	75-125	0	20
Calcium	ug/L	536000	10000	10000	536000	602000	5	655	75-125	11	20 P6
Lead	ug/L	ND	1000	1000	953	965	95	96	75-125	1	20
Lithium	ug/L	ND	1000	1000	1130	1120	112	111	75-125	1	20
Molybdenum	ug/L	235	1000	1000	1260	1260	102	102	75-125	0	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2733695 2733696

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50272781002 Result	Spike Conc.	Spike Conc.	Result						
Barium	ug/L	752	5000	5000	5300	5280	91	90	75-125	0	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2733695		2733696		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50272781002 Result	MS Spike Conc.	MSD Spike Conc.									
Boron	ug/L	ND	5000	5000	5200	5160	98	97	75-125	1	20		
Cadmium	ug/L	ND	5000	5000	5060	5080	101	101	75-125	0	20		
Calcium	ug/L	514000	50000	50000	510000	524000	-9	20	75-125	3	20	CH,P6	
Lead	ug/L	92.4	5000	5000	4780	4760	94	93	75-125	0	20		
Lithium	ug/L	121	5000	5000	5220	5180	102	101	75-125	1	20		
Molybdenum	ug/L	60.6	5000	5000	4920	4940	97	98	75-125	0	20		

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

QC Batch:	592361	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272697001, 50272697002, 50272697003, 50272697004

METHOD BLANK: 2732782 Matrix: Water
Associated Lab Samples: 50272697001, 50272697002, 50272697003, 50272697004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/13/20 05:21	
Arsenic	ug/L	ND	1.0	11/13/20 05:21	
Beryllium	ug/L	ND	0.20	11/13/20 05:21	
Cobalt	ug/L	ND	1.0	11/13/20 05:21	
Selenium	ug/L	ND	1.0	11/13/20 05:21	
Thallium	ug/L	ND	1.0	11/13/20 05:21	

LABORATORY CONTROL SAMPLE: 2732783

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.9	97	80-120	
Arsenic	ug/L	40	36.3	91	80-120	
Beryllium	ug/L	40	38.9	97	80-120	
Cobalt	ug/L	40	39.6	99	80-120	
Selenium	ug/L	40	39.4	99	80-120	
Thallium	ug/L	40	39.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2732784 2732785

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		50272697003	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Antimony	ug/L	ND	40	40	37.5	37.9	94	94	75-125	1	20		
Arsenic	ug/L	2.7	40	40	37.6	38.0	87	88	75-125	1	20		
Beryllium	ug/L	ND	40	40	32.9	33.0	82	83	75-125	0	20		
Cobalt	ug/L	3.0	40	40	38.5	38.8	89	90	75-125	1	20		
Selenium	ug/L	ND	40	40	34.9	33.5	86	82	75-125	4	20		
Thallium	ug/L	ND	40	40	43.0	43.6	107	109	75-125	1	20		

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

QC Batch: 592844

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272697004

METHOD BLANK: 2735400

Matrix: Water

Associated Lab Samples: 50272697004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/13/20 09:16	

LABORATORY CONTROL SAMPLE: 2735401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	263	88	80-120	

SAMPLE DUPLICATE: 2735402

Parameter	Units	50272616003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2470	2430	1	10	

SAMPLE DUPLICATE: 2735403

Parameter	Units	50272753002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1270	1270	0	10	

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

QC Batch:	592848	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50272697001, 50272697002, 50272697003		

METHOD BLANK: 2735412 Matrix: Water

Associated Lab Samples: 50272697001, 50272697002, 50272697003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/13/20 12:43	

LABORATORY CONTROL SAMPLE: 2735413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	273	91	80-120	

SAMPLE DUPLICATE: 2735414

Parameter	Units	50272697003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2400	2370	1	10	

SAMPLE DUPLICATE: 2735415

Parameter	Units	50272805006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1440	1450	1	10	

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QUALITY CONTROL DATA

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

QC Batch: 592406

Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B

Analysis Description: 4500H+B pH

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272697001, 50272697002, 50272697003, 50272697004

SAMPLE DUPLICATE: 2733047

Parameter	Units	50272697004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.9	0	2	H3

SAMPLE DUPLICATE: 2733048

Parameter	Units	50272697003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Sample: AP-1R **Lab ID: 50272697001** Collected: 11/09/20 12:08 Received: 11/10/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.117 ± 0.397 (0.765) C:NA T:88%	pCi/L	12/03/20 16:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.515 ± 0.457 (0.927) C:67% T:85%	pCi/L	12/02/20 13:48	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.632 ± 0.854 (1.69)	pCi/L	12/04/20 08:21	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Sample: AP-2A **Lab ID: 50272697002** Collected: 11/09/20 12:59 Received: 11/10/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.268 ± 0.434 (0.756) C:NA T:94%	pCi/L	12/03/20 16:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.731 ± 0.475 (0.907) C:70% T:85%	pCi/L	12/02/20 13:48	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.999 ± 0.909 (1.66)	pCi/L	12/04/20 08:21	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Sample: AP-2BO **Lab ID: 50272697003** Collected: 11/09/20 13:57 Received: 11/10/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.679 ± 0.395 (0.420) C:NA T:78%	pCi/L	12/03/20 16:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.671 ± 0.481 (0.937) C:67% T:83%	pCi/L	12/02/20 13:48	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.35 ± 0.876 (1.36)	pCi/L	12/04/20 08:21	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Sample: AP-3 **Lab ID: 50272697004** Collected: 11/07/20 08:44 Received: 11/10/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.0992 ± 0.227 (0.134) C:NA T:96%	pCi/L	12/03/20 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.344 ± 0.513 (1.11) C:70% T:83%	pCi/L	12/02/20 13:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.443 ± 0.740 (1.24)	pCi/L	12/04/20 08:21	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Sample: AP-2BO MS **Lab ID: 50272697005** Collected: 11/09/20 14:15 Received: 11/10/20 11:00 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample collection time on containers does not match COC; client was notified.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	115.01 %REC ± NA (NA) C:NA T:NA%	pCi/L	12/03/20 16:55	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	85.57 %REC ± NA (NA) C:NA T:NA	pCi/L	12/02/20 13:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Sample: AP-2BO MSD **Lab ID: 50272697006** Collected: 11/09/20 14:28 Received: 11/10/20 11:00 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample collection time on containers does not match COC; client was notified.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	108.90 %REC 5.46 RPD ± NA (NA) C:NA T:NA%	pCi/L	12/03/20 16:55	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	95.08 %REC 10.53 RPD ± NA (NA) C:NA T:NA	pCi/L	12/02/20 13:49	15262-20-1	

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QUALIFIERS

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

H3 Sample was received or analysis requested beyond the recognized method holding time.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Profile 2 Report 4

Pace Project No.: 50272697

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50272697001	AP-1R	EPA 9056	594061		
50272697002	AP-2A	EPA 9056	594061		
50272697003	AP-2BO	EPA 9056	594061		
50272697004	AP-3	EPA 9056	594061		
50272697001	AP-1R	EPA 3010	592510	EPA 6010	594109
50272697002	AP-2A	EPA 3010	592510	EPA 6010	594109
50272697003	AP-2BO	EPA 3010	592510	EPA 6010	594109
50272697004	AP-3	EPA 3010	592510	EPA 6010	594109
50272697001	AP-1R	EPA 200.2	592361	EPA 6020	592688
50272697002	AP-2A	EPA 200.2	592361	EPA 6020	592688
50272697003	AP-2BO	EPA 200.2	592361	EPA 6020	592688
50272697004	AP-3	EPA 200.2	592361	EPA 6020	592688
50272697001	AP-1R	EPA 903.1	423055		
50272697002	AP-2A	EPA 903.1	423055		
50272697003	AP-2BO	EPA 903.1	423055		
50272697004	AP-3	EPA 903.1	423055		
50272697005	AP-2BO MS	EPA 903.1	423055		
50272697006	AP-2BO MSD	EPA 903.1	423055		
50272697001	AP-1R	EPA 904.0	423057		
50272697002	AP-2A	EPA 904.0	423057		
50272697003	AP-2BO	EPA 904.0	423057		
50272697004	AP-3	EPA 904.0	423057		
50272697005	AP-2BO MS	EPA 904.0	423057		
50272697006	AP-2BO MSD	EPA 904.0	423057		
50272697001	AP-1R	Total Radium Calculation	425760		
50272697002	AP-2A	Total Radium Calculation	425760		
50272697003	AP-2BO	Total Radium Calculation	425760		
50272697004	AP-3	Total Radium Calculation	425760		
50272697001	AP-1R	SM 2540C	592848		
50272697002	AP-2A	SM 2540C	592848		
50272697003	AP-2BO	SM 2540C	592848		
50272697004	AP-3	SM 2540C	592844		
50272697001	AP-1R	SM 4500-H+B	592406		
50272697002	AP-2A	SM 4500-H+B	592406		
50272697003	AP-2BO	SM 4500-H+B	592406		
50272697004	AP-3	SM 4500-H+B	592406		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: AES/IPL Petersburg		Report To: Teague, Will		Attention:	
Address: 6925 IN-57		Copy To:		Company Name:	
Petersburg, IN 47567		Purchase Order #:		Address:	
Email: wil.teague@aes.com		Project Name: CCR Profile 2 Report 4		Pace Quote:	
Phone: (812)354-8801 Fax:		Project #:		Pace Project Manager: donna.spyker@pacelabs.com,	
Requested Due Date:		Project #:		Pace Profile #: 8296/3	
				Regulatory Agency	
				State / Location	
				IN	

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Other OT Tissue TS	CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	Preservatives							Analyses Test Y/N	Requested Analysis Filtered (Y/N)					Residual Chlorine (Y/N)	
						START		END			Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol		Other	IN TDS/pH	IN Chloride, Fluoride, Sulfate	IN Metals, Total	IN Rad-226		IN Rad-228
						DATE	TIME	DATE	TIME																
13	AP-7			WT														X	X	X	X	X			
14	AP-8			WT														X	X	X	X	X			
15	DUP 2			WT														X	X	X	X	X			
16	MS			WT		11-9-20	11-15			52	3							X	X	X	X	X		WS	
17	MSD			WT		11-9-20	11-28			52	3							X	X	X	X	X		WS	
18	Field Blank 2			WT														X	X	X	X	X			
19	Extra 1			WT														X	X	X	X	X			
20																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
	W. B. T. IPL	11-10-20	0900	Jay Williams	11-10	11-00			
	Jay Williams	11-10	11-00	Jay Williams	11-10-20	11-00	1.0	✓	✓
							1.3	✓	✓

SAMPLER NAME AND SIGNATURE		TEMP In C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	DATE Signed: 11-10-20					
SIGNATURE of SAMPLER: <i>Stacy Barnett</i>						



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MTL 11/10/20 1135

Courier: Fed Ex UPS Client Pace USPS Other _____

Custody Seal on Cooler/Box Present: Yes No (If yes)Seals Intact: Yes No (leave blank if no seals were present)

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer: 1 2 3 4 5 6 A B C D E F

Ice Type: Wet Blue None

Cooler Temperature: 11/10 14/13
Temp should be above freezing to 6°C (Initial/Corrected)

If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
Are samples from West Virginia? Document any containers out of temp.		/	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form	/		
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (Total/Amenable/Free Cyanide)			/
Rush TAT Requested (4 days or less):		/	Headspace Wisconsin Sulfide?			/
Custody Signatures Present?	/		Headspace in VOA Vials (>6mm):			/
Containers Intact?:	/		Trip Blank Present?		-	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Custody Seals?:		/	
Extra labels on Terracore Vials? (soils only)		/				

COMMENTS:

February 04, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR Sampling Profile 3 Report1
Pace Project No.: 50274159

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 24, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

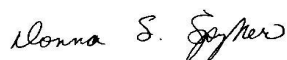
The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

This revision replaces the report dated 040121. Revised compound list. dss 020421

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Donna Spyker
donna.spyker@pacelabs.com
(317)228-3100
Project Manager

Enclosures

cc: Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50274159001	PZ-1A	Water	11/23/20 15:45	11/24/20 13:30
50274159002	PZ-1I	Water	11/23/20 16:40	11/24/20 13:30
50274159003	PZ-1B	Water	11/23/20 17:40	11/24/20 13:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50274159001	PZ-1A	EPA 9056	NPW	3	PASI-I
		EPA 6010	KJE	12	PASI-I
		EPA 6010	KJE	4	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	WDB	1	PASI-I
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		50274159002	PZ-1I	EPA 9056	NPW
EPA 6010	KJE			12	PASI-I
EPA 6010	KJE			4	PASI-I
EPA 6020	DMT			6	PASI-I
EPA 7470	ILP			1	PASI-I
EPA 903.1	MK1			1	PASI-PA
EPA 904.0	VAL			1	PASI-PA
Total Radium Calculation	CMC			1	PASI-PA
SM 2320B	WDB			1	PASI-I
SM 2540C	MMS			1	PASI-I
SM 4500-H+B	TPD			1	PASI-I
SM 4500-S2-D	ZM			1	PASI-I
SM 5310C	GWA			1	PASI-I
50274159003	PZ-1B			EPA 9056	NPW
		EPA 6010	KJE	12	PASI-I
		EPA 6010	KJE	4	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	WDB	1	PASI-I
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S2-D	ZM	1	PASI-I
		SM 5310C	GWA	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50274159001	PZ-1A					
EPA 9056	Chloride	142	mg/L	25.0	12/10/20 05:02	
EPA 9056	Fluoride	0.23	mg/L	0.10	12/10/20 04:30	
EPA 9056	Sulfate	1610	mg/L	25.0	12/10/20 05:02	
EPA 6010	Barium	89.6	ug/L	10.0	12/07/20 11:49	
EPA 6010	Boron	28200	ug/L	100	12/07/20 11:49	
EPA 6010	Calcium	686000	ug/L	5000	12/07/20 12:47	
EPA 6010	Chromium	10.6	ug/L	10.0	12/07/20 11:49	
EPA 6010	Lead	14.0	ug/L	10.0	12/07/20 11:49	
EPA 6010	Lithium	34.5	ug/L	20.0	12/07/20 11:49	
EPA 6010	Magnesium	21000	ug/L	1000	12/07/20 11:49	
EPA 6010	Manganese	2450	ug/L	10.0	12/07/20 11:49	
EPA 6010	Molybdenum	285	ug/L	10.0	12/07/20 11:49	
EPA 6010	Potassium	15800	ug/L	1000	12/07/20 11:49	
EPA 6010	Sodium	46000	ug/L	1000	12/07/20 11:49	
EPA 6010	Iron, Dissolved	3080	ug/L	100	12/02/20 12:46	
EPA 6010	Lithium, Dissolved	23.1	ug/L	20.0	12/02/20 12:46	
EPA 6010	Manganese, Dissolved	1770	ug/L	10.0	12/02/20 12:46	
EPA 6010	Molybdenum, Dissolved	267	ug/L	10.0	12/02/20 12:46	
EPA 6020	Arsenic	4.8	ug/L	1.0	12/02/20 03:27	
EPA 6020	Beryllium	0.23	ug/L	0.20	12/02/20 03:27	
EPA 6020	Cobalt	5.3	ug/L	1.0	12/01/20 12:59	
EPA 903.1	Radium-226	0.764 ± 0.616 (0.829) C:NA T:90%	pCi/L		12/18/20 14:33	
EPA 904.0	Radium-228	0.379 ± 0.474 (1.01) C:77% T:75%	pCi/L		12/17/20 14:35	
Total Radium Calculation	Total Radium	1.14 ± 1.09 (1.84)	pCi/L		12/18/20 16:17	
SM 2320B	Alkalinity, Total as CaCO3	63.6	mg/L	2.0	12/03/20 15:41	
SM 2540C	Total Dissolved Solids	2500	mg/L	40.0	11/25/20 14:04	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/25/20 13:52	H3
SM 5310C	Total Organic Carbon	2.6	mg/L	1.0	12/09/20 07:40	
50274159002	PZ-1I					
EPA 9056	Chloride	139	mg/L	25.0	12/10/20 05:51	
EPA 9056	Fluoride	0.26	mg/L	0.10	12/10/20 05:19	
EPA 9056	Sulfate	1620	mg/L	25.0	12/10/20 05:51	
EPA 6010	Barium	68.9	ug/L	10.0	12/07/20 11:51	
EPA 6010	Boron	26400	ug/L	100	12/07/20 11:51	
EPA 6010	Calcium	628000	ug/L	5000	12/07/20 12:49	
EPA 6010	Lithium	39.2	ug/L	20.0	12/07/20 11:51	
EPA 6010	Magnesium	65000	ug/L	1000	12/07/20 11:51	
EPA 6010	Manganese	3150	ug/L	10.0	12/07/20 11:51	
EPA 6010	Molybdenum	274	ug/L	10.0	12/07/20 11:51	
EPA 6010	Potassium	16200	ug/L	1000	12/07/20 11:51	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50274159002	PZ-1I					
EPA 6010	Sodium	51900	ug/L	1000	12/07/20 11:51	
EPA 6010	Iron, Dissolved	4110	ug/L	100	12/02/20 12:52	
EPA 6010	Lithium, Dissolved	33.4	ug/L	20.0	12/02/20 12:52	
EPA 6010	Manganese, Dissolved	2650	ug/L	10.0	12/02/20 12:52	
EPA 6010	Molybdenum, Dissolved	261	ug/L	10.0	12/02/20 12:52	
EPA 6020	Arsenic	5.1	ug/L	1.0	12/02/20 03:32	
EPA 6020	Cobalt	4.5	ug/L	1.0	12/01/20 13:03	
EPA 903.1	Radium-226	0.728 ± 0.556 (0.734)	pCi/L		12/18/20 14:33	
EPA 904.0	Radium-228	C:NA T:96% 1.27 ± 0.557 (0.927) C:75% T:80%	pCi/L		12/17/20 14:35	
Total Radium Calculation	Total Radium	2.00 ± 1.11 (1.66)	pCi/L		12/18/20 16:17	
SM 2320B	Alkalinity, Total as CaCO3	136	mg/L	2.0	12/03/20 15:41	
SM 2540C	Total Dissolved Solids	2510	mg/L	40.0	11/25/20 14:04	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/25/20 13:53	H3
SM 5310C	Total Organic Carbon	2.2	mg/L	1.0	12/09/20 08:00	
50274159003	PZ-1B					
EPA 9056	Chloride	16.3	mg/L	2.5	12/10/20 06:57	
EPA 9056	Fluoride	0.13	mg/L	0.10	12/10/20 06:41	
EPA 9056	Sulfate	128	mg/L	2.5	12/10/20 06:57	
EPA 6010	Barium	117	ug/L	10.0	12/07/20 11:54	
EPA 6010	Boron	1500	ug/L	100	12/07/20 11:54	
EPA 6010	Calcium	162000	ug/L	1000	12/07/20 11:54	
EPA 6010	Magnesium	45400	ug/L	1000	12/07/20 11:54	
EPA 6010	Manganese	380	ug/L	10.0	12/07/20 11:54	
EPA 6010	Potassium	3000	ug/L	1000	12/07/20 11:54	
EPA 6010	Sodium	12200	ug/L	1000	12/07/20 11:54	
EPA 6010	Manganese, Dissolved	99.6	ug/L	10.0	12/02/20 12:54	
EPA 6020	Arsenic	7.3	ug/L	1.0	12/02/20 03:37	
EPA 6020	Cobalt	4.5	ug/L	1.0	12/01/20 13:08	
EPA 6020	Selenium	2.9	ug/L	1.0	12/02/20 03:37	
EPA 903.1	Radium-226	0.279 ± 0.955 (1.58) C:NA	pCi/L		12/18/20 14:33	
EPA 904.0	Radium-228	T:65% 0.356 ± 0.504 (1.09) C:78% T:75%	pCi/L		12/17/20 14:35	
Total Radium Calculation	Total Radium	0.635 ± 1.46 (2.67)	pCi/L		12/18/20 16:17	
SM 2320B	Alkalinity, Total as CaCO3	390	mg/L	2.0	12/03/20 15:41	
SM 2540C	Total Dissolved Solids	597	mg/L	10.0	11/25/20 14:04	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50274159003	PZ-1B					
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/25/20 13:54	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Sample: PZ-1A	Lab ID: 50274159001	Collected: 11/23/20 15:45	Received: 11/24/20 13:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	142	mg/L	25.0	100		12/10/20 05:02	16887-00-6	
Fluoride	0.23	mg/L	0.10	1		12/10/20 04:30	16984-48-8	
Sulfate	1610	mg/L	25.0	100		12/10/20 05:02	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	89.6	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:49	7440-39-3	
Boron	28200	ug/L	100	1	12/06/20 13:49	12/07/20 11:49	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/06/20 13:49	12/07/20 11:49	7440-43-9	
Calcium	686000	ug/L	5000	5	12/06/20 13:49	12/07/20 12:47	7440-70-2	
Chromium	10.6	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:49	7440-47-3	
Lead	14.0	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:49	7439-92-1	
Lithium	34.5	ug/L	20.0	1	12/06/20 13:49	12/07/20 11:49	7439-93-2	
Magnesium	21000	ug/L	1000	1	12/06/20 13:49	12/07/20 11:49	7439-95-4	
Manganese	2450	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:49	7439-96-5	
Molybdenum	285	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:49	7439-98-7	
Potassium	15800	ug/L	1000	1	12/06/20 13:49	12/07/20 11:49	7440-09-7	
Sodium	46000	ug/L	1000	1	12/06/20 13:49	12/07/20 11:49	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	3080	ug/L	100	1	12/01/20 13:41	12/02/20 12:46	7439-89-6	
Lithium, Dissolved	23.1	ug/L	20.0	1	12/01/20 13:41	12/02/20 12:46	7439-93-2	
Manganese, Dissolved	1770	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:46	7439-96-5	
Molybdenum, Dissolved	267	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:46	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/25/20 19:03	12/01/20 12:59	7440-36-0	
Arsenic	4.8	ug/L	1.0	1	11/25/20 19:03	12/02/20 03:27	7440-38-2	
Beryllium	0.23	ug/L	0.20	1	11/25/20 19:03	12/02/20 03:27	7440-41-7	
Cobalt	5.3	ug/L	1.0	1	11/25/20 19:03	12/01/20 12:59	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/25/20 19:03	12/02/20 03:27	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/25/20 19:03	12/01/20 12:59	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	12/08/20 21:30	12/09/20 09:54	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	63.6	mg/L	2.0	1		12/03/20 15:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Sample: PZ-1A		Lab ID: 50274159001		Collected: 11/23/20 15:45	Received: 11/24/20 13:30	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	2500	mg/L	40.0	1		11/25/20 14:04		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.1	Std. Units	0.10	1		11/25/20 13:52		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		11/25/20 11:13	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	2.6	mg/L	1.0	1		12/09/20 07:40	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Sample: PZ-11	Lab ID: 50274159002	Collected: 11/23/20 16:40	Received: 11/24/20 13:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	139	mg/L	25.0	100		12/10/20 05:51	16887-00-6	
Fluoride	0.26	mg/L	0.10	1		12/10/20 05:19	16984-48-8	
Sulfate	1620	mg/L	25.0	100		12/10/20 05:51	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	68.9	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:51	7440-39-3	
Boron	26400	ug/L	100	1	12/06/20 13:49	12/07/20 11:51	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/06/20 13:49	12/07/20 11:51	7440-43-9	
Calcium	628000	ug/L	5000	5	12/06/20 13:49	12/07/20 12:49	7440-70-2	
Chromium	ND	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:51	7440-47-3	
Lead	ND	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:51	7439-92-1	
Lithium	39.2	ug/L	20.0	1	12/06/20 13:49	12/07/20 11:51	7439-93-2	
Magnesium	65000	ug/L	1000	1	12/06/20 13:49	12/07/20 11:51	7439-95-4	
Manganese	3150	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:51	7439-96-5	
Molybdenum	274	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:51	7439-98-7	
Potassium	16200	ug/L	1000	1	12/06/20 13:49	12/07/20 11:51	7440-09-7	
Sodium	51900	ug/L	1000	1	12/06/20 13:49	12/07/20 11:51	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	4110	ug/L	100	1	12/01/20 13:41	12/02/20 12:52	7439-89-6	
Lithium, Dissolved	33.4	ug/L	20.0	1	12/01/20 13:41	12/02/20 12:52	7439-93-2	
Manganese, Dissolved	2650	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:52	7439-96-5	
Molybdenum, Dissolved	261	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:52	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/25/20 19:03	12/01/20 13:03	7440-36-0	
Arsenic	5.1	ug/L	1.0	1	11/25/20 19:03	12/02/20 03:32	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/25/20 19:03	12/02/20 03:32	7440-41-7	
Cobalt	4.5	ug/L	1.0	1	11/25/20 19:03	12/01/20 13:03	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/25/20 19:03	12/02/20 03:32	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/25/20 19:03	12/01/20 13:03	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	12/08/20 21:30	12/09/20 09:57	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	136	mg/L	2.0	1		12/03/20 15:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Sample: PZ-11		Lab ID: 50274159002		Collected: 11/23/20 16:40	Received: 11/24/20 13:30	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	2510	mg/L	40.0	1		11/25/20 14:04		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/25/20 13:53		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		11/25/20 11:13	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	2.2	mg/L	1.0	1		12/09/20 08:00	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Sample: PZ-1B	Lab ID: 50274159003	Collected: 11/23/20 17:40	Received: 11/24/20 13:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	16.3	mg/L	2.5	10		12/10/20 06:57	16887-00-6	
Fluoride	0.13	mg/L	0.10	1		12/10/20 06:41	16984-48-8	
Sulfate	128	mg/L	2.5	10		12/10/20 06:57	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	117	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:54	7440-39-3	
Boron	1500	ug/L	100	1	12/06/20 13:49	12/07/20 11:54	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/06/20 13:49	12/07/20 11:54	7440-43-9	
Calcium	162000	ug/L	1000	1	12/06/20 13:49	12/07/20 11:54	7440-70-2	
Chromium	ND	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:54	7440-47-3	
Lead	ND	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:54	7439-92-1	
Lithium	ND	ug/L	20.0	1	12/06/20 13:49	12/07/20 11:54	7439-93-2	
Magnesium	45400	ug/L	1000	1	12/06/20 13:49	12/07/20 11:54	7439-95-4	
Manganese	380	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:54	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	12/06/20 13:49	12/07/20 11:54	7439-98-7	
Potassium	3000	ug/L	1000	1	12/06/20 13:49	12/07/20 11:54	7440-09-7	
Sodium	12200	ug/L	1000	1	12/06/20 13:49	12/07/20 11:54	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	1	12/01/20 13:41	12/02/20 12:54	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	1	12/01/20 13:41	12/02/20 12:54	7439-93-2	
Manganese, Dissolved	99.6	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:54	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:54	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	11/25/20 19:03	12/01/20 13:08	7440-36-0	
Arsenic	7.3	ug/L	1.0	1	11/25/20 19:03	12/02/20 03:37	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/25/20 19:03	12/02/20 03:37	7440-41-7	
Cobalt	4.5	ug/L	1.0	1	11/25/20 19:03	12/01/20 13:08	7440-48-4	
Selenium	2.9	ug/L	1.0	1	11/25/20 19:03	12/02/20 03:37	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/25/20 19:03	12/01/20 13:08	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	12/08/20 21:30	12/09/20 09:59	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	390	mg/L	2.0	1		12/03/20 15:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Sample: PZ-1B		Lab ID: 50274159003		Collected: 11/23/20 17:40	Received: 11/24/20 13:30	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	597	mg/L	10.0	1		11/25/20 14:04		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.0	Std. Units	0.10	1		11/25/20 13:54		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		11/25/20 11:13	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	1.0	1		12/09/20 08:19	7440-44-0	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch: 597158	Analysis Method: EPA 9056
QC Batch Method: EPA 9056	Analysis Description: 9056 IC Anions
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2754381 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	12/09/20 21:24	
Fluoride	mg/L	ND	0.10	12/09/20 21:24	
Sulfate	mg/L	ND	0.25	12/09/20 21:24	

LABORATORY CONTROL SAMPLE: 2754382

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	98	80-120	
Fluoride	mg/L	0.5	0.49	99	80-120	
Sulfate	mg/L	2.5	2.4	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2754383 2754384

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50273916009	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	29.4	29.4	12.5	12.5	42.3	42.5	104	105	80-120	0	15	
Fluoride	mg/L	0.16	0.16	0.5	0.5	0.62	0.62	93	93	80-120	0	15	
Sulfate	mg/L	677	677	250	250	894	889	87	85	80-120	1	15	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch:	596899	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2753362 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	12/09/20 09:08	

LABORATORY CONTROL SAMPLE: 2753363

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2753364 2753365

Parameter	Units	50274154002		2753365		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	ug/L	ND	5	5	5.2	5.2	103	103	75-125	0	20

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch: 596085 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2749134 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	12/07/20 11:47	
Boron	ug/L	ND	100	12/07/20 11:47	
Cadmium	ug/L	ND	2.0	12/07/20 11:47	
Calcium	ug/L	ND	1000	12/07/20 11:47	
Chromium	ug/L	ND	10.0	12/07/20 11:47	
Lead	ug/L	ND	10.0	12/07/20 11:47	
Lithium	ug/L	ND	20.0	12/07/20 11:47	
Magnesium	ug/L	ND	1000	12/07/20 11:47	
Manganese	ug/L	ND	10.0	12/07/20 11:47	
Molybdenum	ug/L	ND	10.0	12/07/20 11:47	
Potassium	ug/L	ND	1000	12/07/20 11:47	
Sodium	ug/L	ND	1000	12/07/20 11:47	

LABORATORY CONTROL SAMPLE: 2749135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	976	98	80-120	
Boron	ug/L	1000	1010	101	80-120	
Cadmium	ug/L	1000	991	99	80-120	
Calcium	ug/L	10000	9720	97	80-120	
Chromium	ug/L	1000	996	100	80-120	
Lead	ug/L	1000	976	98	80-120	
Lithium	ug/L	1000	977	98	80-120	
Magnesium	ug/L	10000	9770	98	80-120	
Manganese	ug/L	1000	978	98	80-120	
Molybdenum	ug/L	1000	1030	103	80-120	
Potassium	ug/L	10000	9870	99	80-120	
Sodium	ug/L	10000	9640	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2749136 2749137

Parameter	Units	50274159003		2749137		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Barium	ug/L	117	1000	1090	1070	97	95	75-125	2	20	
Boron	ug/L	1500	1000	2460	2450	95	95	75-125	0	20	
Cadmium	ug/L	ND	1000	997	981	100	98	75-125	2	20	
Calcium	ug/L	162000	10000	167000	168000	42	52	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2749136 2749137												
Parameter	Units	50274159003		MS	MSD	MS		MSD		% Rec Limits	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Chromium	ug/L	ND	1000	1000	986	971	98	96	75-125	2	20	
Lead	ug/L	ND	1000	1000	954	936	95	93	75-125	2	20	
Lithium	ug/L	ND	1000	1000	988	966	98	96	75-125	2	20	
Magnesium	ug/L	45400	10000	10000	53900	54000	85	86	75-125	0	20	
Manganese	ug/L	380	1000	1000	1320	1310	94	93	75-125	1	20	
Molybdenum	ug/L	ND	1000	1000	1030	1010	103	101	75-125	2	20	
Potassium	ug/L	3000	10000	10000	13000	12800	100	98	75-125	1	20	
Sodium	ug/L	12200	10000	10000	21500	21300	92	90	75-125	1	20	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch:	595439	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2746899 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	12/02/20 12:04	
Lithium, Dissolved	ug/L	ND	20.0	12/02/20 12:04	
Manganese, Dissolved	ug/L	ND	10.0	12/02/20 12:04	
Molybdenum, Dissolved	ug/L	ND	10.0	12/02/20 12:04	

LABORATORY CONTROL SAMPLE: 2746900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9210	92	80-120	
Lithium, Dissolved	ug/L	1000	944	94	80-120	
Manganese, Dissolved	ug/L	1000	930	93	80-120	
Molybdenum, Dissolved	ug/L	1000	970	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2746901 2746902

Parameter	Units	50273698003		2746901		2746902		% Rec	% Rec	% Rec Limits	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Spike Conc.	MS Result	MSD Result	MS % Rec					
Iron, Dissolved	ug/L	286	10000	10000	10000	7910	97	76	75-125	24	20	R1
Lithium, Dissolved	ug/L	ND	1000	1000	1010	791	101	79	75-125	25	20	R1
Manganese, Dissolved	ug/L	36.4	1000	1000	1010	797	97	76	75-125	23	20	R1
Molybdenum, Dissolved	ug/L	ND	1000	1000	1030	820	103	82	75-125	23	20	R1

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch: 595193

Analysis Method: EPA 6020

QC Batch Method: EPA 200.2

Analysis Description: 6020 MET

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2745749

Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	12/01/20 10:11	
Arsenic	ug/L	ND	1.0	12/01/20 10:11	
Beryllium	ug/L	ND	0.20	12/01/20 10:11	
Cobalt	ug/L	ND	1.0	12/01/20 10:11	
Selenium	ug/L	ND	1.0	12/01/20 10:11	
Thallium	ug/L	ND	1.0	12/01/20 10:11	

LABORATORY CONTROL SAMPLE: 2745750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.7	99	80-120	
Arsenic	ug/L	40	38.7	97	80-120	
Beryllium	ug/L	40	37.0	92	80-120	
Cobalt	ug/L	40	38.7	97	80-120	
Selenium	ug/L	40	38.5	96	80-120	
Thallium	ug/L	40	39.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2745751

2745752

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50273934002 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	38.7	39.8	96	99	75-125	3	20
Arsenic	ug/L	4.2	40	40	42.2	42.0	95	94	75-125	1	20
Beryllium	ug/L	ND	40	40	37.0	37.9	93	95	75-125	2	20
Cobalt	ug/L	ND	40	40	40.6	37.9	99	93	75-125	7	20
Selenium	ug/L	ND	40	40	39.3	39.6	97	98	75-125	1	20
Thallium	ug/L	ND	40	40	39.2	40.5	98	101	75-125	4	20

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch: 596211	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2749544 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	12/03/20 15:41	

LABORATORY CONTROL SAMPLE: 2749545

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.3	97	90-110	

SAMPLE DUPLICATE: 2749546

Parameter	Units	50274277004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	209000 ug/L	216	4	20	

SAMPLE DUPLICATE: 2749547

Parameter	Units	50274105002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	481	459	5	20	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch: 595261	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2746094 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/25/20 13:57	

LABORATORY CONTROL SAMPLE: 2746095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	268	89	80-120	

SAMPLE DUPLICATE: 2746096

Parameter	Units	50274224001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1080	1090	1	10	

SAMPLE DUPLICATE: 2746097

Parameter	Units	50274046008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	339	338	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch:	595284	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

SAMPLE DUPLICATE: 2746259

Parameter	Units	50273972004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

SAMPLE DUPLICATE: 2746260

Parameter	Units	50274044002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	0	2	H3

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch: 595227	Analysis Method: SM 4500-S2-D
QC Batch Method: SM 4500-S2-D	Analysis Description: 4500S2D Sulfide Water
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2745845 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/25/20 11:13	

LABORATORY CONTROL SAMPLE: 2745846

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.47	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2745847 2745848

Parameter	Units	50273943001		2745848		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide	mg/L	ND	0.5	0.5	0.48	0.48	96	96	90-110	0	20

MATRIX SPIKE SAMPLE: 2745849

Parameter	Units	50274159001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	ND	0	90-110	M0

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch: 597026	Analysis Method: SM 5310C
QC Batch Method: SM 5310C	Analysis Description: 5310C Total Organic Carbon
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2753925 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	12/09/20 05:17	

LABORATORY CONTROL SAMPLE: 2753926

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2753927 2753928

Parameter	Units	50274196004		2753927		2753928		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Total Organic Carbon	mg/L	5.2	10	10	15.1	15.4	99	102	80-120	2	20

MATRIX SPIKE SAMPLE: 2753929

Parameter	Units	50274666007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.2	10	10.9	97	80-120	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Sample: PZ-1A **Lab ID: 50274159001** Collected: 11/23/20 15:45 Received: 11/24/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.764 ± 0.616 (0.829) C:NA T:90%	pCi/L	12/18/20 14:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.379 ± 0.474 (1.01) C:77% T:75%	pCi/L	12/17/20 14:35	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.14 ± 1.09 (1.84)	pCi/L	12/18/20 16:17	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Sample: PZ-11 **Lab ID: 50274159002** Collected: 11/23/20 16:40 Received: 11/24/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.728 ± 0.556 (0.734) C:NA T:96%	pCi/L	12/18/20 14:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.27 ± 0.557 (0.927) C:75% T:80%	pCi/L	12/17/20 14:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.00 ± 1.11 (1.66)	pCi/L	12/18/20 16:17	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Sample: PZ-1B **Lab ID: 50274159003** Collected: 11/23/20 17:40 Received: 11/24/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.279 ± 0.955 (1.58) C:NA T:65%	pCi/L	12/18/20 14:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.356 ± 0.504 (1.09) C:78% T:75%	pCi/L	12/17/20 14:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.635 ± 1.46 (2.67)	pCi/L	12/18/20 16:17	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch:	425512	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2056178 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.279 ± 0.403 (0.866) C:72% T:80%	pCi/L	12/17/20 14:35	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

QC Batch:	425511	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 50274159001, 50274159002, 50274159003

METHOD BLANK: 2056177 Matrix: Water

Associated Lab Samples: 50274159001, 50274159002, 50274159003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.144 ± 0.326 (0.676) C:NA T:79%	pCi/L	12/18/20 14:33	

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QUALIFIERS

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Sampling Profile 3 Report1

Pace Project No.: 50274159

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50274159001	PZ-1A	EPA 9056	597158		
50274159002	PZ-1I	EPA 9056	597158		
50274159003	PZ-1B	EPA 9056	597158		
50274159001	PZ-1A	EPA 3010	596085	EPA 6010	596703
50274159002	PZ-1I	EPA 3010	596085	EPA 6010	596703
50274159003	PZ-1B	EPA 3010	596085	EPA 6010	596703
50274159001	PZ-1A	EPA 3010	595439	EPA 6010	596010
50274159002	PZ-1I	EPA 3010	595439	EPA 6010	596010
50274159003	PZ-1B	EPA 3010	595439	EPA 6010	596010
50274159001	PZ-1A	EPA 200.2	595193	EPA 6020	595406
50274159002	PZ-1I	EPA 200.2	595193	EPA 6020	595406
50274159003	PZ-1B	EPA 200.2	595193	EPA 6020	595406
50274159001	PZ-1A	EPA 7470	596899	EPA 7470	597078
50274159002	PZ-1I	EPA 7470	596899	EPA 7470	597078
50274159003	PZ-1B	EPA 7470	596899	EPA 7470	597078
50274159001	PZ-1A	EPA 903.1	425511		
50274159002	PZ-1I	EPA 903.1	425511		
50274159003	PZ-1B	EPA 903.1	425511		
50274159001	PZ-1A	EPA 904.0	425512		
50274159002	PZ-1I	EPA 904.0	425512		
50274159003	PZ-1B	EPA 904.0	425512		
50274159001	PZ-1A	Total Radium Calculation	427843		
50274159002	PZ-1I	Total Radium Calculation	427843		
50274159003	PZ-1B	Total Radium Calculation	427843		
50274159001	PZ-1A	SM 2320B	596211		
50274159002	PZ-1I	SM 2320B	596211		
50274159003	PZ-1B	SM 2320B	596211		
50274159001	PZ-1A	SM 2540C	595261		
50274159002	PZ-1I	SM 2540C	595261		
50274159003	PZ-1B	SM 2540C	595261		
50274159001	PZ-1A	SM 4500-H+B	595284		
50274159002	PZ-1I	SM 4500-H+B	595284		
50274159003	PZ-1B	SM 4500-H+B	595284		
50274159001	PZ-1A	SM 4500-S2-D	595227		
50274159002	PZ-1I	SM 4500-S2-D	595227		
50274159003	PZ-1B	SM 4500-S2-D	595227		
50274159001	PZ-1A	SM 5310C	597026		
50274159002	PZ-1I	SM 5310C	597026		
50274159003	PZ-1B	SM 5310C	597026		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: WS 11-24-20 1400

Courier: Fed Ex UPS Client Pace USPS Other _____

Custody Seal on Cooler/Box Present: Yes No (If yes) Seals Intact: Yes No (leave blank if no seals were present)

Packing Material: Bubble Wrap Bubble Bags None Other Ziploc

Thermometer: 1 2 3 4 5 6 ABCDEF

Ice Type: Wet Blue None

Cooler Temperature: 4.9/3.9, 5.7/4.7, 3.6/2.6 If temp. is over 6°C or under 0°C, was the PM notified?: Yes No
 Temp should be above freezing to 6°C (Initial/Corrected)

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
Are samples from West Virginia? Document any containers out of temp.		✓	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis:		✓		Present	Absent	N/A
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm):			✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:		✓	

COMMENTS:

January 2021

February 02, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR Plus
Pace Project No.: 50278058

Dear Wil Teague:


Enclosed are the analytical results for sample(s) received by the laboratory on January 19, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Donna Spyker
donna.spyker@pacelabs.com
(317)228-3100
Project Manager

Enclosures

cc: Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CCR Plus

Pace Project No.: 50278058

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CCR Plus
Pace Project No.: 50278058

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50278058001	MW-21A	Water	01/18/21 13:10	01/19/21 10:00
50278058002	MW-21B	Water	01/18/21 16:20	01/19/21 10:00
50278058003	MW-21I	Water	01/18/21 14:40	01/19/21 10:00
50278058004	Duplicate	Water	01/18/21 08:00	01/19/21 10:00

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SAMPLE ANALYTE COUNT

Project: CCR Plus

Pace Project No.: 50278058

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50278058001	MW-21A	EPA 9056	HBS	3	PASI-I
		EPA 6010	JDG	12	PASI-I
		EPA 6010	KJE	4	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	HCF	1	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	CTU	1	PASI-I
		SM 4500-S2-D	DAS	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		50278058002	MW-21B	EPA 9056	HBS
EPA 6010	JDG			12	PASI-I
EPA 6010	KJE			4	PASI-I
EPA 6020	RAM			6	PASI-I
EPA 7470	LBT			1	PASI-I
EPA 903.1	MK1			1	PASI-PA
EPA 904.0	VAL			1	PASI-PA
Total Radium Calculation	CMC			1	PASI-PA
SM 2320B	HCF			1	PASI-I
SM 2540C	WZE			1	PASI-I
SM 4500-H+B	CTU			1	PASI-I
SM 4500-S2-D	DAS			1	PASI-I
SM 5310C	GWA			1	PASI-I
50278058003	MW-21I			EPA 9056	HBS
		EPA 6010	JDG	12	PASI-I
		EPA 6010	KJE	4	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	HCF	1	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	CTU	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: CCR Plus
Pace Project No.: 50278058

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50278058004	Duplicate	SM 4500-S2-D	DAS	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		EPA 9056	HBS	3	PASI-I
		EPA 6010	JDG	12	PASI-I
		EPA 6010	KJE	4	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	HCF	1	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	CTU	1	PASI-I
		SM 4500-S2-D	DAS	1	PASI-I
SM 5310C	GWA	1	PASI-I		

PASI-I = Pace Analytical Services - Indianapolis
PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Plus

Pace Project No.: 50278058

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50278058001	MW-21A					
EPA 9056	Chloride	116	mg/L	2.5	01/19/21 19:56	
EPA 9056	Fluoride	0.16	mg/L	0.10	01/19/21 19:40	
EPA 9056	Sulfate	1560	mg/L	25.0	01/19/21 20:13	
EPA 6010	Barium	57.4	ug/L	10.0	01/29/21 11:04	
EPA 6010	Boron	11200	ug/L	100	01/29/21 11:04	
EPA 6010	Calcium	565000	ug/L	5000	01/29/21 11:42	
EPA 6010	Lithium	77.8	ug/L	20.0	01/29/21 11:04	
EPA 6010	Magnesium	43400	ug/L	1000	01/29/21 11:04	
EPA 6010	Manganese	1090	ug/L	10.0	01/29/21 11:04	
EPA 6010	Molybdenum	215	ug/L	10.0	01/29/21 11:04	
EPA 6010	Potassium	20000	ug/L	1000	01/29/21 11:04	
EPA 6010	Sodium	76100	ug/L	1000	01/29/21 11:04	
EPA 6010	Iron, Dissolved	6250	ug/L	100	02/01/21 11:16	
EPA 6010	Lithium, Dissolved	75.3	ug/L	20.0	02/01/21 11:16	
EPA 6010	Manganese, Dissolved	999	ug/L	10.0	02/01/21 11:16	
EPA 6010	Molybdenum, Dissolved	216	ug/L	10.0	02/01/21 11:16	
EPA 6020	Arsenic	2.8	ug/L	1.0	01/21/21 13:59	
EPA 6020	Cobalt	1.5	ug/L	1.0	01/21/21 13:59	
EPA 903.1	Radium-226	0.192 ± 0.452 (0.837)	pCi/L		01/29/21 13:10	
EPA 904.0	Radium-228	0.962 ± 0.484 (0.861)	pCi/L		01/29/21 14:12	
		C:NA T:85%				
		C:79%				
		T:78%				
Total Radium Calculation	Total Radium	1.15 ± 0.936 (1.70)	pCi/L		02/02/21 14:29	
SM 2320B	Alkalinity, Total as CaCO3	78.7	mg/L	2.0	01/20/21 14:22	
SM 2540C	Total Dissolved Solids	2460	mg/L	40.0	01/20/21 11:15	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	01/22/21 13:18	H3
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	01/26/21 05:16	
50278058002	MW-21B					
EPA 9056	Chloride	56.0	mg/L	2.5	01/19/21 20:45	
EPA 9056	Sulfate	400	mg/L	25.0	01/19/21 21:01	
EPA 6010	Barium	139	ug/L	10.0	01/29/21 11:07	
EPA 6010	Boron	771	ug/L	100	01/29/21 11:07	
EPA 6010	Calcium	267000	ug/L	2000	01/29/21 11:45	
EPA 6010	Magnesium	61800	ug/L	1000	01/29/21 11:07	
EPA 6010	Manganese	2710	ug/L	10.0	01/29/21 11:07	
EPA 6010	Potassium	2760	ug/L	1000	01/29/21 11:07	
EPA 6010	Sodium	27300	ug/L	1000	01/29/21 11:07	
EPA 6010	Iron, Dissolved	147	ug/L	100	02/01/21 11:18	
EPA 6010	Manganese, Dissolved	2750	ug/L	10.0	02/01/21 11:18	
EPA 6020	Arsenic	2.1	ug/L	1.0	01/21/21 14:29	
EPA 6020	Beryllium	0.25	ug/L	0.20	01/21/21 14:29	
EPA 6020	Cobalt	9.2	ug/L	1.0	01/21/21 14:29	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Plus

Pace Project No.: 50278058

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50278058002	MW-21B					
EPA 903.1	Radium-226	0.833 ± 0.527 (0.595) C:NA T:85%	pCi/L		01/29/21 13:33	
EPA 904.0	Radium-228	0.641 ± 0.489 (0.975) C:78% T:76%	pCi/L		01/29/21 14:12	
Total Radium Calculation	Total Radium	1.47 ± 1.02 (1.57)	pCi/L		02/02/21 14:29	
SM 2320B	Alkalinity, Total as CaCO3	481	mg/L	2.0	01/20/21 14:22	
SM 2540C	Total Dissolved Solids	1180	mg/L	20.0	01/20/21 11:16	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	01/22/21 13:23	H3
SM 5310C	Total Organic Carbon	2.3	mg/L	1.0	01/26/21 05:35	
50278058003	MW-21I					
EPA 9056	Chloride	72.3	mg/L	2.5	01/19/21 22:07	
EPA 9056	Fluoride	0.14	mg/L	0.10	01/19/21 21:50	
EPA 9056	Sulfate	475	mg/L	25.0	01/19/21 22:23	
EPA 6010	Barium	56.2	ug/L	10.0	01/29/21 11:09	
EPA 6010	Boron	3640	ug/L	100	01/29/21 11:09	
EPA 6010	Calcium	265000	ug/L	2000	01/29/21 11:47	
EPA 6010	Magnesium	40000	ug/L	1000	01/29/21 11:09	
EPA 6010	Manganese	1510	ug/L	10.0	01/29/21 11:09	
EPA 6010	Molybdenum	120	ug/L	10.0	01/29/21 11:09	
EPA 6010	Potassium	8530	ug/L	1000	01/29/21 11:09	
EPA 6010	Sodium	44300	ug/L	1000	01/29/21 11:09	
EPA 6010	Iron, Dissolved	5760	ug/L	100	02/01/21 11:21	
EPA 6010	Manganese, Dissolved	1440	ug/L	10.0	02/01/21 11:21	
EPA 6010	Molybdenum, Dissolved	121	ug/L	10.0	02/01/21 11:21	
EPA 6020	Arsenic	1.2	ug/L	1.0	01/21/21 14:35	
EPA 6020	Cobalt	1.2	ug/L	1.0	01/21/21 14:35	
EPA 903.1	Radium-226	0.225 ± 0.414 (0.738) C:NA T:94%	pCi/L		01/29/21 13:33	
EPA 904.0	Radium-228	0.456 ± 0.385 (0.776) C:82% T:82%	pCi/L		01/29/21 14:12	
Total Radium Calculation	Total Radium	0.681 ± 0.799 (1.51)	pCi/L		02/02/21 14:29	
SM 2320B	Alkalinity, Total as CaCO3	338	mg/L	2.0	01/20/21 14:22	
SM 2540C	Total Dissolved Solids	1110	mg/L	20.0	01/20/21 11:17	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	01/22/21 13:20	H3
SM 5310C	Total Organic Carbon	1.9	mg/L	1.0	01/26/21 05:55	
50278058004	Duplicate					
EPA 9056	Chloride	55.6	mg/L	2.5	01/19/21 22:55	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Plus

Pace Project No.: 50278058

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50278058004	Duplicate					
EPA 9056	Sulfate	405	mg/L	25.0	01/19/21 23:12	
EPA 6010	Barium	133	ug/L	10.0	01/29/21 11:11	
EPA 6010	Boron	761	ug/L	100	01/29/21 11:11	
EPA 6010	Calcium	264000	ug/L	2000	01/29/21 11:49	
EPA 6010	Magnesium	61500	ug/L	1000	01/29/21 11:11	
EPA 6010	Manganese	2720	ug/L	10.0	01/29/21 11:11	
EPA 6010	Potassium	2540	ug/L	1000	01/29/21 11:11	
EPA 6010	Sodium	27100	ug/L	1000	01/29/21 11:11	
EPA 6010	Iron, Dissolved	148	ug/L	100	02/01/21 11:23	
EPA 6010	Manganese, Dissolved	2760	ug/L	10.0	02/01/21 11:23	
EPA 6020	Arsenic	2.1	ug/L	1.0	01/21/21 14:41	
EPA 6020	Beryllium	0.24	ug/L	0.20	01/21/21 14:41	
EPA 6020	Cobalt	9.5	ug/L	1.0	01/21/21 14:41	
EPA 903.1	Radium-226	0.331 ± 0.485 (0.828)	pCi/L		01/29/21 13:10	
EPA 904.0	Radium-228	C:NA T:93% 0.631 ± 0.375 (0.698)	pCi/L		01/29/21 14:12	
		C:79% T:93%				
Total Radium Calculation	Total Radium	0.962 ± 0.860 (1.53)	pCi/L		02/02/21 14:29	
SM 2320B	Alkalinity, Total as CaCO3	482	mg/L	2.0	01/20/21 14:22	
SM 2540C	Total Dissolved Solids	1180	mg/L	20.0	01/20/21 11:17	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	01/22/21 13:14	H3
SM 5310C	Total Organic Carbon	2.2	mg/L	1.0	01/26/21 06:59	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus

Pace Project No.: 50278058

Sample: MW-21A	Lab ID: 50278058001	Collected: 01/18/21 13:10	Received: 01/19/21 10:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	116	mg/L	2.5	10		01/19/21 19:56	16887-00-6	
Fluoride	0.16	mg/L	0.10	1		01/19/21 19:40	16984-48-8	
Sulfate	1560	mg/L	25.0	100		01/19/21 20:13	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	57.4	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:04	7440-39-3	
Boron	11200	ug/L	100	1	01/28/21 14:00	01/29/21 11:04	7440-42-8	
Cadmium	ND	ug/L	2.0	1	01/28/21 14:00	01/29/21 11:04	7440-43-9	
Calcium	565000	ug/L	5000	5	01/28/21 14:00	01/29/21 11:42	7440-70-2	
Chromium	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:04	7440-47-3	
Lead	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:04	7439-92-1	
Lithium	77.8	ug/L	20.0	1	01/28/21 14:00	01/29/21 11:04	7439-93-2	
Magnesium	43400	ug/L	1000	1	01/28/21 14:00	01/29/21 11:04	7439-95-4	
Manganese	1090	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:04	7439-96-5	
Molybdenum	215	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:04	7439-98-7	
Potassium	20000	ug/L	1000	1	01/28/21 14:00	01/29/21 11:04	7440-09-7	
Sodium	76100	ug/L	1000	1	01/28/21 14:00	01/29/21 11:04	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	6250	ug/L	100	1	01/29/21 10:15	02/01/21 11:16	7439-89-6	
Lithium, Dissolved	75.3	ug/L	20.0	1	01/29/21 10:15	02/01/21 11:16	7439-93-2	
Manganese, Dissolved	999	ug/L	10.0	1	01/29/21 10:15	02/01/21 11:16	7439-96-5	
Molybdenum, Dissolved	216	ug/L	10.0	1	01/29/21 10:15	02/01/21 11:16	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 13:59	7440-36-0	
Arsenic	2.8	ug/L	1.0	1	01/21/21 08:12	01/21/21 13:59	7440-38-2	
Beryllium	ND	ug/L	0.20	1	01/21/21 08:12	01/21/21 13:59	7440-41-7	
Cobalt	1.5	ug/L	1.0	1	01/21/21 08:12	01/21/21 13:59	7440-48-4	
Selenium	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 13:59	7782-49-2	
Thallium	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 13:59	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	01/27/21 11:17	01/27/21 18:47	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	78.7	mg/L	2.0	1		01/20/21 14:22		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus

Pace Project No.: 50278058

Sample: MW-21A	Lab ID: 50278058001	Collected: 01/18/21 13:10	Received: 01/19/21 10:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2460	mg/L	40.0	1		01/20/21 11:15		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		01/22/21 13:18		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		01/19/21 15:40	18496-25-8	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.6	mg/L	1.0	1		01/26/21 05:16	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Plus

Pace Project No.: 50278058

Sample: MW-21B	Lab ID: 50278058002	Collected: 01/18/21 16:20	Received: 01/19/21 10:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	56.0	mg/L	2.5	10		01/19/21 20:45	16887-00-6	
Fluoride	ND	mg/L	0.10	1		01/19/21 20:29	16984-48-8	
Sulfate	400	mg/L	25.0	100		01/19/21 21:01	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	139	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:07	7440-39-3	
Boron	771	ug/L	100	1	01/28/21 14:00	01/29/21 11:07	7440-42-8	
Cadmium	ND	ug/L	2.0	1	01/28/21 14:00	01/29/21 11:07	7440-43-9	
Calcium	267000	ug/L	2000	2	01/28/21 14:00	01/29/21 11:45	7440-70-2	
Chromium	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:07	7440-47-3	
Lead	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:07	7439-92-1	
Lithium	ND	ug/L	20.0	1	01/28/21 14:00	01/29/21 11:07	7439-93-2	
Magnesium	61800	ug/L	1000	1	01/28/21 14:00	01/29/21 11:07	7439-95-4	
Manganese	2710	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:07	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:07	7439-98-7	
Potassium	2760	ug/L	1000	1	01/28/21 14:00	01/29/21 11:07	7440-09-7	
Sodium	27300	ug/L	1000	1	01/28/21 14:00	01/29/21 11:07	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	147	ug/L	100	1	01/29/21 10:15	02/01/21 11:18	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	1	01/29/21 10:15	02/01/21 11:18	7439-93-2	
Manganese, Dissolved	2750	ug/L	10.0	1	01/29/21 10:15	02/01/21 11:18	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	01/29/21 10:15	02/01/21 11:18	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:29	7440-36-0	
Arsenic	2.1	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:29	7440-38-2	
Beryllium	0.25	ug/L	0.20	1	01/21/21 08:12	01/21/21 14:29	7440-41-7	
Cobalt	9.2	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:29	7440-48-4	
Selenium	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:29	7782-49-2	
Thallium	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:29	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	01/27/21 11:17	01/27/21 18:49	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	481	mg/L	2.0	1		01/20/21 14:22		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus

Pace Project No.: 50278058

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-21B								
Lab ID: 50278058002								
Collected: 01/18/21 16:20 Received: 01/19/21 10:00 Matrix: Water								
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1180	mg/L	20.0	1		01/20/21 11:16		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.9	Std. Units	0.10	1		01/22/21 13:23		H3
4500S2D Sulfide Water								
Analytical Method: SM 4500-S2-D								
Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	1		01/19/21 15:40	18496-25-8	
5310C TOC								
Analytical Method: SM 5310C								
Pace Analytical Services - Indianapolis								
Total Organic Carbon	2.3	mg/L	1.0	1		01/26/21 05:35	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Plus

Pace Project No.: 50278058

Sample: MW-211		Lab ID: 50278058003	Collected: 01/18/21 14:40	Received: 01/19/21 10:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions		Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis						
Chloride	72.3	mg/L	2.5	10		01/19/21 22:07	16887-00-6	
Fluoride	0.14	mg/L	0.10	1		01/19/21 21:50	16984-48-8	
Sulfate	475	mg/L	25.0	100		01/19/21 22:23	14808-79-8	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Barium	56.2	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:09	7440-39-3	
Boron	3640	ug/L	100	1	01/28/21 14:00	01/29/21 11:09	7440-42-8	
Cadmium	ND	ug/L	2.0	1	01/28/21 14:00	01/29/21 11:09	7440-43-9	
Calcium	265000	ug/L	2000	2	01/28/21 14:00	01/29/21 11:47	7440-70-2	
Chromium	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:09	7440-47-3	
Lead	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:09	7439-92-1	
Lithium	ND	ug/L	20.0	1	01/28/21 14:00	01/29/21 11:09	7439-93-2	
Magnesium	40000	ug/L	1000	1	01/28/21 14:00	01/29/21 11:09	7439-95-4	
Manganese	1510	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:09	7439-96-5	
Molybdenum	120	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:09	7439-98-7	
Potassium	8530	ug/L	1000	1	01/28/21 14:00	01/29/21 11:09	7440-09-7	
Sodium	44300	ug/L	1000	1	01/28/21 14:00	01/29/21 11:09	7440-23-5	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Iron, Dissolved	5760	ug/L	100	1	01/29/21 10:15	02/01/21 11:21	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	1	01/29/21 10:15	02/01/21 11:21	7439-93-2	
Manganese, Dissolved	1440	ug/L	10.0	1	01/29/21 10:15	02/01/21 11:21	7439-96-5	
Molybdenum, Dissolved	121	ug/L	10.0	1	01/29/21 10:15	02/01/21 11:21	7439-98-7	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Antimony	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:35	7440-36-0	
Arsenic	1.2	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:35	7440-38-2	
Beryllium	ND	ug/L	0.20	1	01/21/21 08:12	01/21/21 14:35	7440-41-7	
Cobalt	1.2	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:35	7440-48-4	
Selenium	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:35	7782-49-2	
Thallium	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:35	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis						
Mercury	ND	ug/L	2.0	1	01/27/21 11:17	01/27/21 18:51	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Indianapolis						
Alkalinity, Total as CaCO3	338	mg/L	2.0	1		01/20/21 14:22		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus

Pace Project No.: 50278058

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-21I Lab ID: 50278058003 Collected: 01/18/21 14:40 Received: 01/19/21 10:00 Matrix: Water								
2540C Total Dissolved Solids								
Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1110	mg/L	20.0	1		01/20/21 11:17		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.2	Std. Units	0.10	1		01/22/21 13:20		H3
4500S2D Sulfide Water								
Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	1		01/19/21 15:40	18496-25-8	
5310C TOC								
Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	1.9	mg/L	1.0	1		01/26/21 05:55	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus

Pace Project No.: 50278058

Sample: Duplicate		Lab ID: 50278058004	Collected: 01/18/21 08:00	Received: 01/19/21 10:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions		Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis						
Chloride	55.6	mg/L	2.5	10		01/19/21 22:55	16887-00-6	
Fluoride	ND	mg/L	0.10	1		01/19/21 22:39	16984-48-8	
Sulfate	405	mg/L	25.0	100		01/19/21 23:12	14808-79-8	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Barium	133	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:11	7440-39-3	
Boron	761	ug/L	100	1	01/28/21 14:00	01/29/21 11:11	7440-42-8	
Cadmium	ND	ug/L	2.0	1	01/28/21 14:00	01/29/21 11:11	7440-43-9	
Calcium	264000	ug/L	2000	2	01/28/21 14:00	01/29/21 11:49	7440-70-2	
Chromium	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:11	7440-47-3	
Lead	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:11	7439-92-1	
Lithium	ND	ug/L	20.0	1	01/28/21 14:00	01/29/21 11:11	7439-93-2	
Magnesium	61500	ug/L	1000	1	01/28/21 14:00	01/29/21 11:11	7439-95-4	
Manganese	2720	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:11	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	01/28/21 14:00	01/29/21 11:11	7439-98-7	
Potassium	2540	ug/L	1000	1	01/28/21 14:00	01/29/21 11:11	7440-09-7	
Sodium	27100	ug/L	1000	1	01/28/21 14:00	01/29/21 11:11	7440-23-5	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Iron, Dissolved	148	ug/L	100	1	01/29/21 10:15	02/01/21 11:23	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	1	01/29/21 10:15	02/01/21 11:23	7439-93-2	
Manganese, Dissolved	2760	ug/L	10.0	1	01/29/21 10:15	02/01/21 11:23	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	01/29/21 10:15	02/01/21 11:23	7439-98-7	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Antimony	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:41	7440-36-0	
Arsenic	2.1	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:41	7440-38-2	
Beryllium	0.24	ug/L	0.20	1	01/21/21 08:12	01/21/21 14:41	7440-41-7	
Cobalt	9.5	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:41	7440-48-4	
Selenium	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:41	7782-49-2	
Thallium	ND	ug/L	1.0	1	01/21/21 08:12	01/21/21 14:41	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis						
Mercury	ND	ug/L	2.0	1	01/27/21 11:17	01/27/21 18:53	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Indianapolis						
Alkalinity, Total as CaCO3	482	mg/L	2.0	1		01/20/21 14:22		

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ANALYTICAL RESULTS

Project: CCR Plus

Pace Project No.: 50278058

Sample: Duplicate		Lab ID: 50278058004		Collected: 01/18/21 08:00	Received: 01/19/21 10:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	1180	mg/L	20.0	1		01/20/21 11:17		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.0	Std. Units	0.10	1		01/22/21 13:14		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		01/19/21 15:40	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	2.2	mg/L	1.0	1		01/26/21 06:59	7440-44-0	

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QUALITY CONTROL DATA

Project: CCR Plus

Pace Project No.: 50278058

QC Batch:	602926	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2780099 Matrix: Water
Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	01/19/21 11:51	
Fluoride	mg/L	ND	0.10	01/19/21 11:51	
Sulfate	mg/L	ND	0.25	01/19/21 11:51	

LABORATORY CONTROL SAMPLE: 2780100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	93	80-120	
Fluoride	mg/L	0.5	0.51	101	80-120	
Sulfate	mg/L	2.5	2.5	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2780101 2780102

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50278043001 Result	Spike Conc.	Spike Conc.	Result						
Chloride	mg/L	132	125	125	258	259	101	102	80-120	0	15
Fluoride	mg/L	0.33	0.5	0.5	0.85	0.86	104	106	80-120	1	15
Sulfate	mg/L	89.3	250	250	336	335	99	98	80-120	0	15

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QUALITY CONTROL DATA

Project: CCR Plus
Pace Project No.: 50278058

QC Batch: 603413 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2782161 Matrix: Water
Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	01/29/21 10:32	
Boron	ug/L	ND	100	01/29/21 10:32	
Cadmium	ug/L	ND	2.0	01/29/21 10:32	
Calcium	ug/L	ND	1000	01/29/21 10:32	
Chromium	ug/L	ND	10.0	01/29/21 10:32	
Lead	ug/L	ND	10.0	01/29/21 10:32	
Lithium	ug/L	ND	20.0	01/29/21 10:32	
Magnesium	ug/L	ND	1000	01/29/21 10:32	
Manganese	ug/L	ND	10.0	01/29/21 10:32	
Molybdenum	ug/L	ND	10.0	01/29/21 10:32	
Potassium	ug/L	ND	1000	01/29/21 10:32	
Sodium	ug/L	ND	1000	01/29/21 10:32	

LABORATORY CONTROL SAMPLE: 2782162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	80-120	
Boron	ug/L	1000	994	99	80-120	
Cadmium	ug/L	1000	976	98	80-120	
Calcium	ug/L	10000	9990	100	80-120	
Chromium	ug/L	1000	1000	100	80-120	
Lead	ug/L	1000	960	96	80-120	
Lithium	ug/L	1000	998	100	80-120	
Magnesium	ug/L	10000	9640	96	80-120	
Manganese	ug/L	1000	978	98	80-120	
Molybdenum	ug/L	1000	1030	103	80-120	
Potassium	ug/L	10000	9960	100	80-120	
Sodium	ug/L	10000	9910	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2782163 2782164

Parameter	Units	2782163		2782164		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Barium	ug/L	167	1000	1160	1150	99	99	75-125	1	20	
Boron	ug/L	126	1000	1130	1120	100	100	75-125	1	20	
Cadmium	ug/L	ND	1000	952	946	95	95	75-125	1	20	
Calcium	ug/L	131000	10000	143000	137000	121	67	75-125	4	20 P6	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Plus

Pace Project No.: 50278058

Parameter	Units	2782163		2782164		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50278029004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Chromium	ug/L	48.6	1000	1000	1010	1010	96	96	75-125	0	20		
Lead	ug/L	44.2	1000	1000	929	928	88	88	75-125	0	20		
Lithium	ug/L	36.8	1000	1000	1010	1010	98	98	75-125	0	20		
Magnesium	ug/L	22700	10000	10000	32900	31800	102	91	75-125	3	20		
Manganese	ug/L	1250	1000	1000	2190	2140	94	90	75-125	2	20		
Molybdenum	ug/L	ND	1000	1000	981	977	98	97	75-125	0	20		
Potassium	ug/L	13600	10000	10000	25900	24700	122	110	75-125	5	20		
Sodium	ug/L	29400	10000	10000	39700	38400	103	90	75-125	3	20		

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QUALITY CONTROL DATA

Project: CCR Plus

Pace Project No.: 50278058

QC Batch:	603823	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2784027 Matrix: Water
Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	02/01/21 11:14	
Lithium, Dissolved	ug/L	ND	20.0	02/01/21 11:14	
Manganese, Dissolved	ug/L	ND	10.0	02/01/21 11:14	
Molybdenum, Dissolved	ug/L	ND	10.0	02/01/21 11:14	

LABORATORY CONTROL SAMPLE: 2784028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9900	99	80-120	
Lithium, Dissolved	ug/L	1000	1000	100	80-120	
Manganese, Dissolved	ug/L	1000	990	99	80-120	
Molybdenum, Dissolved	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2784029 2784030

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50278320002 Result	Spike Conc.	Spike Conc.	Result						
Iron, Dissolved	ug/L	17200	10000	10000	26400	26200	92	90	75-125	1	20
Lithium, Dissolved	ug/L	<20.0	1000	1000	1030	1010	103	101	75-125	1	20
Manganese, Dissolved	ug/L	449	1000	1000	1430	1380	98	94	75-125	3	20
Molybdenum, Dissolved	ug/L	<10.0	1000	1000	1030	1030	103	103	75-125	0	20

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QUALITY CONTROL DATA

Project: CCR Plus

Pace Project No.: 50278058

QC Batch:	603075	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2780731 Matrix: Water
Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	01/21/21 13:50	
Arsenic	ug/L	ND	1.0	01/21/21 13:50	
Beryllium	ug/L	ND	0.20	01/21/21 13:50	
Cobalt	ug/L	ND	1.0	01/21/21 13:50	
Selenium	ug/L	ND	1.0	01/21/21 13:50	
Thallium	ug/L	ND	1.0	01/21/21 13:50	

LABORATORY CONTROL SAMPLE: 2780732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.1	103	80-120	
Arsenic	ug/L	40	37.6	94	80-120	
Beryllium	ug/L	40	40.2	101	80-120	
Cobalt	ug/L	40	41.1	103	80-120	
Selenium	ug/L	40	40.5	101	80-120	
Thallium	ug/L	40	41.9	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2780733 2780734

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50278058001 Result	Spike Conc.	Spike Conc.	Conc.								
Antimony	ug/L	ND	40	40	40	41.7	40.7	104	101	75-125	2	20	
Arsenic	ug/L	2.8	40	40	40	39.3	38.5	91	89	75-125	2	20	
Beryllium	ug/L	ND	40	40	40	36.7	36.0	92	90	75-125	2	20	
Cobalt	ug/L	1.5	40	40	40	38.4	37.6	92	90	75-125	2	20	
Selenium	ug/L	ND	40	40	40	40.5	39.7	101	99	75-125	2	20	
Thallium	ug/L	ND	40	40	40	43.8	43.1	109	108	75-125	2	20	

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QUALITY CONTROL DATA

Project: CCR Plus
Pace Project No.: 50278058

QC Batch: 603071 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2780698 Matrix: Water
Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	2.0	01/20/21 14:22	

LABORATORY CONTROL SAMPLE: 2780699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	46.0	92	90-110	

SAMPLE DUPLICATE: 2780700

Parameter	Units	50278058001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	78.7	77.0	2	20	

SAMPLE DUPLICATE: 2780701

Parameter	Units	50278107006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	68.0	68.5	1	20	

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QUALITY CONTROL DATA

Project: CCR Plus
Pace Project No.: 50278058

QC Batch: 603077 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2780751 Matrix: Water
Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	01/20/21 11:07	

LABORATORY CONTROL SAMPLE: 2780750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	299	100	80-120	

SAMPLE DUPLICATE: 2780752

Parameter	Units	50278043001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	696	682	2	10	

SAMPLE DUPLICATE: 2780753

Parameter	Units	50278043002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	696	671	4	10	

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QUALITY CONTROL DATA

Project: CCR Plus

Pace Project No.: 50278058

QC Batch: 603424

Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B

Analysis Description: 4500H+B pH

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

SAMPLE DUPLICATE: 2782187

Parameter	Units	50278058003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

SAMPLE DUPLICATE: 2782188

Parameter	Units	50278223003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	1	2	H3

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QUALITY CONTROL DATA

Project: CCR Plus

Pace Project No.: 50278058

QC Batch:	602941	Analysis Method:	SM 4500-S2-D
QC Batch Method:	SM 4500-S2-D	Analysis Description:	4500S2D Sulfide Water
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2780176 Matrix: Water
Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	01/19/21 15:40	

LABORATORY CONTROL SAMPLE: 2780177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2780178 2780179

Parameter	Units	50278044001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.026J	0.5	0.5	0.51	0.49	98	92	90-110	6	20	

MATRIX SPIKE SAMPLE: 2780180

Parameter	Units	50278069001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.44	86	90-110	M0

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QUALITY CONTROL DATA

Project: CCR Plus
Pace Project No.: 50278058

QC Batch: 603734 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2783760 Matrix: Water
Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	01/26/21 04:36	

LABORATORY CONTROL SAMPLE: 2783761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2783762 2783763

Parameter	Units	50278127001		50278127001		50278127001		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Total Organic Carbon	mg/L	821 ug/L	10	10	10.5	10.5	97	97	80-120	0	20

MATRIX SPIKE SAMPLE: 2783764

Parameter	Units	50278217005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	677 ug/L	10	10.3	96	80-120	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Plus

Pace Project No.: 50278058

Sample: MW-21A **Lab ID: 50278058001** Collected: 01/18/21 13:10 Received: 01/19/21 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.192 ± 0.452 (0.837) C:NA T:85%	pCi/L	01/29/21 13:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.962 ± 0.484 (0.861) C:79% T:78%	pCi/L	01/29/21 14:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.15 ± 0.936 (1.70)	pCi/L	02/02/21 14:29	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Plus

Pace Project No.: 50278058

Sample: MW-21B **Lab ID: 50278058002** Collected: 01/18/21 16:20 Received: 01/19/21 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.833 ± 0.527 (0.595) C:NA T:85%	pCi/L	01/29/21 13:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.641 ± 0.489 (0.975) C:78% T:76%	pCi/L	01/29/21 14:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.47 ± 1.02 (1.57)	pCi/L	02/02/21 14:29	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Plus

Pace Project No.: 50278058

Sample: MW-211 **Lab ID: 50278058003** Collected: 01/18/21 14:40 Received: 01/19/21 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.225 ± 0.414 (0.738) C:NA T:94%	pCi/L	01/29/21 13:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.456 ± 0.385 (0.776) C:82% T:82%	pCi/L	01/29/21 14:12	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.681 ± 0.799 (1.51)	pCi/L	02/02/21 14:29	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Plus

Pace Project No.: 50278058

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: Duplicate Lab ID: 50278058004 Collected: 01/18/21 08:00 Received: 01/19/21 10:00 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.331 ± 0.485 (0.828) C:NA T:93%	pCi/L	01/29/21 13:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.631 ± 0.375 (0.698) C:79% T:93%	pCi/L	01/29/21 14:12	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.962 ± 0.860 (1.53)	pCi/L	02/02/21 14:29	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Plus

Pace Project No.: 50278058

QC Batch: 431756

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2085368

Matrix: Water

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.145 ± 0.285 (0.681) C:NA T:87%	pCi/L	01/29/21 12:55	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Plus

Pace Project No.: 50278058

QC Batch: 431758

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

METHOD BLANK: 2085370

Matrix: Water

Associated Lab Samples: 50278058001, 50278058002, 50278058003, 50278058004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.152 ± 0.336 (0.816) C:76% T:78%	pCi/L	01/29/21 14:12	

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QUALIFIERS

Project: CCR Plus

Pace Project No.: 50278058

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Plus

Pace Project No.: 50278058

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50278058001	MW-21A	EPA 9056	602926		
50278058002	MW-21B	EPA 9056	602926		
50278058003	MW-21I	EPA 9056	602926		
50278058004	Duplicate	EPA 9056	602926		
50278058001	MW-21A	EPA 3010	603413	EPA 6010	604326
50278058002	MW-21B	EPA 3010	603413	EPA 6010	604326
50278058003	MW-21I	EPA 3010	603413	EPA 6010	604326
50278058004	Duplicate	EPA 3010	603413	EPA 6010	604326
50278058001	MW-21A	EPA 3010	603823	EPA 6010	604552
50278058002	MW-21B	EPA 3010	603823	EPA 6010	604552
50278058003	MW-21I	EPA 3010	603823	EPA 6010	604552
50278058004	Duplicate	EPA 3010	603823	EPA 6010	604552
50278058001	MW-21A	EPA 200.2	603075	EPA 6020	603309
50278058002	MW-21B	EPA 200.2	603075	EPA 6020	603309
50278058003	MW-21I	EPA 200.2	603075	EPA 6020	603309
50278058004	Duplicate	EPA 200.2	603075	EPA 6020	603309
50278058001	MW-21A	EPA 7470	603922	EPA 7470	604113
50278058002	MW-21B	EPA 7470	603922	EPA 7470	604113
50278058003	MW-21I	EPA 7470	603922	EPA 7470	604113
50278058004	Duplicate	EPA 7470	603922	EPA 7470	604113
50278058001	MW-21A	EPA 903.1	431756		
50278058002	MW-21B	EPA 903.1	431756		
50278058003	MW-21I	EPA 903.1	431756		
50278058004	Duplicate	EPA 903.1	431756		
50278058001	MW-21A	EPA 904.0	431758		
50278058002	MW-21B	EPA 904.0	431758		
50278058003	MW-21I	EPA 904.0	431758		
50278058004	Duplicate	EPA 904.0	431758		
50278058001	MW-21A	Total Radium Calculation	433304		
50278058002	MW-21B	Total Radium Calculation	433304		
50278058003	MW-21I	Total Radium Calculation	433304		
50278058004	Duplicate	Total Radium Calculation	433304		
50278058001	MW-21A	SM 2320B	603071		
50278058002	MW-21B	SM 2320B	603071		
50278058003	MW-21I	SM 2320B	603071		
50278058004	Duplicate	SM 2320B	603071		
50278058001	MW-21A	SM 2540C	603077		
50278058002	MW-21B	SM 2540C	603077		
50278058003	MW-21I	SM 2540C	603077		
50278058004	Duplicate	SM 2540C	603077		
50278058001	MW-21A	SM 4500-H+B	603424		
50278058002	MW-21B	SM 4500-H+B	603424		
50278058003	MW-21I	SM 4500-H+B	603424		
50278058004	Duplicate	SM 4500-H+B	603424		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

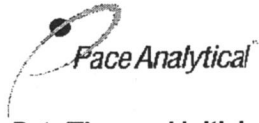
Project: CCR Plus

Pace Project No.: 50278058

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50278058001	MW-21A	SM 4500-S2-D	602941		
50278058002	MW-21B	SM 4500-S2-D	602941		
50278058003	MW-21I	SM 4500-S2-D	602941		
50278058004	Duplicate	SM 4500-S2-D	602941		
50278058001	MW-21A	SM 5310C	603734		
50278058002	MW-21B	SM 5310C	603734		
50278058003	MW-21I	SM 5310C	603734		
50278058004	Duplicate	SM 5310C	603734		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: WS 1-14-21 1125

Courier: Fed Ex UPS Client Pace USPS Other _____

Custody Seal on Cooler/Box Present: Yes No (If yes) Seals Intact: Yes No (leave blank if no seals were present)

Packing Material: Bubble Wrap Bubble Bags None Other Ziploc

Thermometer: 1 2 3 4 5 6 A B C D E F

Ice Type: Wet Blue None

Cooler Temperature: 21/2.1 2.4/2.4
Temp should be above freezing to 6°C (Initial/Corrected)

If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
Are samples from West Virginia? Document any containers out of temp.		✓	All containers needing acid/base pres. Have been <u>CHECKED?</u> : exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis:		✓	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Rush TAT Requested (4 days or less):		✓	Headspace Wisconsin Sulfide?			✓
Custody Signatures Present?	✓		Headspace in VOA Vials (>6mm):			✓
Containers Intact?:	✓		Trip Blank Present?		✓	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Custody Seals?:		✓	
Extra labels on Terracore Vials? (soils only)		✓				

COMMENTS:

Sample Container Count

Sample Line Item	WG FU	SBS DI BK Kit	R	DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Matrix	pH <2	pH >9	pH >10
				1													↓		↓	2		↓	↓	↓			1	
2													↓		↓			↓	↓	↓			1		↓	↓	↓	
3													↓		↓			↓	↓	↓			1		↓	↓	↓	
4													↓		↓			↓	↓	↓			1	dss 011921	↓	↓	↓	
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac		
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic	AF	Air Filter
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic	C	Air Cassettes
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic	R	Terra core kit
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic	SP5T	120mL Coliform Na Thiosulfate
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic	U	Summa Can
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac	ZPLC	Ziploc Bag
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic		
WG FU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic		
JG FU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)		
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass				

April 2021

April 28, 2021

Mr. Rob Duncan
ATC Group Services, LLC
7988 Centerpoint Drive
Indianapolis, IN 46256

RE: Project: CCR Plus/170LF00795
Pace Project No.: 50283951

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50283951001	MW-21A	Water	04/02/21 11:25	04/05/21 15:00
50283951002	MW-21B	Water	04/02/21 13:50	04/05/21 15:00
50283951003	MW-21I	Water	04/02/21 12:45	04/05/21 15:00
50283951004	Duplicate	Water	04/02/21 08:00	04/05/21 15:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50283951001	MW-21A	EPA 9056	RMR	3	PASI-I
		EPA 6010	KJE	12	PASI-I
		EPA 6010	JDG	4	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	HCF	1	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		50283951002	MW-21B	EPA 9056	RMR
EPA 6010	KJE			12	PASI-I
EPA 6010	JDG			4	PASI-I
EPA 6020	RAM			6	PASI-I
EPA 7470	LBT			1	PASI-I
EPA 903.1	MK1			1	PASI-PA
EPA 904.0	VAL			1	PASI-PA
Total Radium Calculation	CMC			1	PASI-PA
SM 2320B	HCF			1	PASI-I
SM 2540C	WZE			1	PASI-I
SM 4500-H+B	SWJ			1	PASI-I
SM 4500-S2-D	SWJ			1	PASI-I
SM 5310C	GWA			1	PASI-I
50283951003	MW-21I			EPA 9056	RMR
		EPA 6010	KJE	12	PASI-I
		EPA 6010	JDG	4	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	HCF	1	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50283951004	Duplicate	SM 4500-S2-D	SWJ	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		EPA 9056	RMR	3	PASI-I
		EPA 6010	KJE	12	PASI-I
		EPA 6010	JDG	4	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	HCF	1	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		SM 5310C	GWA	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

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SUMMARY OF DETECTION

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50283951001	MW-21A					
EPA 9056	Chloride	118	mg/L	2.5	04/10/21 20:46	
EPA 9056	Fluoride	0.13	mg/L	0.10	04/10/21 20:31	
EPA 9056	Sulfate	1550	mg/L	25.0	04/10/21 21:01	
EPA 6010	Barium	57.2	ug/L	10.0	04/14/21 09:18	
EPA 6010	Boron	11200	ug/L	100	04/14/21 09:18	
EPA 6010	Calcium	572000	ug/L	5000	04/14/21 09:32	
EPA 6010	Lithium	82.0	ug/L	20.0	04/14/21 09:18	
EPA 6010	Magnesium	43500	ug/L	1000	04/14/21 09:18	
EPA 6010	Manganese	1240	ug/L	10.0	04/14/21 09:18	
EPA 6010	Molybdenum	211	ug/L	10.0	04/14/21 09:18	
EPA 6010	Potassium	20600	ug/L	1000	04/14/21 09:18	
EPA 6010	Sodium	75100	ug/L	1000	04/14/21 09:18	
EPA 6010	Iron, Dissolved	6680	ug/L	100	04/12/21 12:39	
EPA 6010	Lithium, Dissolved	77.7	ug/L	20.0	04/12/21 12:39	
EPA 6010	Manganese, Dissolved	975	ug/L	10.0	04/12/21 12:39	
EPA 6010	Molybdenum, Dissolved	211	ug/L	10.0	04/12/21 12:39	
EPA 6020	Arsenic	3.6	ug/L	1.0	04/09/21 15:16	
EPA 6020	Cobalt	2.9	ug/L	1.0	04/09/21 15:16	
EPA 903.1	Radium-226	1.09 ± 0.591 (0.597) C:NA T:91%	pCi/L		04/23/21 12:02	
EPA 904.0	Radium-228	1.23 ± 0.471 (0.757) C:77% T:89%	pCi/L		04/27/21 12:10	
Total Radium Calculation	Total Radium	2.32 ± 1.06 (1.35)	pCi/L		04/28/21 11:01	
SM 2320B	Alkalinity, Total as CaCO3	80.8	mg/L	2.0	04/07/21 13:04	
SM 2540C	Total Dissolved Solids	525	mg/L	10.0	04/06/21 13:09	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	04/06/21 12:22	H3
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	04/09/21 20:26	
50283951002	MW-21B					
EPA 9056	Chloride	57.3	mg/L	2.5	04/10/21 21:30	
EPA 9056	Sulfate	545	mg/L	25.0	04/10/21 21:45	
EPA 6010	Barium	89.1	ug/L	10.0	04/14/21 09:20	
EPA 6010	Boron	716	ug/L	100	04/14/21 09:20	
EPA 6010	Calcium	299000	ug/L	5000	04/14/21 09:34	
EPA 6010	Magnesium	69000	ug/L	1000	04/14/21 09:20	
EPA 6010	Manganese	4580	ug/L	10.0	04/14/21 09:20	
EPA 6010	Potassium	2450	ug/L	1000	04/14/21 09:20	
EPA 6010	Sodium	33300	ug/L	1000	04/14/21 09:20	
EPA 6010	Manganese, Dissolved	4210	ug/L	10.0	04/12/21 12:41	
EPA 6020	Cobalt	5.4	ug/L	1.0	04/09/21 15:20	
EPA 903.1	Radium-226	0.227 ± 0.474 (0.854) C:NA T:92%	pCi/L		04/23/21 12:02	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Plus/170LF00795

Peace Project No.: 50283951

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50283951002	MW-21B					
EPA 904.0	Radium-228	-0.218 ± 0.378 (0.878) C:78% T:89%	pCi/L		04/27/21 12:10	
Total Radium Calculation	Total Radium	0.227 ± 0.852 (1.73)	pCi/L		04/28/21 11:01	
SM 2320B	Alkalinity, Total as CaCO3	432	mg/L	2.0	04/07/21 13:04	
SM 2540C	Total Dissolved Solids	1310	mg/L	20.0	04/06/21 13:09	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	04/06/21 12:23	H3
SM 5310C	Total Organic Carbon	1.9	mg/L	1.0	04/09/21 20:36	
50283951003	MW-21I					
EPA 9056	Chloride	75.3	mg/L	2.5	04/10/21 22:44	
EPA 9056	Fluoride	0.13	mg/L	0.10	04/10/21 22:00	
EPA 9056	Sulfate	463	mg/L	25.0	04/10/21 22:59	
EPA 6010	Barium	62.4	ug/L	10.0	04/14/21 09:22	
EPA 6010	Boron	3550	ug/L	100	04/14/21 09:22	
EPA 6010	Calcium	280000	ug/L	5000	04/14/21 09:36	
EPA 6010	Magnesium	41300	ug/L	1000	04/14/21 09:22	
EPA 6010	Manganese	1570	ug/L	10.0	04/14/21 09:22	
EPA 6010	Molybdenum	115	ug/L	10.0	04/14/21 09:22	
EPA 6010	Potassium	8720	ug/L	1000	04/14/21 09:22	
EPA 6010	Sodium	44700	ug/L	1000	04/14/21 09:22	
EPA 6010	Iron, Dissolved	5850	ug/L	100	04/12/21 12:43	
EPA 6010	Manganese, Dissolved	1380	ug/L	10.0	04/12/21 12:43	
EPA 6010	Molybdenum, Dissolved	113	ug/L	10.0	04/12/21 12:43	
EPA 6020	Arsenic	1.9	ug/L	1.0	04/09/21 15:24	
EPA 6020	Cobalt	2.4	ug/L	1.0	04/09/21 15:24	
EPA 903.1	Radium-226	0.309 ± 0.501 (0.872) C:NA T:86%	pCi/L		04/23/21 12:02	
EPA 904.0	Radium-228	0.521 ± 0.421 (0.847) C:79% T:83%	pCi/L		04/27/21 12:10	
Total Radium Calculation	Total Radium	0.830 ± 0.922 (1.72)	pCi/L		04/28/21 11:01	
SM 2320B	Alkalinity, Total as CaCO3	344	mg/L	2.0	04/07/21 13:04	
SM 2540C	Total Dissolved Solids	1090	mg/L	20.0	04/06/21 13:10	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	04/06/21 12:28	H3
SM 5310C	Total Organic Carbon	1.7	mg/L	1.0	04/09/21 20:51	
50283951004	Duplicate					
EPA 9056	Chloride	76.0	mg/L	2.5	04/10/21 23:29	
EPA 9056	Fluoride	0.13	mg/L	0.10	04/10/21 23:14	
EPA 9056	Sulfate	468	mg/L	25.0	04/10/21 23:43	

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SUMMARY OF DETECTION

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50283951004	Duplicate					
EPA 6010	Barium	62.5	ug/L	10.0	04/14/21 09:24	
EPA 6010	Boron	3570	ug/L	100	04/14/21 09:24	
EPA 6010	Calcium	282000	ug/L	5000	04/14/21 09:39	
EPA 6010	Magnesium	42600	ug/L	1000	04/14/21 09:24	
EPA 6010	Manganese	1610	ug/L	10.0	04/14/21 09:24	
EPA 6010	Molybdenum	116	ug/L	10.0	04/14/21 09:24	
EPA 6010	Potassium	8850	ug/L	1000	04/14/21 09:24	
EPA 6010	Sodium	45100	ug/L	1000	04/14/21 09:24	
EPA 6010	Iron, Dissolved	5770	ug/L	100	04/12/21 12:50	
EPA 6010	Manganese, Dissolved	1360	ug/L	10.0	04/12/21 12:50	
EPA 6010	Molybdenum, Dissolved	111	ug/L	10.0	04/12/21 12:50	
EPA 6020	Arsenic	1.9	ug/L	1.0	04/09/21 15:30	
EPA 6020	Cobalt	2.4	ug/L	1.0	04/09/21 15:30	
EPA 903.1	Radium-226	0.649 ± 0.483 (0.635)	pCi/L		04/23/21 12:02	
EPA 904.0	Radium-228	C:NA T:87% 1.13 ± 0.511 (0.897)	pCi/L		04/27/21 12:10	
		C:79% T:81%				
Total Radium Calculation	Total Radium	1.78 ± 0.994 (1.53)	pCi/L		04/28/21 11:01	
SM 2320B	Alkalinity, Total as CaCO ₃	339	mg/L	2.0	04/07/21 13:04	
SM 2540C	Total Dissolved Solids	1090	mg/L	20.0	04/06/21 13:11	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	04/06/21 12:28	H3
SM 5310C	Total Organic Carbon	1.7	mg/L	1.0	04/09/21 21:02	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: MW-21A	Lab ID: 50283951001	Collected: 04/02/21 11:25	Received: 04/05/21 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	118	mg/L	2.5	10		04/10/21 20:46	16887-00-6	
Fluoride	0.13	mg/L	0.10	1		04/10/21 20:31	16984-48-8	
Sulfate	1550	mg/L	25.0	100		04/10/21 21:01	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	57.2	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:18	7440-39-3	
Boron	11200	ug/L	100	1	04/13/21 06:25	04/14/21 09:18	7440-42-8	
Cadmium	ND	ug/L	2.0	1	04/13/21 06:25	04/14/21 09:18	7440-43-9	
Calcium	572000	ug/L	5000	5	04/13/21 06:25	04/14/21 09:32	7440-70-2	
Chromium	ND	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:18	7440-47-3	
Lead	ND	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:18	7439-92-1	
Lithium	82.0	ug/L	20.0	1	04/13/21 06:25	04/14/21 09:18	7439-93-2	
Magnesium	43500	ug/L	1000	1	04/13/21 06:25	04/14/21 09:18	7439-95-4	
Manganese	1240	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:18	7439-96-5	
Molybdenum	211	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:18	7439-98-7	
Potassium	20600	ug/L	1000	1	04/13/21 06:25	04/14/21 09:18	7440-09-7	
Sodium	75100	ug/L	1000	1	04/13/21 06:25	04/14/21 09:18	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	6680	ug/L	100	1	04/11/21 11:35	04/12/21 12:39	7439-89-6	
Lithium, Dissolved	77.7	ug/L	20.0	1	04/11/21 11:35	04/12/21 12:39	7439-93-2	
Manganese, Dissolved	975	ug/L	10.0	1	04/11/21 11:35	04/12/21 12:39	7439-96-5	
Molybdenum, Dissolved	211	ug/L	10.0	1	04/11/21 11:35	04/12/21 12:39	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:16	7440-36-0	
Arsenic	3.6	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:16	7440-38-2	
Beryllium	ND	ug/L	0.20	1	04/08/21 16:45	04/09/21 15:16	7440-41-7	
Cobalt	2.9	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:16	7440-48-4	
Selenium	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:16	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:16	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	04/14/21 10:39	04/14/21 18:17	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	80.8	mg/L	2.0	1		04/07/21 13:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: MW-21A		Lab ID: 50283951001		Collected: 04/02/21 11:25	Received: 04/05/21 15:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	525	mg/L	10.0	1		04/06/21 13:09		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.2	Std. Units	0.10	1		04/06/21 12:22		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		04/07/21 14:54	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	1.8	mg/L	1.0	1		04/09/21 20:26	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: MW-21B	Lab ID: 50283951002	Collected: 04/02/21 13:50	Received: 04/05/21 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	57.3	mg/L	2.5	10		04/10/21 21:30	16887-00-6	
Fluoride	ND	mg/L	0.10	1		04/10/21 21:16	16984-48-8	
Sulfate	545	mg/L	25.0	100		04/10/21 21:45	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	89.1	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:20	7440-39-3	
Boron	716	ug/L	100	1	04/13/21 06:25	04/14/21 09:20	7440-42-8	
Cadmium	ND	ug/L	2.0	1	04/13/21 06:25	04/14/21 09:20	7440-43-9	
Calcium	299000	ug/L	5000	5	04/13/21 06:25	04/14/21 09:34	7440-70-2	
Chromium	ND	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:20	7440-47-3	
Lead	ND	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:20	7439-92-1	
Lithium	ND	ug/L	20.0	1	04/13/21 06:25	04/14/21 09:20	7439-93-2	
Magnesium	69000	ug/L	1000	1	04/13/21 06:25	04/14/21 09:20	7439-95-4	
Manganese	4580	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:20	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:20	7439-98-7	
Potassium	2450	ug/L	1000	1	04/13/21 06:25	04/14/21 09:20	7440-09-7	
Sodium	33300	ug/L	1000	1	04/13/21 06:25	04/14/21 09:20	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	1	04/11/21 11:35	04/12/21 12:41	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	1	04/11/21 11:35	04/12/21 12:41	7439-93-2	
Manganese, Dissolved	4210	ug/L	10.0	1	04/11/21 11:35	04/12/21 12:41	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	04/11/21 11:35	04/12/21 12:41	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:20	7440-36-0	
Arsenic	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:20	7440-38-2	
Beryllium	ND	ug/L	0.20	1	04/08/21 16:45	04/09/21 15:20	7440-41-7	
Cobalt	5.4	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:20	7440-48-4	
Selenium	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:20	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:20	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	04/14/21 10:39	04/14/21 18:20	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	432	mg/L	2.0	1		04/07/21 13:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: MW-21B		Lab ID: 50283951002		Collected: 04/02/21 13:50	Received: 04/05/21 15:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	1310	mg/L	20.0	1		04/06/21 13:09		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	6.9	Std. Units	0.10	1		04/06/21 12:23		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		04/07/21 14:54	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	1.9	mg/L	1.0	1		04/09/21 20:36	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: MW-211		Lab ID: 50283951003	Collected: 04/02/21 12:45	Received: 04/05/21 15:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions		Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis						
Chloride	75.3	mg/L	2.5	10		04/10/21 22:44	16887-00-6	
Fluoride	0.13	mg/L	0.10	1		04/10/21 22:00	16984-48-8	
Sulfate	463	mg/L	25.0	100		04/10/21 22:59	14808-79-8	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Barium	62.4	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:22	7440-39-3	
Boron	3550	ug/L	100	1	04/13/21 06:25	04/14/21 09:22	7440-42-8	
Cadmium	ND	ug/L	2.0	1	04/13/21 06:25	04/14/21 09:22	7440-43-9	
Calcium	280000	ug/L	5000	5	04/13/21 06:25	04/14/21 09:36	7440-70-2	
Chromium	ND	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:22	7440-47-3	
Lead	ND	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:22	7439-92-1	
Lithium	ND	ug/L	20.0	1	04/13/21 06:25	04/14/21 09:22	7439-93-2	
Magnesium	41300	ug/L	1000	1	04/13/21 06:25	04/14/21 09:22	7439-95-4	
Manganese	1570	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:22	7439-96-5	
Molybdenum	115	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:22	7439-98-7	
Potassium	8720	ug/L	1000	1	04/13/21 06:25	04/14/21 09:22	7440-09-7	
Sodium	44700	ug/L	1000	1	04/13/21 06:25	04/14/21 09:22	7440-23-5	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Iron, Dissolved	5850	ug/L	100	1	04/11/21 11:35	04/12/21 12:43	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	1	04/11/21 11:35	04/12/21 12:43	7439-93-2	
Manganese, Dissolved	1380	ug/L	10.0	1	04/11/21 11:35	04/12/21 12:43	7439-96-5	
Molybdenum, Dissolved	113	ug/L	10.0	1	04/11/21 11:35	04/12/21 12:43	7439-98-7	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Antimony	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:24	7440-36-0	
Arsenic	1.9	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:24	7440-38-2	
Beryllium	ND	ug/L	0.20	1	04/08/21 16:45	04/09/21 15:24	7440-41-7	
Cobalt	2.4	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:24	7440-48-4	
Selenium	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:24	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:24	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis						
Mercury	ND	ug/L	2.0	1	04/14/21 10:39	04/14/21 18:22	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Indianapolis						
Alkalinity, Total as CaCO3	344	mg/L	2.0	1		04/07/21 13:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: MW-21I		Lab ID: 50283951003		Collected: 04/02/21 12:45	Received: 04/05/21 15:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	1090	mg/L	20.0	1		04/06/21 13:10		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.4	Std. Units	0.10	1		04/06/21 12:28		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		04/07/21 14:54	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	1.7	mg/L	1.0	1		04/09/21 20:51	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: Duplicate	Lab ID: 50283951004	Collected: 04/02/21 08:00	Received: 04/05/21 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	76.0	mg/L	2.5	10		04/10/21 23:29	16887-00-6	
Fluoride	0.13	mg/L	0.10	1		04/10/21 23:14	16984-48-8	
Sulfate	468	mg/L	25.0	100		04/10/21 23:43	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	62.5	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:24	7440-39-3	
Boron	3570	ug/L	100	1	04/13/21 06:25	04/14/21 09:24	7440-42-8	
Cadmium	ND	ug/L	2.0	1	04/13/21 06:25	04/14/21 09:24	7440-43-9	
Calcium	282000	ug/L	5000	5	04/13/21 06:25	04/14/21 09:39	7440-70-2	
Chromium	ND	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:24	7440-47-3	
Lead	ND	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:24	7439-92-1	
Lithium	ND	ug/L	20.0	1	04/13/21 06:25	04/14/21 09:24	7439-93-2	
Magnesium	42600	ug/L	1000	1	04/13/21 06:25	04/14/21 09:24	7439-95-4	
Manganese	1610	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:24	7439-96-5	
Molybdenum	116	ug/L	10.0	1	04/13/21 06:25	04/14/21 09:24	7439-98-7	
Potassium	8850	ug/L	1000	1	04/13/21 06:25	04/14/21 09:24	7440-09-7	
Sodium	45100	ug/L	1000	1	04/13/21 06:25	04/14/21 09:24	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	5770	ug/L	100	1	04/11/21 11:35	04/12/21 12:50	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	1	04/11/21 11:35	04/12/21 12:50	7439-93-2	
Manganese, Dissolved	1360	ug/L	10.0	1	04/11/21 11:35	04/12/21 12:50	7439-96-5	
Molybdenum, Dissolved	111	ug/L	10.0	1	04/11/21 11:35	04/12/21 12:50	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:30	7440-36-0	
Arsenic	1.9	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:30	7440-38-2	
Beryllium	ND	ug/L	0.20	1	04/08/21 16:45	04/09/21 15:30	7440-41-7	
Cobalt	2.4	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:30	7440-48-4	
Selenium	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:30	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/08/21 16:45	04/09/21 15:30	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	04/14/21 10:39	04/14/21 18:24	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	339	mg/L	2.0	1		04/07/21 13:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: Duplicate		Lab ID: 50283951004		Collected: 04/02/21 08:00	Received: 04/05/21 15:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	1090	mg/L	20.0	1		04/06/21 13:11		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.2	Std. Units	0.10	1		04/06/21 12:28		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		04/07/21 14:54	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	1.7	mg/L	1.0	1		04/09/21 21:02	7440-44-0	

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch: 614860	Analysis Method: EPA 9056
QC Batch Method: EPA 9056	Analysis Description: 9056 IC Anions
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2833522 Matrix: Water

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	04/10/21 08:27	
Fluoride	mg/L	ND	0.10	04/10/21 08:27	
Sulfate	mg/L	ND	0.25	04/10/21 08:27	

LABORATORY CONTROL SAMPLE: 2833523

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	93	80-120	
Fluoride	mg/L	0.5	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2833524 2833525

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50284169006 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	6.8	1.2	1.2	8.0	8.1	96	108	80-120	2	15		
Fluoride	mg/L	0.47	0.5	0.5	0.93	0.96	92	98	80-120	3	15		
Sulfate	mg/L	230	250	250	478	476	99	99	80-120	0	15		

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch:	615390	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2835893 Matrix: Water

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	04/14/21 17:50	

LABORATORY CONTROL SAMPLE: 2835894

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2835895 2835896

Parameter	Units	50283950003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.0	4.8	100	97	75-125	4	20	

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch:	614667	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2832492 Matrix: Water

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	04/14/21 08:14	
Boron	ug/L	ND	100	04/14/21 08:14	
Cadmium	ug/L	ND	2.0	04/14/21 08:14	
Calcium	ug/L	ND	1000	04/14/21 08:14	
Chromium	ug/L	ND	10.0	04/14/21 08:14	
Lead	ug/L	ND	10.0	04/14/21 08:14	
Lithium	ug/L	ND	20.0	04/14/21 08:14	
Magnesium	ug/L	ND	1000	04/14/21 08:14	
Manganese	ug/L	ND	10.0	04/14/21 08:14	
Molybdenum	ug/L	ND	10.0	04/14/21 08:14	
Potassium	ug/L	ND	1000	04/14/21 08:14	
Sodium	ug/L	ND	1000	04/14/21 08:14	

LABORATORY CONTROL SAMPLE: 2832493

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	944	94	80-120	
Boron	ug/L	1000	986	99	80-120	
Cadmium	ug/L	1000	949	95	80-120	
Calcium	ug/L	10000	10100	101	80-120	
Chromium	ug/L	1000	994	99	80-120	
Lead	ug/L	1000	916	92	80-120	
Lithium	ug/L	1000	957	96	80-120	
Magnesium	ug/L	10000	9600	96	80-120	
Manganese	ug/L	1000	942	94	80-120	
Molybdenum	ug/L	1000	1000	100	80-120	
Potassium	ug/L	10000	9670	97	80-120	
Sodium	ug/L	10000	9600	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832494 2832495

Parameter	Units	2832494		2832495		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Barium	ug/L	39.2	1000	998	997	96	96	75-125	0	20	
Boron	ug/L	148	1000	1170	1160	102	101	75-125	0	20	
Cadmium	ug/L	ND	1000	968	961	97	96	75-125	1	20	
Calcium	ug/L	145000	10000	151000	148000	56	29	75-125	2	20 P6	

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832494												2832495	
Parameter	Units	50283935002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max	Qual	
			Spike Conc.	Spike Conc.							RPD		
Chromium	ug/L	ND	1000	1000	992	992	98	98	75-125	0	20		
Lead	ug/L	ND	1000	1000	877	872	87	87	75-125	1	20		
Lithium	ug/L	ND	1000	1000	1030	1030	101	101	75-125	0	20		
Magnesium	ug/L	ND	10000	10000	9200	9090	91	90	75-125	1	20		
Manganese	ug/L	ND	1000	1000	936	932	93	93	75-125	0	20		
Molybdenum	ug/L	55.2	1000	1000	1060	1060	101	100	75-125	0	20		
Potassium	ug/L	74300	10000	10000	82400	81100	81	68	75-125	2	20	P6	
Sodium	ug/L	199000	10000	10000	203000	200000	40	14	75-125	1	20	E,P6	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832496												2832497	
Parameter	Units	50283937002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max	Qual	
			Spike Conc.	Spike Conc.							RPD		
Barium	ug/L	305	1000	1000	1250	1260	94	95	75-125	0	20		
Boron	ug/L	203	1000	1000	1200	1210	100	100	75-125	0	20		
Cadmium	ug/L	ND	1000	1000	945	949	95	95	75-125	0	20		
Calcium	ug/L	60500	10000	10000	70100	68800	96	83	75-125	2	20		
Chromium	ug/L	ND	1000	1000	968	986	97	98	75-125	2	20		
Lead	ug/L	ND	1000	1000	888	890	89	89	75-125	0	20		
Lithium	ug/L	ND	1000	1000	986	994	98	99	75-125	1	20		
Magnesium	ug/L	25800	10000	10000	35000	34300	91	85	75-125	2	20		
Manganese	ug/L	178	1000	1000	1110	1110	93	93	75-125	0	20		
Molybdenum	ug/L	42.1	1000	1000	1040	1040	99	100	75-125	1	20		
Potassium	ug/L	12800	10000	10000	22600	22500	98	97	75-125	0	20		
Sodium	ug/L	61900	10000	10000	71500	70700	97	88	75-125	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832498												2832499	
Parameter	Units	50283950003 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max	Qual	
			Spike Conc.	Spike Conc.							RPD		
Barium	ug/L	232	1000	1000	1200	1180	97	95	75-125	2	20		
Boron	ug/L	ND	1000	1000	1110	1100	104	102	75-125	2	20		
Cadmium	ug/L	ND	1000	1000	963	958	96	96	75-125	1	20		
Calcium	ug/L	131000	10000	10000	141000	138000	100	63	75-125	3	20	P6	
Chromium	ug/L	15.4	1000	1000	986	988	97	97	75-125	0	20		
Lead	ug/L	218	1000	1000	1080	1080	87	86	75-125	1	20		
Lithium	ug/L	ND	1000	1000	1040	1020	102	101	75-125	2	20		
Magnesium	ug/L	35200	10000	10000	44600	44000	94	87	75-125	2	20		
Manganese	ug/L	300	1000	1000	1240	1220	94	92	75-125	2	20		
Molybdenum	ug/L	19.5	1000	1000	1020	1010	100	99	75-125	1	20		
Potassium	ug/L	2730	10000	10000	13300	13000	106	103	75-125	2	20		
Sodium	ug/L	231000	10000	10000	239000	237000	84	57	75-125	1	20	E,P6	

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch:	614568	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2831880 Matrix: Water

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	04/12/21 11:50	
Lithium, Dissolved	ug/L	ND	20.0	04/12/21 11:50	
Manganese, Dissolved	ug/L	ND	10.0	04/12/21 11:50	
Molybdenum, Dissolved	ug/L	ND	10.0	04/12/21 11:50	

LABORATORY CONTROL SAMPLE: 2831881

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9790	98	80-120	
Lithium, Dissolved	ug/L	1000	1040	104	80-120	
Manganese, Dissolved	ug/L	1000	953	95	80-120	
Molybdenum, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2831882 2831883

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50284153003 Result	Spike Conc.	Spike Conc.	Result						
Iron, Dissolved	ug/L	ND	10000	10000	9580	9470	96	94	75-125	1	20
Lithium, Dissolved	ug/L	533	1000	1000	1620	1630	109	109	75-125	0	20
Manganese, Dissolved	ug/L	ND	1000	1000	928	932	93	93	75-125	0	20
Molybdenum, Dissolved	ug/L		1000	1000	1660	1660	101	101	75-125	0	20

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch:	614610	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2832083 Matrix: Water
Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	04/09/21 15:07	
Arsenic	ug/L	ND	1.0	04/09/21 15:07	
Beryllium	ug/L	ND	0.20	04/09/21 15:07	
Cobalt	ug/L	ND	1.0	04/09/21 15:07	
Selenium	ug/L	ND	1.0	04/09/21 15:07	
Thallium	ug/L	ND	1.0	04/09/21 15:07	

LABORATORY CONTROL SAMPLE: 2832084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.3	103	80-120	
Arsenic	ug/L	40	36.7	92	80-120	
Beryllium	ug/L	40	37.6	94	80-120	
Cobalt	ug/L	40	38.7	97	80-120	
Selenium	ug/L	40	37.9	95	80-120	
Thallium	ug/L	40	40.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832085 2832086

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result	% Rec	% Rec						
Antimony	ug/L	40	0.16J	40	38.6	38.5	96	96	75-125	0	20		
Arsenic	ug/L	40	3.9	40	38.5	38.7	86	87	75-125	0	20		
Beryllium	ug/L	40	<0.036	40	38.7	38.6	97	96	75-125	0	20		
Cobalt	ug/L	40	2.1	40	39.7	39.9	94	94	75-125	0	20		
Selenium	ug/L	40	<0.24	40	35.0	34.7	88	87	75-125	1	20		
Thallium	ug/L	40	<0.052	40	41.2	40.9	103	102	75-125	1	20		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch: 614303	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2830688 Matrix: Water
Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	04/07/21 13:04	

LABORATORY CONTROL SAMPLE: 2830689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.2	96	90-110	

SAMPLE DUPLICATE: 2830690

Parameter	Units	50281228001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	310	313	1	20	H3

SAMPLE DUPLICATE: 2830691

Parameter	Units	50283565007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	117	118	1	20	

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795
Pace Project No.: 50283951

QC Batch: 614114 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2829892 Matrix: Water
Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	04/06/21 12:57	

LABORATORY CONTROL SAMPLE: 2829893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	269	90	80-120	

SAMPLE DUPLICATE: 2829894

Parameter	Units	50283779001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	5300000 ug/L	5000	6	10	

SAMPLE DUPLICATE: 2829895

Parameter	Units	50283779002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	35600000 ug/L	33700	6	10	

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch:	614057	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

SAMPLE DUPLICATE: 2829666

Parameter	Units	50283854001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.5	8.6	0	2	H3

SAMPLE DUPLICATE: 2829667

Parameter	Units	50283951001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.1	0	2	H3

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch: 614377	Analysis Method: SM 4500-S2-D
QC Batch Method: SM 4500-S2-D	Analysis Description: 4500S2D Sulfide Water
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2830981 Matrix: Water
Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	04/07/21 14:54	

LABORATORY CONTROL SAMPLE: 2830982

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.48	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2830983 2830984

Parameter	Units	50283959001		2830983		2830984		% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					MSD % Rec
Sulfide	mg/L	ND	0.5	0.5	0.46	0.47	90	90	90-110	1	20	

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QUALITY CONTROL DATA

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch:	614781	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50283951001, 50283951002, 50283951003, 50283951004		

METHOD BLANK: 2833169 Matrix: Water
Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	04/09/21 18:37	

LABORATORY CONTROL SAMPLE: 2833170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2833171 2833172

Parameter	Units	50284058018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	ND	40	40	42.1	42.1	99	99	80-120	0	20	

MATRIX SPIKE SAMPLE: 2833173

Parameter	Units	50284187002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.5	10	11.6	101	80-120	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: MW-21A **Lab ID: 50283951001** Collected: 04/02/21 11:25 Received: 04/05/21 15:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	1.09 ± 0.591 (0.597) C:NA T:91%	pCi/L	04/23/21 12:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.23 ± 0.471 (0.757) C:77% T:89%	pCi/L	04/27/21 12:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.32 ± 1.06 (1.35)	pCi/L	04/28/21 11:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: MW-21B **Lab ID: 50283951002** Collected: 04/02/21 13:50 Received: 04/05/21 15:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.227 ± 0.474 (0.854) C:NA T:92%	pCi/L	04/23/21 12:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	-0.218 ± 0.378 (0.878) C:78% T:89%	pCi/L	04/27/21 12:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.227 ± 0.852 (1.73)	pCi/L	04/28/21 11:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Sample: MW-211 **Lab ID: 50283951003** Collected: 04/02/21 12:45 Received: 04/05/21 15:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.309 ± 0.501 (0.872) C:NA T:86%	pCi/L	04/23/21 12:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.521 ± 0.421 (0.847) C:79% T:83%	pCi/L	04/27/21 12:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.830 ± 0.922 (1.72)	pCi/L	04/28/21 11:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: Duplicate Lab ID: 50283951004 Collected: 04/02/21 08:00 Received: 04/05/21 15:00 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.649 ± 0.483 (0.635) C:NA T:87%	pCi/L	04/23/21 12:02	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.13 ± 0.511 (0.897) C:79% T:81%	pCi/L	04/27/21 12:10	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.78 ± 0.994 (1.53)	pCi/L	04/28/21 11:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch: 442680

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2136498

Matrix: Water

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.429 ± 0.356 (0.704) C:72% T:72%	pCi/L	04/27/21 12:30	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

QC Batch: 442679

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

METHOD BLANK: 2136496

Matrix: Water

Associated Lab Samples: 50283951001, 50283951002, 50283951003, 50283951004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0981 ± 0.360 (0.692) C:NA T:87%	pCi/L	04/23/21 11:36	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H3 Sample was received or analysis requested beyond the recognized method holding time.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50283951001	MW-21A	EPA 9056	614860		
50283951002	MW-21B	EPA 9056	614860		
50283951003	MW-21I	EPA 9056	614860		
50283951004	Duplicate	EPA 9056	614860		
50283951001	MW-21A	EPA 3010	614667	EPA 6010	615420
50283951002	MW-21B	EPA 3010	614667	EPA 6010	615420
50283951003	MW-21I	EPA 3010	614667	EPA 6010	615420
50283951004	Duplicate	EPA 3010	614667	EPA 6010	615420
50283951001	MW-21A	EPA 3010	614568	EPA 6010	615042
50283951002	MW-21B	EPA 3010	614568	EPA 6010	615042
50283951003	MW-21I	EPA 3010	614568	EPA 6010	615042
50283951004	Duplicate	EPA 3010	614568	EPA 6010	615042
50283951001	MW-21A	EPA 200.2	614610	EPA 6020	614706
50283951002	MW-21B	EPA 200.2	614610	EPA 6020	614706
50283951003	MW-21I	EPA 200.2	614610	EPA 6020	614706
50283951004	Duplicate	EPA 200.2	614610	EPA 6020	614706
50283951001	MW-21A	EPA 7470	615390	EPA 7470	615630
50283951002	MW-21B	EPA 7470	615390	EPA 7470	615630
50283951003	MW-21I	EPA 7470	615390	EPA 7470	615630
50283951004	Duplicate	EPA 7470	615390	EPA 7470	615630
50283951001	MW-21A	EPA 903.1	442679		
50283951002	MW-21B	EPA 903.1	442679		
50283951003	MW-21I	EPA 903.1	442679		
50283951004	Duplicate	EPA 903.1	442679		
50283951001	MW-21A	EPA 904.0	442680		
50283951002	MW-21B	EPA 904.0	442680		
50283951003	MW-21I	EPA 904.0	442680		
50283951004	Duplicate	EPA 904.0	442680		
50283951001	MW-21A	Total Radium Calculation	445365		
50283951002	MW-21B	Total Radium Calculation	445365		
50283951003	MW-21I	Total Radium Calculation	445365		
50283951004	Duplicate	Total Radium Calculation	445365		
50283951001	MW-21A	SM 2320B	614303		
50283951002	MW-21B	SM 2320B	614303		
50283951003	MW-21I	SM 2320B	614303		
50283951004	Duplicate	SM 2320B	614303		
50283951001	MW-21A	SM 2540C	614114		
50283951002	MW-21B	SM 2540C	614114		
50283951003	MW-21I	SM 2540C	614114		
50283951004	Duplicate	SM 2540C	614114		
50283951001	MW-21A	SM 4500-H+B	614057		
50283951002	MW-21B	SM 4500-H+B	614057		
50283951003	MW-21I	SM 4500-H+B	614057		
50283951004	Duplicate	SM 4500-H+B	614057		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Plus/170LF00795

Pace Project No.: 50283951

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50283951001	MW-21A	SM 4500-S2-D	614377		
50283951002	MW-21B	SM 4500-S2-D	614377		
50283951003	MW-21I	SM 4500-S2-D	614377		
50283951004	Duplicate	SM 4500-S2-D	614377		
50283951001	MW-21A	SM 5310C	614781		
50283951002	MW-21B	SM 5310C	614781		
50283951003	MW-21I	SM 5310C	614781		
50283951004	Duplicate	SM 5310C	614781		

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: AKR 4/15/21 1630

1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____
2. Custody Seal on Cooler/Box Present: Yes No
 (If yes)Seals Intact: Yes No (leave blank if no seals were present)
3. Thermometer: 1 2 3 4 5 6 A B C D E F
4. Cooler Temperature: 0.8/0.8 1.5/1.5
 Temp should be above freezing to 6°C (Initial/Corrected)

5. Packing Material: Bubble Wrap Bubble Bags
 None Other _____
6. Ice Type: Wet Blue None
7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	/		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>Present</u>	<u>Absent</u>	<u>N/A</u>
Rush TAT Requested (4 days or less):		/	Residual Chlorine Check (Total/Amenable/Free Cyanide)			/
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			/
Containers Intact?:	/		Headspace in VOA Vials (>6mm): See Container Count form for details	<u>Present</u>	<u>Absent</u>	<u>No VOA Vials Sent</u>
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Present?		/	
Extra labels on Terracore Vials? (soils only)		/	Trip Blank Custody Seals?:			/

COMMENTS:

May 2021 (Groundwater)

July 08, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM- CCR Profile 1 Report 2
Pace Project No.: 50286944

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on May 07, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Ms. Slawa Bruder, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50286944001	MW-2R	Water	05/05/21 10:10	05/07/21 11:40
50286944002	MW-3	Water	05/05/21 11:17	05/07/21 11:40
50286944003	MW-4C	Water	05/05/21 13:55	05/07/21 11:40
50286944004	DUP1	Water	05/05/21 11:42	05/07/21 11:40
50286944007	Field Blank 1	Water	05/05/21 11:25	05/07/21 11:40
50286944008	MW-3 RAD MS	Water	05/05/21 11:17	05/07/21 11:40
50286944009	MW-3 RAD MSD	Water	05/05/21 11:17	05/07/21 11:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50286944001	MW-2R	EPA 9056	HBS	3	PASI-I		
		EPA 6010	JDG	15	PASI-I		
		EPA 6010	JPK	2	PASI-I		
		EPA 6020	DMT	6	PASI-I		
		EPA 7470	ILP	1	PASI-I		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	RMK	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	WZE	1	PASI-I		
		SM 4500-H+B	WDB	1	PASI-I		
		SM 4500-S2-D	SWJ	1	PASI-I		
		HACH 8146	SWJ	1	PASI-I		
		EPA 353.2	SLB	2	PASI-I		
		EPA 365.1	SKK	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50286944002	MW-3	EPA 9056	HBS	3	PASI-I
				EPA 6010	JDG	15	PASI-I
				EPA 6010	JPK	2	PASI-I
EPA 6020	CAW, DMT			6	PASI-I		
EPA 7470	ILP			1	PASI-I		
EPA 903.1	SLC			1	PASI-PA		
EPA 904.0	JC2			1	PASI-PA		
Total Radium Calculation	RMK			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	WZE			1	PASI-I		
SM 4500-H+B	WDB			1	PASI-I		
SM 4500-S2-D	SWJ			1	PASI-I		
HACH 8146	SWJ			1	PASI-I		
EPA 353.2	SLB			2	PASI-I		
EPA 365.1	SKK			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50286944003	MW-4C			EPA 9056	HBS	3	PASI-I
				EPA 6010	JDG	15	PASI-I
				EPA 6010	JPK	2	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	CAW, DMT	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50286944004	DUP1	EPA 9056	HBS	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW, DMT	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50286944007	Field Blank 1	EPA 9056	HBS	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6020	CAW, DMT	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50286944008	MW-3 RAD MS	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
50286944009	MW-3 RAD MSD	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50286944001	MW-2R					
EPA 9056	Chloride	90.8	mg/L	2.5	05/20/21 15:56	
EPA 9056	Sulfate	1760	mg/L	25.0	05/20/21 16:12	
EPA 6010	Barium	44.6	ug/L	10.0	05/20/21 10:38	
EPA 6010	Boron	1900	ug/L	100	05/20/21 10:38	
EPA 6010	Calcium	552000	ug/L	5000	05/20/21 11:14	
EPA 6010	Iron	8420	ug/L	100	05/20/21 10:38	
EPA 6010	Lithium	890	ug/L	20.0	05/20/21 10:38	
EPA 6010	Magnesium	55400	ug/L	1000	05/20/21 10:38	
EPA 6010	Manganese	6600	ug/L	10.0	05/20/21 10:38	
EPA 6010	Molybdenum	10.3	ug/L	10.0	05/20/21 10:38	
EPA 6010	Potassium	96600	ug/L	1000	05/20/21 10:38	
EPA 6010	Silica	15700	ug/L	450	05/20/21 10:38	N2
EPA 6010	Sodium	133000	ug/L	1000	05/20/21 10:38	
EPA 6010	Manganese, Dissolved	6810	ug/L	10.0	05/14/21 03:47	
EPA 6010	Molybdenum, Dissolved	10.8	ug/L	10.0	05/14/21 03:47	
EPA 6020	Arsenic	6.2	ug/L	1.0	05/13/21 11:06	
EPA 6020	Cobalt	2.9	ug/L	1.0	05/13/21 11:06	
EPA 903.1	Radium-226	0.0671 ± 0.496 (0.946)	pCi/L		06/11/21 11:56	
EPA 904.0	Radium-228	C:NA T:95% 1.52 ± 0.516 (0.693)	pCi/L		06/10/21 11:16	
		C:68% T:85%				
Total Radium Calculation	Total Radium	1.59 ± 1.01 (1.64)	pCi/L		06/14/21 09:02	
SM 2320B	Alkalinity, Total as CaCO3	124	mg/L	2.0	05/12/21 12:05	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	124	mg/L	2.0	05/12/21 12:05	
SM 2540C	Total Dissolved Solids	2580	mg/L	40.0	05/10/21 17:08	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	05/10/21 15:55	H3
EPA 365.1	Phosphate as P04	0.25	mg/L	0.15	05/14/21 10:59	
50286944002	MW-3					
EPA 9056	Chloride	55.7	mg/L	2.5	05/20/21 16:43	
EPA 9056	Fluoride	0.14	mg/L	0.10	05/20/21 16:27	
EPA 9056	Sulfate	1590	mg/L	25.0	05/20/21 16:58	
EPA 6010	Barium	37.3	ug/L	10.0	05/20/21 10:40	
EPA 6010	Boron	1270	ug/L	100	05/20/21 10:40	
EPA 6010	Calcium	481000	ug/L	5000	05/20/21 11:21	
EPA 6010	Lithium	1820	ug/L	20.0	05/20/21 10:40	
EPA 6010	Magnesium	7360	ug/L	1000	05/20/21 10:40	
EPA 6010	Manganese	913	ug/L	10.0	05/20/21 10:40	
EPA 6010	Molybdenum	532	ug/L	10.0	05/20/21 10:40	
EPA 6010	Potassium	253000	ug/L	5000	05/20/21 11:21	
EPA 6010	Silica	8620	ug/L	450	05/20/21 10:40	N2
EPA 6010	Sodium	105000	ug/L	1000	05/20/21 10:40	
EPA 6010	Manganese, Dissolved	907	ug/L	10.0	05/14/21 03:54	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50286944002	MW-3					
EPA 6010	Molybdenum, Dissolved	519	ug/L	10.0	05/14/21 03:54	
EPA 6020	Arsenic	17.0	ug/L	1.0	05/13/21 11:44	
EPA 6020	Cobalt	2.1	ug/L	1.0	05/13/21 11:44	
EPA 903.1	Radium-226	1.24 ± 0.644 (0.722)	pCi/L		06/11/21 11:56	
EPA 904.0	Radium-228	C:NA T:93% 1.27 ± 0.479 (0.721)	pCi/L		06/10/21 11:17	
		C:69% T:87%				
Total Radium Calculation	Total Radium	2.51 ± 1.12 (1.44)	pCi/L		06/14/21 09:02	
SM 2320B	Alkalinity, Total as CaCO3	74.9	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	74.9	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	2230	mg/L	40.0	05/12/21 17:38	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	05/10/21 13:41	H3
EPA 365.1	Phosphate as P04	0.16	mg/L	0.15	05/14/21 11:04	
50286944003	MW-4C					
EPA 9056	Chloride	42.8	mg/L	2.5	05/20/21 17:29	
EPA 9056	Sulfate	1430	mg/L	25.0	05/20/21 18:15	
EPA 6010	Barium	28.6	ug/L	10.0	05/20/21 10:55	
EPA 6010	Boron	3620	ug/L	100	05/20/21 10:55	
EPA 6010	Calcium	571000	ug/L	5000	05/20/21 11:27	
EPA 6010	Lithium	359	ug/L	20.0	05/20/21 10:55	
EPA 6010	Magnesium	55700	ug/L	1000	05/20/21 10:55	
EPA 6010	Manganese	1900	ug/L	10.0	05/20/21 10:55	
EPA 6010	Potassium	52800	ug/L	1000	05/20/21 10:55	
EPA 6010	Silica	19300	ug/L	450	05/20/21 10:55	N2
EPA 6010	Sodium	89600	ug/L	1000	05/20/21 10:55	
EPA 6010	Manganese, Dissolved	2150	ug/L	10.0	05/14/21 04:00	
EPA 6020	Cobalt	1.2	ug/L	1.0	05/13/21 12:07	
EPA 903.1	Radium-226	0.0150 ± 0.482 (0.967)	pCi/L		06/11/21 12:26	
EPA 904.0	Radium-228	C:NA T:88% 2.07 ± 0.620 (0.776)	pCi/L		06/10/21 11:17	
		C:66% T:91%				
Total Radium Calculation	Total Radium	2.09 ± 1.10 (1.74)	pCi/L		06/14/21 09:02	
SM 2320B	Alkalinity, Total as CaCO3	309	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	309	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	2250	mg/L	40.0	05/10/21 17:11	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/10/21 13:45	H3
EPA 353.2	Nitrogen, Nitrate	6.6	mg/L	0.20	05/11/21 14:43	H3
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	05/18/21 13:06	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50286944003	MW-4C					
SM 5310C	Dissolved Organic Carbon	1.7	mg/L	1.0	05/18/21 00:23	
50286944004	DUP1					
EPA 9056	Chloride	53.5	mg/L	2.5	05/20/21 18:46	
EPA 9056	Fluoride	0.15	mg/L	0.10	05/20/21 18:31	
EPA 9056	Sulfate	1760	mg/L	25.0	05/20/21 19:02	
EPA 6010	Barium	38.9	ug/L	10.0	05/20/21 10:57	
EPA 6010	Boron	1280	ug/L	100	05/20/21 10:57	
EPA 6010	Calcium	490000	ug/L	5000	05/20/21 11:29	
EPA 6010	Lithium	1870	ug/L	20.0	05/20/21 10:57	
EPA 6010	Magnesium	7430	ug/L	1000	05/20/21 10:57	
EPA 6010	Manganese	952	ug/L	10.0	05/20/21 10:57	
EPA 6010	Molybdenum	539	ug/L	10.0	05/20/21 10:57	
EPA 6010	Potassium	254000	ug/L	5000	05/20/21 11:29	
EPA 6010	Silica	8610	ug/L	450	05/20/21 10:57	N2
EPA 6010	Sodium	107000	ug/L	1000	05/20/21 10:57	
EPA 6010	Manganese, Dissolved	899	ug/L	10.0	05/14/21 04:03	
EPA 6010	Molybdenum, Dissolved	527	ug/L	10.0	05/14/21 04:03	
EPA 6020	Arsenic	13.0	ug/L	1.0	05/13/21 12:11	
EPA 6020	Cobalt	1.6	ug/L	1.0	05/13/21 12:11	
EPA 903.1	Radium-226	0.373 ± 0.626 (1.05) C:NA T:93%	pCi/L		06/11/21 12:26	
EPA 904.0	Radium-228	0.842 ± 0.461 (0.840) C:66% T:87%	pCi/L		06/10/21 11:17	
Total Radium Calculation	Total Radium	1.22 ± 1.09 (1.89)	pCi/L		06/14/21 09:02	
SM 2320B	Alkalinity, Total as CaCO3	69.3	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	69.3	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	2240	mg/L	40.0	05/10/21 17:12	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/10/21 13:50	H3
EPA 353.2	Nitrogen, Nitrate	0.13	mg/L	0.10	05/11/21 14:00	H3
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	05/18/21 00:34	
50286944007	Field Blank 1					
EPA 903.1	Radium-226	-0.0689 ± 0.472 (0.971) C:NA T:89%	pCi/L		06/11/21 12:26	
EPA 904.0	Radium-228	0.0685 ± 0.347 (0.787) C:66% T:96%	pCi/L		06/10/21 11:17	
Total Radium Calculation	Total Radium	0.0685 ± 0.819 (1.76)	pCi/L		06/14/21 09:02	
SM 4500-H+B	pH at 25 Degrees C	6.0	Std. Units	0.10	05/10/21 13:56	H3

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SUMMARY OF DETECTION

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50286944008	MW-3 RAD MS					
EPA 903.1	Radium-226	84.69 %REC ± NA (NA) C:NA T:NA	pCi/L		06/11/21 11:56	
EPA 904.0	Radium-228	97.98 %REC ± NA (NA) C:NA T:NA	pCi/L		06/10/21 11:51	
50286944009	MW-3 RAD MSD					
EPA 903.1	Radium-226	90.67 %REC 6.82 RPD ± NA (NA) C:NA T:NA	pCi/L		06/11/21 11:56	
EPA 904.0	Radium-228	107.28 %REC 9.06 RPD ± NA (NA) C:NA T:NA	pCi/L		06/10/21 11:17	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-2R	Lab ID: 50286944001	Collected: 05/05/21 10:10	Received: 05/07/21 11:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	90.8	mg/L	2.5	10		05/20/21 15:56	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/20/21 15:41	16984-48-8	
Sulfate	1760	mg/L	25.0	100		05/20/21 16:12	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 06:40	05/20/21 10:38	7429-90-5	
Barium	44.6	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:38	7440-39-3	
Boron	1900	ug/L	100	1	05/18/21 06:40	05/20/21 10:38	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 10:38	7440-43-9	
Calcium	552000	ug/L	5000	5	05/18/21 06:40	05/20/21 11:14	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:38	7440-47-3	
Iron	8420	ug/L	100	1	05/18/21 06:40	05/20/21 10:38	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:38	7439-92-1	
Lithium	890	ug/L	20.0	1	05/18/21 06:40	05/20/21 10:38	7439-93-2	
Magnesium	55400	ug/L	1000	1	05/18/21 06:40	05/20/21 10:38	7439-95-4	
Manganese	6600	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:38	7439-96-5	
Molybdenum	10.3	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:38	7439-98-7	
Potassium	96600	ug/L	1000	1	05/18/21 06:40	05/20/21 10:38	7440-09-7	
Silica	15700	ug/L	450	1	05/18/21 06:40	05/20/21 10:38	7631-86-9	N2
Sodium	133000	ug/L	1000	1	05/18/21 06:40	05/20/21 10:38	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	6810	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:47	7439-96-5	
Molybdenum, Dissolved	10.8	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:47	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:06	7440-36-0	
Arsenic	6.2	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:06	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:25	05/13/21 11:06	7440-41-7	
Cobalt	2.9	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:06	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:06	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:06	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/13/21 10:55	05/14/21 08:30	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	124	mg/L	2.0	1		05/12/21 12:05		
Alkalinity, Bicarbonate (CaCO3)	124	mg/L	2.0	1		05/12/21 12:05		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/21 12:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-2R	Lab ID: 50286944001	Collected: 05/05/21 10:10	Received: 05/07/21 11:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2580	mg/L	40.0	1		05/10/21 17:08		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.6	Std. Units	0.10	1		05/10/21 15:55		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 10:06		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/11/21 13:51	14797-55-8	H3
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 13:51	14797-65-0	H3
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.25	mg/L	0.15	1	05/13/21 12:47	05/14/21 10:59		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 10:48	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/17/21 23:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-3	Lab ID: 50286944002	Collected: 05/05/21 11:17	Received: 05/07/21 11:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	55.7	mg/L	2.5	10		05/20/21 16:43	16887-00-6	
Fluoride	0.14	mg/L	0.10	1		05/20/21 16:27	16984-48-8	
Sulfate	1590	mg/L	25.0	100		05/20/21 16:58	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 06:40	05/20/21 10:40	7429-90-5	
Barium	37.3	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:40	7440-39-3	
Boron	1270	ug/L	100	1	05/18/21 06:40	05/20/21 10:40	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 10:40	7440-43-9	
Calcium	481000	ug/L	5000	5	05/18/21 06:40	05/20/21 11:21	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:40	7440-47-3	
Iron	ND	ug/L	100	1	05/18/21 06:40	05/20/21 10:40	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:40	7439-92-1	
Lithium	1820	ug/L	20.0	1	05/18/21 06:40	05/20/21 10:40	7439-93-2	
Magnesium	7360	ug/L	1000	1	05/18/21 06:40	05/20/21 10:40	7439-95-4	
Manganese	913	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:40	7439-96-5	
Molybdenum	532	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:40	7439-98-7	
Potassium	253000	ug/L	5000	5	05/18/21 06:40	05/20/21 11:21	7440-09-7	
Silica	8620	ug/L	450	1	05/18/21 06:40	05/20/21 10:40	7631-86-9	N2
Sodium	105000	ug/L	1000	1	05/18/21 06:40	05/20/21 10:40	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	907	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:54	7439-96-5	
Molybdenum, Dissolved	519	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:54	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:44	7440-36-0	
Arsenic	17.0	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:44	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:25	05/14/21 10:43	7440-41-7	
Cobalt	2.1	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:44	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:44	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:44	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/13/21 10:55	05/14/21 08:45	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	74.9	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Bicarbonate (CaCO3)	74.9	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/21 15:31		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-3	Lab ID: 50286944002	Collected: 05/05/21 11:17	Received: 05/07/21 11:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2230	mg/L	40.0	1		05/12/21 17:38		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.5	Std. Units	0.10	1		05/10/21 13:41		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 10:06		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/11/21 13:53	14797-55-8	H3
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 13:53	14797-65-0	H3
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.16	mg/L	0.15	1	05/13/21 12:47	05/14/21 11:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 11:14	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/17/21 23:30		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-4C	Lab ID: 50286944003	Collected: 05/05/21 13:55	Received: 05/07/21 11:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	42.8	mg/L	2.5	10		05/20/21 17:29	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/20/21 17:14	16984-48-8	
Sulfate	1430	mg/L	25.0	100		05/20/21 18:15	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 06:40	05/20/21 10:55	7429-90-5	
Barium	28.6	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:55	7440-39-3	
Boron	3620	ug/L	100	1	05/18/21 06:40	05/20/21 10:55	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 10:55	7440-43-9	
Calcium	571000	ug/L	5000	5	05/18/21 06:40	05/20/21 11:27	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:55	7440-47-3	
Iron	ND	ug/L	100	1	05/18/21 06:40	05/20/21 10:55	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:55	7439-92-1	
Lithium	359	ug/L	20.0	1	05/18/21 06:40	05/20/21 10:55	7439-93-2	
Magnesium	55700	ug/L	1000	1	05/18/21 06:40	05/20/21 10:55	7439-95-4	
Manganese	1900	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:55	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:55	7439-98-7	
Potassium	52800	ug/L	1000	1	05/18/21 06:40	05/20/21 10:55	7440-09-7	
Silica	19300	ug/L	450	1	05/18/21 06:40	05/20/21 10:55	7631-86-9	N2
Sodium	89600	ug/L	1000	1	05/18/21 06:40	05/20/21 10:55	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	2150	ug/L	10.0	1	05/13/21 13:24	05/14/21 04:00	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/13/21 13:24	05/14/21 04:00	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:07	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:07	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:25	05/14/21 11:11	7440-41-7	
Cobalt	1.2	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:07	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:07	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:07	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/13/21 10:55	05/14/21 09:00	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	309	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Bicarbonate (CaCO3)	309	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/21 15:31		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-4C	Lab ID: 50286944003	Collected: 05/05/21 13:55	Received: 05/07/21 11:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2250	mg/L	40.0	1		05/10/21 17:11		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	6.8	Std. Units	0.10	1		05/10/21 13:45		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 10:06		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	6.6	mg/L	0.20	2		05/11/21 14:43	14797-55-8	H3
Nitrogen, Nitrite	ND	mg/L	0.20	2		05/11/21 14:43	14797-65-0	H3
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/13/21 12:47	05/14/21 11:05		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.3	mg/L	1.0	1		05/18/21 13:06	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.7	mg/L	1.0	1		05/18/21 00:23		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: DUP1	Lab ID: 50286944004	Collected: 05/05/21 11:42	Received: 05/07/21 11:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	53.5	mg/L	2.5	10		05/20/21 18:46	16887-00-6	
Fluoride	0.15	mg/L	0.10	1		05/20/21 18:31	16984-48-8	
Sulfate	1760	mg/L	25.0	100		05/20/21 19:02	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 06:40	05/20/21 10:57	7429-90-5	
Barium	38.9	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:57	7440-39-3	
Boron	1280	ug/L	100	1	05/18/21 06:40	05/20/21 10:57	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 10:57	7440-43-9	
Calcium	490000	ug/L	5000	5	05/18/21 06:40	05/20/21 11:29	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:57	7440-47-3	
Iron	ND	ug/L	100	1	05/18/21 06:40	05/20/21 10:57	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:57	7439-92-1	
Lithium	1870	ug/L	20.0	1	05/18/21 06:40	05/20/21 10:57	7439-93-2	
Magnesium	7430	ug/L	1000	1	05/18/21 06:40	05/20/21 10:57	7439-95-4	
Manganese	952	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:57	7439-96-5	
Molybdenum	539	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:57	7439-98-7	
Potassium	254000	ug/L	5000	5	05/18/21 06:40	05/20/21 11:29	7440-09-7	
Silica	8610	ug/L	450	1	05/18/21 06:40	05/20/21 10:57	7631-86-9	N2
Sodium	107000	ug/L	1000	1	05/18/21 06:40	05/20/21 10:57	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	899	ug/L	10.0	1	05/13/21 13:24	05/14/21 04:03	7439-96-5	
Molybdenum, Dissolved	527	ug/L	10.0	1	05/13/21 13:24	05/14/21 04:03	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:11	7440-36-0	
Arsenic	13.0	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:11	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:25	05/14/21 11:16	7440-41-7	
Cobalt	1.6	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:11	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:11	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:11	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/13/21 10:55	05/14/21 09:02	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	69.3	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Bicarbonate (CaCO3)	69.3	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/21 15:31		

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: DUP1	Lab ID: 50286944004	Collected: 05/05/21 11:42	Received: 05/07/21 11:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2240	mg/L	40.0	1		05/10/21 17:12		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		05/10/21 13:50		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 10:07		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	0.13	mg/L	0.10	1		05/11/21 14:00	14797-55-8	H3
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:00	14797-65-0	H3
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/13/21 12:47	05/14/21 11:06		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 13:32	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.1	mg/L	1.0	1		05/18/21 00:34		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: Field Blank 1	Lab ID: 50286944007	Collected: 05/05/21 11:25	Received: 05/07/21 11:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	1		05/20/21 19:18	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/20/21 19:18	16984-48-8	
Sulfate	ND	mg/L	0.25	1		05/20/21 19:18	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 06:40	05/20/21 10:59	7429-90-5	
Barium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:59	7440-39-3	
Boron	ND	ug/L	100	1	05/18/21 06:40	05/20/21 10:59	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 10:59	7440-43-9	
Calcium	ND	ug/L	1000	1	05/18/21 06:40	05/20/21 10:59	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:59	7440-47-3	
Iron	ND	ug/L	100	1	05/18/21 06:40	05/20/21 10:59	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:59	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 06:40	05/20/21 10:59	7439-93-2	
Magnesium	ND	ug/L	1000	1	05/18/21 06:40	05/20/21 10:59	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:59	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 10:59	7439-98-7	
Potassium	ND	ug/L	1000	1	05/18/21 06:40	05/20/21 10:59	7440-09-7	
Silica	ND	ug/L	450	1	05/18/21 06:40	05/20/21 10:59	7631-86-9	N2
Sodium	ND	ug/L	1000	1	05/18/21 06:40	05/20/21 10:59	7440-23-5	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:16	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:16	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:25	05/14/21 11:25	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:16	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:16	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 12:16	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/13/21 10:55	05/14/21 09:05	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	ND	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/21 15:31		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	1		05/10/21 17:12		PL

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: Field Blank 1	Lab ID: 50286944007	Collected: 05/05/21 11:25		Received: 05/07/21 11:40		Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	6.0	Std. Units	0.10	1		05/10/21 13:56		H3
4500S2D Sulfide Water								
Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	1		05/11/21 10:06	18496-25-8	
Iron, Ferrous								
Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 10:07		H3,N2
353.2 Nitrogen, NO2/NO3 unpres								
Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/11/21 13:58	14797-55-8	H3
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 13:58	14797-65-0	H3
365.1 Total Phosphorus								
Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	1	05/13/21 12:47	05/14/21 11:06		
5310C TOC								
Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 13:57	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch: 622294 Analysis Method: EPA 9056
 QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2868159 Matrix: Water
 Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/23/21 12:26	
Fluoride	mg/L	ND	0.10	05/23/21 12:26	
Sulfate	mg/L	ND	0.25	05/23/21 12:26	

LABORATORY CONTROL SAMPLE: 2868160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	92	80-120	
Fluoride	mg/L	0.5	0.49	99	80-120	
Sulfate	mg/L	2.5	2.0	80	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2868161 2868162

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50286944002 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	55.7	12.5	12.5	70.1	69.1	115	107	80-120	1	15		
Fluoride	mg/L	0.14	0.5	0.5	0.53	0.52	78	77	80-120	1	15	M1	
Sulfate	mg/L	1590	250	250	1670	1650	33	24	80-120	1	15	M0	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch:	620417	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2859163 Matrix: Water
Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	05/14/21 08:13	

LABORATORY CONTROL SAMPLE: 2859164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859165 2859166

Parameter	Units	50286944002		2859166		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	ug/L	ND	5	5	5.0	5.2	99	103	75-125	4	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859167 2859168

Parameter	Units	50286993003		2859168		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	ug/L	ND	5	5	4.9	5.1	98	102	75-125	4	20

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch: 620874 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2861702 Matrix: Water
 Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/20/21 10:33	
Barium	ug/L	ND	10.0	05/20/21 10:33	
Boron	ug/L	ND	100	05/20/21 10:33	
Cadmium	ug/L	ND	2.0	05/20/21 10:33	
Calcium	ug/L	ND	1000	05/20/21 10:33	
Chromium	ug/L	ND	10.0	05/20/21 10:33	
Iron	ug/L	ND	100	05/20/21 10:33	
Lead	ug/L	ND	10.0	05/20/21 10:33	
Lithium	ug/L	ND	20.0	05/20/21 10:33	
Magnesium	ug/L	ND	1000	05/20/21 10:33	
Manganese	ug/L	ND	10.0	05/20/21 10:33	
Molybdenum	ug/L	ND	10.0	05/20/21 10:33	
Potassium	ug/L	ND	1000	05/20/21 10:33	
Silica	ug/L	ND	450	05/20/21 10:33	N2
Sodium	ug/L	ND	1000	05/20/21 10:33	

LABORATORY CONTROL SAMPLE: 2861703

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	80-120	
Barium	ug/L	1000	1010	101	80-120	
Boron	ug/L	1000	1030	103	80-120	
Cadmium	ug/L	1000	1000	100	80-120	
Calcium	ug/L	10000	10300	103	80-120	
Chromium	ug/L	1000	1010	101	80-120	
Iron	ug/L	10000	10100	101	80-120	
Lead	ug/L	1000	998	100	80-120	
Lithium	ug/L	1000	1010	101	80-120	
Magnesium	ug/L	10000	10000	100	80-120	
Manganese	ug/L	1000	993	99	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	
Potassium	ug/L	10000	10400	104	80-120	
Silica	ug/L	10700	10400	97		N2
Sodium	ug/L	10000	10200	102	80-120	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861704												2861705											
Parameter	Units	50286944002		MS	MSD	MS		MSD		% Rec Limits	RPD	Max RPD	Qual										
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec														
Aluminum	ug/L	ND	10000	10000	10000	10500	10600	105	105	75-125	0	20											
Barium	ug/L	37.3	1000	1000	1070	1090	104	105	105	75-125	2	20											
Boron	ug/L	1270	1000	1000	2370	2390	111	113	113	75-125	1	20											
Cadmium	ug/L	ND	1000	1000	1040	1050	104	105	105	75-125	1	20											
Calcium	ug/L	481000	10000	10000	489000	502000	80	203	203	75-125	2	20	P6										
Chromium	ug/L	ND	1000	1000	1010	1000	101	100	100	75-125	1	20											
Iron	ug/L	ND	10000	10000	10100	10100	100	101	101	75-125	1	20											
Lead	ug/L	ND	1000	1000	994	999	99	100	100	75-125	1	20											
Lithium	ug/L	1820	1000	1000	3040	3090	121	127	127	75-125	2	20	M0										
Magnesium	ug/L	7360	10000	10000	17300	17400	99	101	101	75-125	1	20											
Manganese	ug/L	913	1000	1000	1940	1960	102	105	105	75-125	1	20											
Molybdenum	ug/L	532	1000	1000	1610	1630	108	110	110	75-125	1	20											
Potassium	ug/L	253000	10000	10000	266000	271000	134	182	182	75-125	2	20	P6										
Silica	ug/L	8620	10700	10700	19600	19800	103	104	104		1		N2										
Sodium	ug/L	105000	10000	10000	118000	121000	139	163	163	75-125	2	20	P6										

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch:	620251	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004

METHOD BLANK: 2858216 Matrix: Water
Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/14/21 03:05	
Molybdenum, Dissolved	ug/L	ND	10.0	05/14/21 03:05	

LABORATORY CONTROL SAMPLE: 2858217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	961	96	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2858218 2858219

Parameter	Units	50286756005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	32.8	1000	1000	973	960	94	93	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1040	1030	103	102	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2858220 2858221

Parameter	Units	50286944002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	907	1000	1000	1820	1820	91	91	75-125	0	20	
Molybdenum, Dissolved	ug/L	519	1000	1000	1530	1520	101	101	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch: 620151	Analysis Method: EPA 6020
QC Batch Method: EPA 200.2	Analysis Description: 6020 MET
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2857814 Matrix: Water

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/13/21 09:33	
Arsenic	ug/L	ND	1.0	05/13/21 09:33	
Beryllium	ug/L	ND	0.20	05/13/21 09:33	
Cobalt	ug/L	ND	1.0	05/13/21 09:33	
Selenium	ug/L	ND	1.0	05/13/21 09:33	
Thallium	ug/L	ND	1.0	05/13/21 09:33	

LABORATORY CONTROL SAMPLE: 2857815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	34.0	85	80-120	
Arsenic	ug/L	40	39.2	98	80-120	
Beryllium	ug/L	40	35.2	88	80-120	
Cobalt	ug/L	40	38.6	96	80-120	
Selenium	ug/L	40	40.4	101	80-120	
Thallium	ug/L	40	39.7	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857816 2857817

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50286756005 Result	Spike Conc.	Spike Conc.	Conc.								
Antimony	ug/L	ND	40	40	40	38.3	39.4	96	98	75-125	3	20	
Arsenic	ug/L	15.4	40	40	40	51.7	52.8	91	94	75-125	2	20	
Beryllium	ug/L	ND	40	40	40	37.2	38.3	93	96	75-125	3	20	
Cobalt	ug/L	ND	40	40	40	36.8	37.0	91	92	75-125	1	20	
Selenium	ug/L	ND	40	40	40	37.5	39.0	94	98	75-125	4	20	
Thallium	ug/L	ND	40	40	40	40.3	41.6	101	104	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857818 2857819

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50286944002 Result	Spike Conc.	Spike Conc.	Conc.								
Antimony	ug/L	ND	40	40	40	38.4	37.5	96	93	75-125	2	20	
Arsenic	ug/L	17.0	40	40	40	54.3	53.1	93	90	75-125	2	20	
Beryllium	ug/L	ND	40	40	40	112	121	279	303	75-125	8	20 M3	
Cobalt	ug/L	2.1	40	40	40	38.5	38.6	91	91	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Parameter	Units	2857818		2857819		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50286944002 Result	MS Spike Conc.	MSD Spike Conc.									
Selenium	ug/L	ND	40	40	40.7	40.4	100	100	75-125	1	20		
Thallium	ug/L	ND	40	40	40.6	40.2	101	100	75-125	1	20		

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch: 620132	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001

METHOD BLANK: 2857735 Matrix: Water

Associated Lab Samples: 50286944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	2.0	05/12/21 12:05	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	2.0	05/12/21 12:05	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	2.0	05/12/21 12:05	

LABORATORY CONTROL SAMPLE: 2857736

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	47.7	95	90-110	

SAMPLE DUPLICATE: 2857737

Parameter	Units	50286853009 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	29.6	30.2	2	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	29.6	30.2	2	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 2857738

Parameter	Units	50286853012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	26.1	26.3	1	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	26.1	26.3	1	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	<2.0	ND		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch: 620281 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2858321 Matrix: Water
 Associated Lab Samples: 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/12/21 15:31	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/12/21 15:31	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/12/21 15:31	

LABORATORY CONTROL SAMPLE: 2858322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.2	94	90-110	

SAMPLE DUPLICATE: 2858323

Parameter	Units	50286944002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	74.9	73.8	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	74.9	73.8	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2858324

Parameter	Units	50286934012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	297	306	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	297	306	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch:	619764	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2856502 Matrix: Water

Associated Lab Samples: 50286944001, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/10/21 17:06	

LABORATORY CONTROL SAMPLE: 2856504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	301	100	80-120	

SAMPLE DUPLICATE: 2856867

Parameter	Units	50286955003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	396	369	7	10	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch: 620385	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944002

METHOD BLANK: 2858958 Matrix: Water

Associated Lab Samples: 50286944002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/12/21 17:36	

LABORATORY CONTROL SAMPLE: 2858959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	259	86	80-120	

SAMPLE DUPLICATE: 2858960

Parameter	Units	50286944002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2230	2270	2	10	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch: 619779	Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B	Analysis Description: 4500H+B pH
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001

SAMPLE DUPLICATE: 2856542

Parameter	Units	50286756005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	1	2	H3

SAMPLE DUPLICATE: 2856543

Parameter	Units	50286825002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.5	6.5	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch:	619790	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944002, 50286944003, 50286944004, 50286944007

SAMPLE DUPLICATE: 2856555

Parameter	Units	50286830001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

SAMPLE DUPLICATE: 2856556

Parameter	Units	50286944002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.4	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2
Pace Project No.: 50286944

QC Batch: 619952	Analysis Method: SM 4500-S2-D
QC Batch Method: SM 4500-S2-D	Analysis Description: 4500S2D Sulfide Water
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2856999 Matrix: Water
Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/11/21 10:06	

LABORATORY CONTROL SAMPLE: 2857000

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.46	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857001 2857002

Parameter	Units	50286944002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.47	0.47	92	93	90-110	0	20	

MATRIX SPIKE SAMPLE: 2857003

Parameter	Units	50286944003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.47	93	90-110	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch:	620719	Analysis Method:	HACH 8146
QC Batch Method:	HACH 8146	Analysis Description:	Iron, Ferrous
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK:	2860754	Matrix:	Water
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Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/14/21 10:02	H3,N2

LABORATORY CONTROL SAMPLE: 2860755						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	100	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860756													2860757	
Parameter	Units	50286756005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual		
Iron, Ferrous	mg/L	ND	1	1	1.1	1.2	102	105	90-110	2	20	H3,N2		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860758													2860759	
Parameter	Units	50286944002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual		
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	108	108	90-110	0	20	H3,N2		

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch: 620058 Analysis Method: EPA 353.2
 QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2857445 Matrix: Water
 Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/11/21 13:47	
Nitrogen, Nitrite	mg/L	ND	0.10	05/11/21 13:47	

LABORATORY CONTROL SAMPLE: 2857446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857447 2857448

Parameter	Units	50286944002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.1	1.2	104	108	90-110	3	20	H3
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	110	114	90-110	4	20	H3,M0

MATRIX SPIKE SAMPLE: 2857552

Parameter	Units	50287134005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.0	102	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	110	90-110	

MATRIX SPIKE SAMPLE: 2857565

Parameter	Units	50287134002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.59	59	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.98	96	90-110	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch:	620475	Analysis Method:	EPA 365.1
QC Batch Method:	EPA 365.1	Analysis Description:	365.1 Total Phosphorus
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2859347 Matrix: Water
Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/14/21 10:58	

LABORATORY CONTROL SAMPLE: 2859348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859349 2859350

Parameter	Units	50286944002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	0.16			1.7	1.7				2		

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch:	621100	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

METHOD BLANK: 2862585 Matrix: Water
Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/18/21 05:14	

LABORATORY CONTROL SAMPLE: 2862586

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862587 2862588

Parameter	Units	50286944002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	ND	10	10	9.9	10	96	97	80-120	0	20	

MATRIX SPIKE SAMPLE: 2862589

Parameter	Units	50286948001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	9.7	97	80-120	

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QUALITY CONTROL DATA

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch:	621098	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Dissolved Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004

METHOD BLANK: 2862574 Matrix: Water
Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/17/21 22:58	

LABORATORY CONTROL SAMPLE: 2862575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862576 2862577

Parameter	Units	50286944002		2862577		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Dissolved Organic Carbon	mg/L	ND	10	10.4	10.3	98	97	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862578 2862579

Parameter	Units	50286949010		2862579		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Dissolved Organic Carbon	mg/L	ND	10	9.1	9.1	91	91	80-120	0	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-2R **Lab ID: 50286944001** Collected: 05/05/21 10:10 Received: 05/07/21 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.0671 ± 0.496 (0.946) C:NA T:95%	pCi/L	06/11/21 11:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.52 ± 0.516 (0.693) C:68% T:85%	pCi/L	06/10/21 11:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.59 ± 1.01 (1.64)	pCi/L	06/14/21 09:02	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-3 **Lab ID: 50286944002** Collected: 05/05/21 11:17 Received: 05/07/21 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	1.24 ± 0.644 (0.722) C:NA T:93%	pCi/L	06/11/21 11:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.27 ± 0.479 (0.721) C:69% T:87%	pCi/L	06/10/21 11:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.51 ± 1.12 (1.44)	pCi/L	06/14/21 09:02	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-4C **Lab ID: 50286944003** Collected: 05/05/21 13:55 Received: 05/07/21 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.0150 ± 0.482 (0.967) C:NA T:88%	pCi/L	06/11/21 12:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	2.07 ± 0.620 (0.776) C:66% T:91%	pCi/L	06/10/21 11:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.09 ± 1.10 (1.74)	pCi/L	06/14/21 09:02	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: DUP1 **Lab ID: 50286944004** Collected: 05/05/21 11:42 Received: 05/07/21 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.373 ± 0.626 (1.05) C:NA T:93%	pCi/L	06/11/21 12:26	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.842 ± 0.461 (0.840) C:66% T:87%	pCi/L	06/10/21 11:17	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.22 ± 1.09 (1.89)	pCi/L	06/14/21 09:02	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: Field Blank 1 Lab ID: 50286944007 Collected: 05/05/21 11:25 Received: 05/07/21 11:40 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.0689 ± 0.472 (0.971) C:NA T:89%	pCi/L	06/11/21 12:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.0685 ± 0.347 (0.787) C:66% T:96%	pCi/L	06/10/21 11:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.0685 ± 0.819 (1.76)	pCi/L	06/14/21 09:02	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-3 RAD MS **Lab ID: 50286944008** Collected: 05/05/21 11:17 Received: 05/07/21 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	84.69 %REC ± NA (NA) C:NA T:NA	pCi/L	06/11/21 11:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	97.98 %REC ± NA (NA) C:NA T:NA	pCi/L	06/10/21 11:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Sample: MW-3 RAD MSD **Lab ID: 50286944009** Collected: 05/05/21 11:17 Received: 05/07/21 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	90.67 %REC 6.82 RPD ± NA (NA) C:NA T:NA	pCi/L	06/11/21 11:56	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	107.28 %REC 9.06 RPD ± NA (NA) C:NA T:NA	pCi/L	06/10/21 11:17	15262-20-1	

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QUALIFIERS

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

PL The minimum mass of dried residue of 2.5 mg could not be obtained using the routine sample volume of 100 mL.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50286944001	MW-2R	EPA 9056	622294		
50286944002	MW-3	EPA 9056	622294		
50286944003	MW-4C	EPA 9056	622294		
50286944004	DUP1	EPA 9056	622294		
50286944007	Field Blank 1	EPA 9056	622294		
50286944001	MW-2R	EPA 3010	620874	EPA 6010	621781
50286944002	MW-3	EPA 3010	620874	EPA 6010	621781
50286944003	MW-4C	EPA 3010	620874	EPA 6010	621781
50286944004	DUP1	EPA 3010	620874	EPA 6010	621781
50286944007	Field Blank 1	EPA 3010	620874	EPA 6010	621781
50286944001	MW-2R	EPA 3010	620251	EPA 6010	620699
50286944002	MW-3	EPA 3010	620251	EPA 6010	620699
50286944003	MW-4C	EPA 3010	620251	EPA 6010	620699
50286944004	DUP1	EPA 3010	620251	EPA 6010	620699
50286944001	MW-2R	EPA 200.2	620151	EPA 6020	620443
50286944002	MW-3	EPA 200.2	620151	EPA 6020	620443
50286944003	MW-4C	EPA 200.2	620151	EPA 6020	620443
50286944004	DUP1	EPA 200.2	620151	EPA 6020	620443
50286944007	Field Blank 1	EPA 200.2	620151	EPA 6020	620443
50286944001	MW-2R	EPA 7470	620417	EPA 7470	620709
50286944002	MW-3	EPA 7470	620417	EPA 7470	620709
50286944003	MW-4C	EPA 7470	620417	EPA 7470	620709
50286944004	DUP1	EPA 7470	620417	EPA 7470	620709
50286944007	Field Blank 1	EPA 7470	620417	EPA 7470	620709
50286944001	MW-2R	EPA 903.1	449079		
50286944002	MW-3	EPA 903.1	449079		
50286944003	MW-4C	EPA 903.1	449079		
50286944004	DUP1	EPA 903.1	449079		
50286944007	Field Blank 1	EPA 903.1	449079		
50286944008	MW-3 RAD MS	EPA 903.1	449079		
50286944009	MW-3 RAD MSD	EPA 903.1	449079		
50286944001	MW-2R	EPA 904.0	449080		
50286944002	MW-3	EPA 904.0	449080		
50286944003	MW-4C	EPA 904.0	449080		
50286944004	DUP1	EPA 904.0	449080		
50286944007	Field Blank 1	EPA 904.0	449080		
50286944008	MW-3 RAD MS	EPA 904.0	449080		
50286944009	MW-3 RAD MSD	EPA 904.0	449080		
50286944001	MW-2R	Total Radium Calculation	452242		
50286944002	MW-3	Total Radium Calculation	452242		
50286944003	MW-4C	Total Radium Calculation	452242		
50286944004	DUP1	Total Radium Calculation	452242		
50286944007	Field Blank 1	Total Radium Calculation	452242		
50286944001	MW-2R	SM 2320B	620132		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50286944002	MW-3	SM 2320B	620281		
50286944003	MW-4C	SM 2320B	620281		
50286944004	DUP1	SM 2320B	620281		
50286944007	Field Blank 1	SM 2320B	620281		
50286944001	MW-2R	SM 2540C	619764		
50286944002	MW-3	SM 2540C	620385		
50286944003	MW-4C	SM 2540C	619764		
50286944004	DUP1	SM 2540C	619764		
50286944007	Field Blank 1	SM 2540C	619764		
50286944001	MW-2R	SM 4500-H+B	619779		
50286944002	MW-3	SM 4500-H+B	619790		
50286944003	MW-4C	SM 4500-H+B	619790		
50286944004	DUP1	SM 4500-H+B	619790		
50286944007	Field Blank 1	SM 4500-H+B	619790		
50286944001	MW-2R	SM 4500-S2-D	619952		
50286944002	MW-3	SM 4500-S2-D	619952		
50286944003	MW-4C	SM 4500-S2-D	619952		
50286944004	DUP1	SM 4500-S2-D	619952		
50286944007	Field Blank 1	SM 4500-S2-D	619952		
50286944001	MW-2R	HACH 8146	620719		
50286944002	MW-3	HACH 8146	620719		
50286944003	MW-4C	HACH 8146	620719		
50286944004	DUP1	HACH 8146	620719		
50286944007	Field Blank 1	HACH 8146	620719		
50286944001	MW-2R	EPA 353.2	620058		
50286944002	MW-3	EPA 353.2	620058		
50286944003	MW-4C	EPA 353.2	620058		
50286944004	DUP1	EPA 353.2	620058		
50286944007	Field Blank 1	EPA 353.2	620058		
50286944001	MW-2R	EPA 365.1	620475	EPA 365.1	620643
50286944002	MW-3	EPA 365.1	620475	EPA 365.1	620643
50286944003	MW-4C	EPA 365.1	620475	EPA 365.1	620643
50286944004	DUP1	EPA 365.1	620475	EPA 365.1	620643
50286944007	Field Blank 1	EPA 365.1	620475	EPA 365.1	620643
50286944001	MW-2R	SM 5310C	621100		
50286944002	MW-3	SM 5310C	621100		
50286944003	MW-4C	SM 5310C	621100		
50286944004	DUP1	SM 5310C	621100		
50286944007	Field Blank 1	SM 5310C	621100		
50286944001	MW-2R	SM 5310C	621098		
50286944002	MW-3	SM 5310C	621098		
50286944003	MW-4C	SM 5310C	621098		
50286944004	DUP1	SM 5310C	621098		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MB 5/7/21 1250

1. Courier: FED EX UPS CLIENT PACE USPS OTHER

2. Custody Seal on Cooler/Box Present: Yes No

(If yes)Seals Intact: Yes No (leave blank if no seals were present)

3. Thermometer: **1 2 3 4 5 6 A B C D E F** C

4. Cooler Temperature: 1.8°C/1.8°C, 2.1°C/2.1°C, 0.9°C/0.9°C, 1.2°C/1.2°C
 Temp should be above freezing to 6°C (Initial/Corrected) 0.9°C/6.9°C, 1.2°C/1.2°C, 0.1°C/0.1°C, 1.0°C/1.0°C

5. Packing Material: Bubble Wrap Bubble Bags

None Other

6. Ice Type: Wet Blue None

7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		<input checked="" type="checkbox"/>	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis: <u>NO₃</u>	<input checked="" type="checkbox"/>		Circle: <u>HNO₃ (<2)</u> <u>H₂SO₄ (<2)</u> <u>NaOH (>10)</u> <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form			
Time 5035A TC placed in Freezer or Short Holds To Lab Time:			Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>Present</u>	<u>Absent</u>	<u>N/A</u>
Rush TAT Requested (4 days or less):		<input checked="" type="checkbox"/>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			<input checked="" type="checkbox"/>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<input checked="" type="checkbox"/>
Containers Intact?:	<input checked="" type="checkbox"/>		Headspace in VOA Vials (>6mm): See Containter Count form for details	<u>Present</u>	<u>Absent</u>	<u>No VOA Vials Sent</u>
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<input checked="" type="checkbox"/>		Trip Blank Present?			<input checked="" type="checkbox"/>
Extra labels on Terracore Vials? (soils only)		<input checked="" type="checkbox"/>	Trip Blank Custody Seals?:			<input checked="" type="checkbox"/>

COMMENTS: some samples rew out of hold, unable to make hold times for rest of samples MB 5/7/21
MW-2R has multiple times on containers MB 5/7/21

July 08, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM-CCR Profile 2 Report 4
Pace Project No.: 50287016

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on May 08, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Ms. Slawa Bruder, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50287016001	AP-8	Water	05/07/21 13:50	05/08/21 11:00
50287016002	DUP 2	Water	05/07/21 14:50	05/08/21 11:00
50287016003	AP-8 RAD MS	Water	05/07/21 13:50	05/08/21 11:00
50287016004	AP-8 RAD MSD	Water	05/07/21 13:50	05/08/21 11:00
50287016005	Field Blank	Water	05/07/21 15:00	05/08/21 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50287016001	AP-8	EPA 9056	RMR	3	PASI-I		
		EPA 6010	JDG	15	PASI-I		
		EPA 6010	KJE	2	PASI-I		
		EPA 6020	RAM	6	PASI-I		
		EPA 7470	ILP	1	PASI-I		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	RMK	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	WZE	1	PASI-I		
		SM 4500-H+B	WDB	1	PASI-I		
		SM 4500-S2-D	SWJ	1	PASI-I		
		HACH 8146	SWJ	1	PASI-I		
		EPA 353.2	SWJ	2	PASI-I		
		EPA 365.1	SKK	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50287016002	DUP 2	EPA 9056	RMR	3	PASI-I
				EPA 6010	JDG	15	PASI-I
				EPA 6010	KJE	2	PASI-I
EPA 6020	RAM			6	PASI-I		
EPA 7470	ILP			1	PASI-I		
EPA 903.1	SLC			1	PASI-PA		
EPA 904.0	JC2			1	PASI-PA		
Total Radium Calculation	RMK			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	WZE			1	PASI-I		
SM 4500-H+B	WDB			1	PASI-I		
SM 4500-S2-D	SWJ			1	PASI-I		
HACH 8146	SWJ			1	PASI-I		
EPA 353.2	SWJ			2	PASI-I		
EPA 365.1	SKK			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50287016003	AP-8 RAD MS			EPA 903.1	SLC	1	PASI-PA
				EPA 904.0	JC2	1	PASI-PA
50287016004	AP-8 RAD MSD			EPA 903.1	SLC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50287016005	Field Blank	EPA 904.0	JC2	1	PASI-PA
		EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SWJ	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
SM 5310C	GWA	1	PASI-I		

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287016001	AP-8					
EPA 9056	Chloride	11.7	mg/L	0.25	05/21/21 15:59	
EPA 9056	Fluoride	1.6	mg/L	0.10	05/21/21 15:59	
EPA 9056	Sulfate	778	mg/L	25.0	05/21/21 16:31	
EPA 6010	Aluminum	1760	ug/L	200	05/19/21 12:02	
EPA 6010	Barium	15.1	ug/L	10.0	05/19/21 12:02	
EPA 6010	Boron	510	ug/L	100	05/19/21 12:02	
EPA 6010	Cadmium	10.5	ug/L	2.0	05/19/21 12:02	
EPA 6010	Calcium	150000	ug/L	1000	05/19/21 12:02	
EPA 6010	Iron	99100	ug/L	100	05/19/21 12:02	
EPA 6010	Lithium	74.3	ug/L	20.0	05/19/21 12:02	
EPA 6010	Magnesium	50200	ug/L	1000	05/19/21 12:02	
EPA 6010	Manganese	10400	ug/L	10.0	05/19/21 12:02	
EPA 6010	Potassium	3440	ug/L	1000	05/19/21 12:02	
EPA 6010	Silica	48200	ug/L	450	05/19/21 12:02	N2
EPA 6010	Sodium	11600	ug/L	1000	05/19/21 12:02	
EPA 6010	Manganese, Dissolved	9300	ug/L	10.0	05/18/21 13:29	
EPA 6020	Arsenic	4.0	ug/L	1.0	05/14/21 19:09	
EPA 6020	Beryllium	6.5	ug/L	0.20	05/14/21 19:09	
EPA 6020	Cobalt	677	ug/L	5.0	05/17/21 17:57	
EPA 6020	Selenium	4.2	ug/L	1.0	05/14/21 19:09	
EPA 903.1	Radium-226	0.163 ± 0.440 (0.816) C:NA T:93%	pCi/L		06/10/21 14:19	
EPA 904.0	Radium-228	1.17 ± 0.484 (0.799) C:77% T:91%	pCi/L		06/10/21 10:59	
Total Radium Calculation	Total Radium	1.33 ± 0.924 (1.62)	pCi/L		06/14/21 09:02	
SM 2320B	Alkalinity, Total as CaCO3	11.4	mg/L	2.0	05/13/21 12:54	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	11.4	mg/L	2.0	05/13/21 12:54	
SM 2540C	Total Dissolved Solids	1200	mg/L	20.0	05/12/21 09:51	
SM 4500-H+B	pH at 25 Degrees C	5.2	Std. Units	0.10	05/14/21 10:13	H3
HACH 8146	Iron, Ferrous	66.5	mg/L	20.0	05/14/21 11:39	H3, N2
SM 5310C	Total Organic Carbon	2.3	mg/L	1.0	05/18/21 23:58	
SM 5310C	Dissolved Organic Carbon	2.7	mg/L	1.0	05/19/21 23:25	
50287016002	DUP 2					
EPA 9056	Chloride	9.3	mg/L	0.25	05/21/21 16:48	
EPA 9056	Fluoride	0.41	mg/L	0.10	05/21/21 16:48	
EPA 9056	Sulfate	778	mg/L	25.0	05/21/21 17:20	
EPA 6010	Aluminum	951	ug/L	200	05/19/21 12:13	
EPA 6010	Barium	19.5	ug/L	10.0	05/19/21 12:13	
EPA 6010	Boron	660	ug/L	100	05/19/21 12:13	
EPA 6010	Cadmium	3.0	ug/L	2.0	05/19/21 12:13	
EPA 6010	Calcium	147000	ug/L	1000	05/19/21 12:13	
EPA 6010	Iron	131000	ug/L	100	05/19/21 12:13	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287016002	DUP 2					
EPA 6010	Lithium	38.2	ug/L	20.0	05/19/21 12:13	
EPA 6010	Magnesium	40700	ug/L	1000	05/19/21 12:13	
EPA 6010	Manganese	8170	ug/L	10.0	05/19/21 12:13	
EPA 6010	Potassium	4210	ug/L	1000	05/19/21 12:13	
EPA 6010	Silica	35900	ug/L	450	05/19/21 12:13	N2
EPA 6010	Sodium	10200	ug/L	1000	05/19/21 12:13	
EPA 6010	Manganese, Dissolved	7830	ug/L	10.0	05/18/21 13:39	
EPA 6020	Arsenic	7.7	ug/L	1.0	05/14/21 19:39	
EPA 6020	Beryllium	1.8	ug/L	0.20	05/14/21 19:39	
EPA 6020	Cobalt	297	ug/L	2.0	05/17/21 18:18	
EPA 6020	Selenium	2.4	ug/L	1.0	05/14/21 19:39	
EPA 903.1	Radium-226	-0.123 ± 0.380 (0.864) C:NA T:100%	pCi/L		06/10/21 14:19	
EPA 904.0	Radium-228	0.465 ± 0.378 (0.750) C:72% T:88%	pCi/L		06/10/21 14:11	
Total Radium Calculation	Total Radium	0.465 ± 0.758 (1.61)	pCi/L		06/14/21 09:02	
SM 2320B	Alkalinity, Total as CaCO3	48.4	mg/L	2.0	05/13/21 12:28	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	48.4	mg/L	2.0	05/13/21 12:28	
SM 2540C	Total Dissolved Solids	1110	mg/L	20.0	05/12/21 09:52	
SM 4500-H+B	pH at 25 Degrees C	5.7	Std. Units	0.10	05/14/21 10:15	H3
HACH 8146	Iron, Ferrous	130	mg/L	20.0	05/14/21 11:40	H3, N2
EPA 353.2	Nitrogen, Nitrite	0.13	mg/L	0.10	05/08/21 14:18	
SM 5310C	Total Organic Carbon	2.7	mg/L	1.0	05/19/21 00:30	
SM 5310C	Dissolved Organic Carbon	3.1	mg/L	1.0	05/20/21 00:25	
50287016003	AP-8 RAD MS					
EPA 903.1	Radium-226	100.90 %REC ± NA (NA) C:NA T:NA	pCi/L		06/10/21 14:19	
EPA 904.0	Radium-228	81.33 %REC ± NA (NA) C:NA T:NA	pCi/L		06/10/21 10:59	
50287016004	AP-8 RAD MSD					
EPA 903.1	Radium-226	104.92 %REC 3.90 RPD ± NA (NA) C:NA T:NA	pCi/L		06/10/21 14:19	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287016004	AP-8 RAD MSD					
EPA 904.0	Radium-228	80.53 %REC 0.99 RPD ± NA (NA) C:NA T:NA	pCi/L		06/10/21 10:59	
50287016005	Field Blank					
EPA 903.1	Radium-226	0.0642 ± 0.333 (0.691) C:NA T:93%	pCi/L		06/10/21 14:19	
EPA 904.0	Radium-228	0.0848 ± 0.314 (0.712) C:77% T:87%	pCi/L		06/10/21 14:11	
Total Radium Calculation	Total Radium	0.149 ± 0.647 (1.40)	pCi/L		06/14/21 09:02	
SM 4500-H+B	pH at 25 Degrees C	5.8	Std. Units	0.10	05/14/21 10:18	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Sample: AP-8	Lab ID: 50287016001	Collected: 05/07/21 13:50	Received: 05/08/21 11:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	11.7	mg/L	0.25	1		05/21/21 15:59	16887-00-6	
Fluoride	1.6	mg/L	0.10	1		05/21/21 15:59	16984-48-8	
Sulfate	778	mg/L	25.0	100		05/21/21 16:31	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	1760	ug/L	200	1	05/18/21 07:03	05/19/21 12:02	7429-90-5	
Barium	15.1	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:02	7440-39-3	
Boron	510	ug/L	100	1	05/18/21 07:03	05/19/21 12:02	7440-42-8	
Cadmium	10.5	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:02	7440-43-9	
Calcium	150000	ug/L	1000	1	05/18/21 07:03	05/19/21 12:02	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:02	7440-47-3	
Iron	99100	ug/L	100	1	05/18/21 07:03	05/19/21 12:02	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:02	7439-92-1	
Lithium	74.3	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:02	7439-93-2	
Magnesium	50200	ug/L	1000	1	05/18/21 07:03	05/19/21 12:02	7439-95-4	
Manganese	10400	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:02	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:02	7439-98-7	
Potassium	3440	ug/L	1000	1	05/18/21 07:03	05/19/21 12:02	7440-09-7	
Silica	48200	ug/L	450	1	05/18/21 07:03	05/19/21 12:02	7631-86-9	N2
Sodium	11600	ug/L	1000	1	05/18/21 07:03	05/19/21 12:02	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	9300	ug/L	10.0	1	05/17/21 07:10	05/18/21 13:29	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/17/21 07:10	05/18/21 13:29	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:09	7440-36-0	
Arsenic	4.0	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:09	7440-38-2	
Beryllium	6.5	ug/L	0.20	1	05/13/21 17:25	05/14/21 19:09	7440-41-7	
Cobalt	677	ug/L	5.0	5	05/13/21 17:25	05/17/21 17:57	7440-48-4	
Selenium	4.2	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:09	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:09	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/20/21 09:37	05/21/21 09:59	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	11.4	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Bicarbonate (CaCO3)	11.4	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Sample: AP-8	Lab ID: 50287016001	Collected: 05/07/21 13:50	Received: 05/08/21 11:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	1200	mg/L	20.0	1		05/12/21 09:51		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	5.2	Std. Units	0.10	1		05/14/21 10:13		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 13:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	66.5	mg/L	20.0	100		05/14/21 11:39		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/08/21 14:01	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/08/21 14:01	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:26		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	2.3	mg/L	1.0	1		05/18/21 23:58	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	2.7	mg/L	1.0	1		05/19/21 23:25		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Sample: DUP 2	Lab ID: 50287016002	Collected: 05/07/21 14:50	Received: 05/08/21 11:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	9.3	mg/L	0.25	1		05/21/21 16:48	16887-00-6	
Fluoride	0.41	mg/L	0.10	1		05/21/21 16:48	16984-48-8	
Sulfate	778	mg/L	25.0	100		05/21/21 17:20	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	951	ug/L	200	1	05/18/21 07:03	05/19/21 12:13	7429-90-5	
Barium	19.5	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:13	7440-39-3	
Boron	660	ug/L	100	1	05/18/21 07:03	05/19/21 12:13	7440-42-8	
Cadmium	3.0	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:13	7440-43-9	
Calcium	147000	ug/L	1000	1	05/18/21 07:03	05/19/21 12:13	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:13	7440-47-3	
Iron	131000	ug/L	100	1	05/18/21 07:03	05/19/21 12:13	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:13	7439-92-1	
Lithium	38.2	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:13	7439-93-2	
Magnesium	40700	ug/L	1000	1	05/18/21 07:03	05/19/21 12:13	7439-95-4	
Manganese	8170	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:13	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:13	7439-98-7	
Potassium	4210	ug/L	1000	1	05/18/21 07:03	05/19/21 12:13	7440-09-7	
Silica	35900	ug/L	450	1	05/18/21 07:03	05/19/21 12:13	7631-86-9	N2
Sodium	10200	ug/L	1000	1	05/18/21 07:03	05/19/21 12:13	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	7830	ug/L	10.0	1	05/17/21 07:10	05/18/21 13:39	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/17/21 07:10	05/18/21 13:39	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:39	7440-36-0	
Arsenic	7.7	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:39	7440-38-2	
Beryllium	1.8	ug/L	0.20	1	05/13/21 17:25	05/14/21 19:39	7440-41-7	
Cobalt	297	ug/L	2.0	2	05/13/21 17:25	05/17/21 18:18	7440-48-4	
Selenium	2.4	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:39	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:39	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/20/21 09:37	05/21/21 10:11	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	48.4	mg/L	2.0	1		05/13/21 12:28		
Alkalinity,Bicarbonate (CaCO3)	48.4	mg/L	2.0	1		05/13/21 12:28		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Sample: DUP 2	Lab ID: 50287016002	Collected: 05/07/21 14:50	Received: 05/08/21 11:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	1110	mg/L	20.0	1		05/12/21 09:52		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	5.7	Std. Units	0.10	1		05/14/21 10:15		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 13:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	130	mg/L	20.0	100		05/14/21 11:40		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/08/21 14:18	14797-55-8	
Nitrogen, Nitrite	0.13	mg/L	0.10	1		05/08/21 14:18	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:29		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	2.7	mg/L	1.0	1		05/19/21 00:30	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	3.1	mg/L	1.0	1		05/20/21 00:25		

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Sample: Field Blank	Lab ID: 50287016005	Collected: 05/07/21 15:00	Received: 05/08/21 11:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	1		05/21/21 17:36	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/21/21 17:36	16984-48-8	
Sulfate	ND	mg/L	0.25	1		05/21/21 17:36	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 07:03	05/19/21 12:19	7429-90-5	
Barium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:19	7440-39-3	
Boron	ND	ug/L	100	1	05/18/21 07:03	05/19/21 12:19	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:19	7440-43-9	
Calcium	ND	ug/L	1000	1	05/18/21 07:03	05/19/21 12:19	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:19	7440-47-3	
Iron	ND	ug/L	100	1	05/18/21 07:03	05/19/21 12:19	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:19	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:19	7439-93-2	
Magnesium	ND	ug/L	1000	1	05/18/21 07:03	05/19/21 12:19	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:19	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:19	7439-98-7	
Potassium	ND	ug/L	1000	1	05/18/21 07:03	05/19/21 12:19	7440-09-7	
Silica	ND	ug/L	450	1	05/18/21 07:03	05/19/21 12:19	7631-86-9	N2
Sodium	ND	ug/L	1000	1	05/18/21 07:03	05/19/21 12:19	7440-23-5	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:44	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:44	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/13/21 17:25	05/14/21 19:44	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:44	7440-48-4	2d
Selenium	ND	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:44	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 17:25	05/14/21 19:44	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/20/21 09:37	05/21/21 10:14	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	ND	mg/L	2.0	1		05/13/21 12:28		
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:28		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:28		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	1		05/12/21 09:52		PL

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Sample: Field Blank	Lab ID: 50287016005	Collected: 05/07/21 15:00		Received: 05/08/21 11:00		Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	5.8	Std. Units	0.10	1		05/14/21 10:18		H3
4500S2D Sulfide Water								
Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	1		05/11/21 13:57	18496-25-8	
Iron, Ferrous								
Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 11:40		H3,N2
353.2 Nitrogen, NO2/NO3 unpres								
Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/08/21 14:14	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/08/21 14:14	14797-65-0	
365.1 Total Phosphorus								
Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:29		
5310C TOC								
Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 00:40	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch:	622073	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2866917 Matrix: Water

Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/21/21 15:26	
Fluoride	mg/L	ND	0.10	05/21/21 15:26	
Sulfate	mg/L	ND	0.25	05/21/21 15:26	

LABORATORY CONTROL SAMPLE: 2866918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	95	80-120	
Fluoride	mg/L	0.5	0.49	97	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2866919 2866920

Parameter	Units	50287016001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	11.7	1.2	1.2	12.8	13.0	90	108	80-120	2	15	E
Fluoride	mg/L	1.6	0.5	0.5	2.1	2.1	96	94	80-120	1	15	
Sulfate	mg/L	778	250	250	1000	997	89	88	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch:	621557	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2864305 Matrix: Water

Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	05/21/21 09:54	

LABORATORY CONTROL SAMPLE: 2864306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864307 2864308

Parameter	Units	50287016001		2864307		2864308		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Mercury	ug/L	ND	5	5	4.6	4.5	93	89	75-125	4	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864309 2864310

Parameter	Units	50287588001		2864309		2864310		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Mercury	ug/L	ND	5	5	4.6	4.5	93	90	75-125	3	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864311 2864312

Parameter	Units	50287595001		2864311		2864312		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Mercury	ug/L	ND	5	5	4.9	4.8	98	97	75-125	1	20

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 620875

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2861706

Matrix: Water

Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/19/21 11:54	
Barium	ug/L	ND	10.0	05/19/21 11:54	
Boron	ug/L	ND	100	05/19/21 11:54	
Cadmium	ug/L	ND	2.0	05/19/21 11:54	
Calcium	ug/L	ND	1000	05/19/21 11:54	
Chromium	ug/L	ND	10.0	05/19/21 11:54	
Iron	ug/L	ND	100	05/19/21 11:54	
Lead	ug/L	ND	10.0	05/19/21 11:54	
Lithium	ug/L	ND	20.0	05/19/21 11:54	
Magnesium	ug/L	ND	1000	05/19/21 11:54	
Manganese	ug/L	ND	10.0	05/19/21 11:54	
Molybdenum	ug/L	ND	10.0	05/19/21 11:54	
Potassium	ug/L	ND	1000	05/19/21 11:54	
Silica	ug/L	ND	450	05/19/21 11:54	N2
Sodium	ug/L	ND	1000	05/19/21 11:54	

LABORATORY CONTROL SAMPLE: 2861707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	80-120	
Barium	ug/L	1000	988	99	80-120	
Boron	ug/L	1000	1010	101	80-120	
Cadmium	ug/L	1000	986	99	80-120	
Calcium	ug/L	10000	10200	102	80-120	
Chromium	ug/L	1000	984	98	80-120	
Iron	ug/L	10000	9930	99	80-120	
Lead	ug/L	1000	972	97	80-120	
Lithium	ug/L	1000	1010	101	80-120	
Magnesium	ug/L	10000	9870	99	80-120	
Manganese	ug/L	1000	973	97	80-120	
Molybdenum	ug/L	1000	1020	102	80-120	
Potassium	ug/L	10000	10200	102	80-120	
Silica	ug/L	10700	9890	92		N2
Sodium	ug/L	10000	10300	103	80-120	

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861708			2861709										
Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		50287016001	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Aluminum	ug/L	1760	10000	10000	11900	11800	101	100	75-125	1	20		
Barium	ug/L	15.1	1000	1000	998	994	98	98	75-125	0	20		
Boron	ug/L	510	1000	1000	1520	1500	101	99	75-125	2	20		
Cadmium	ug/L	10.5	1000	1000	1000	1000	99	99	75-125	0	20		
Calcium	ug/L	150000	10000	10000	162000	157000	123	73	75-125	3	20	P6	
Chromium	ug/L	ND	1000	1000	968	974	96	97	75-125	1	20		
Iron	ug/L	99100	10000	10000	110000	107000	109	77	75-125	3	20		
Lead	ug/L	ND	1000	1000	950	954	95	95	75-125	0	20		
Lithium	ug/L	74.3	1000	1000	1130	1120	106	105	75-125	1	20		
Magnesium	ug/L	50200	10000	10000	60600	59000	104	88	75-125	3	20		
Manganese	ug/L	10400	1000	1000	11300	11100	97	74	75-125	2	20	P6	
Molybdenum	ug/L	ND	1000	1000	1010	1010	101	101	75-125	0	20		
Potassium	ug/L	3440	10000	10000	14000	13900	106	104	75-125	1	20		
Silica	ug/L	48200	10700	10700	61700	59100	126	103		4		N2	
Sodium	ug/L	11600	10000	10000	22300	21800	107	103	75-125	2	20		

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 620880	Analysis Method: EPA 6010
QC Batch Method: EPA 3010	Analysis Description: 6010 MET Dissolved
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002

METHOD BLANK: 2861726 Matrix: Water

Associated Lab Samples: 50287016001, 50287016002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/18/21 12:48	
Molybdenum, Dissolved	ug/L	ND	10.0	05/18/21 12:48	

LABORATORY CONTROL SAMPLE: 2861727

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	963	96	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861728 2861729

Parameter	Units	50286934012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	0.020 mg/L	1000	1000	984	967	96	95	75-125	2	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1060	1040	105	103	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861730 2861731

Parameter	Units	50287016001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	9300	1000	1000	9980	10200	68	89	75-125	2	20	P6
Molybdenum, Dissolved	ug/L	ND	1000	1000	1020	1050	102	105	75-125	3	20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 620481	Analysis Method: EPA 6020
QC Batch Method: EPA 200.2	Analysis Description: 6020 MET
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2859364 Matrix: Water

Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/18/21 12:25	
Arsenic	ug/L	ND	1.0	05/18/21 12:25	
Beryllium	ug/L	ND	0.20	05/18/21 12:25	
Cobalt	ug/L	ND	1.0	05/18/21 12:25	
Selenium	ug/L	ND	1.0	05/18/21 12:25	
Thallium	ug/L	ND	1.0	05/18/21 12:25	

LABORATORY CONTROL SAMPLE: 2859366

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.9	105	80-120	
Arsenic	ug/L	40	39.7	99	80-120	
Beryllium	ug/L	40	41.0	103	80-120	
Cobalt	ug/L	40	41.9	105	80-120	
Selenium	ug/L	40	40.4	101	80-120	
Thallium	ug/L	40	42.1	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859368 2859371

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50287016001 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	40.5	40.6	101	101	75-125	0	20
Arsenic	ug/L	4.0	40	40	36.4	35.7	81	79	75-125	2	20
Beryllium	ug/L	6.5	40	40	45.6	46.0	98	99	75-125	1	20
Cobalt	ug/L	677	40	40	741	719	159	104	75-125	3	20 P6
Selenium	ug/L	4.2	40	40	36.0	36.8	79	82	75-125	2	20
Thallium	ug/L	ND	40	40	42.5	42.7	106	106	75-125	0	20

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 620374	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016002, 50287016005

METHOD BLANK: 2858896 Matrix: Water

Associated Lab Samples: 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	2.0	05/13/21 12:28	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	2.0	05/13/21 12:28	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	2.0	05/13/21 12:28	

LABORATORY CONTROL SAMPLE: 2858897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	48.1	96	90-110	

SAMPLE DUPLICATE: 2858898

Parameter	Units	50287011001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	295	299	2	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	295	299	2	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2858899

Parameter	Units	50287011002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	312	315	1	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	312	315	1	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4
Pace Project No.: 50287016

QC Batch: 620375	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001

METHOD BLANK: 2858908 Matrix: Water
Associated Lab Samples: 50287016001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/13/21 12:54	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/13/21 12:54	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/13/21 12:54	

LABORATORY CONTROL SAMPLE: 2858909

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	46.9	94	90-110	

SAMPLE DUPLICATE: 2858910

Parameter	Units	50286942004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	587	590	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	587	590	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2858911

Parameter	Units	50287016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	11.4	10.9	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	11.4	10.9	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4
Pace Project No.: 50287016

QC Batch: 620265 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2858269 Matrix: Water
Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/12/21 09:40	

LABORATORY CONTROL SAMPLE: 2858270

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	254	85	80-120	

SAMPLE DUPLICATE: 2858271

Parameter	Units	50287011001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	468	486	4	10	

SAMPLE DUPLICATE: 2858272

Parameter	Units	50287011002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	398	389	2	10	

SAMPLE DUPLICATE: 2858273

Parameter	Units	50287016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1200	1230	2	10	

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 620744

Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B

Analysis Description: 4500H+B pH

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002, 50287016005

SAMPLE DUPLICATE: 2860852

Parameter	Units	50287419005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.3	8.3	0	2	H3

SAMPLE DUPLICATE: 2860853

Parameter	Units	50287016001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.2	5.2	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 620054 Analysis Method: SM 4500-S2-D
 QC Batch Method: SM 4500-S2-D Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2857436 Matrix: Water
 Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/11/21 13:57	

LABORATORY CONTROL SAMPLE: 2857437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.46	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857438 2857439

Parameter	Units	50287016001		50287016002		50287016005		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Sulfide	mg/L	ND	0.5	0.5	0.47	0.46	93	93	90-110	0	20

MATRIX SPIKE SAMPLE: 2857440

Parameter	Units	50287088001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.34	65	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4
Pace Project No.: 50287016

QC Batch: 620720 Analysis Method: HACH 8146
QC Batch Method: HACH 8146 Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2860760 Matrix: Water
Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/14/21 11:34	H3,N2

LABORATORY CONTROL SAMPLE: 2860761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	102	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860762 2860763

Parameter	Units	50286949010		2860762		2860763		% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					MSD % Rec
Iron, Ferrous	mg/L	ND	1	1	1.0	1.0	103	104	90-110	1	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860764 2860765

Parameter	Units	50287016001		2860764		2860765		% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					MSD % Rec
Iron, Ferrous	mg/L	66.5	100	100	162	165	96	98	90-110	2	20	H3,N2

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 619659	Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2	Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2855988 Matrix: Water

Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/08/21 13:29	
Nitrogen, Nitrite	mg/L	ND	0.10	05/08/21 13:29	

LABORATORY CONTROL SAMPLE: 2855989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2855990 2855991

Parameter	Units	50287015001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	10.6	5	5	15.6	15.4	100	97	90-110	1	20	M3
Nitrogen, Nitrite	mg/L	ND	5	5	5.7	5.7	113	114	90-110	1	20	M3

MATRIX SPIKE SAMPLE: 2855992

Parameter	Units	50287017001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.78	77	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	104	90-110	

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 621263

Analysis Method: EPA 365.1

QC Batch Method: EPA 365.1

Analysis Description: 365.1 Total Phosphorus

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2863084

Matrix: Water

Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/19/21 10:25	

LABORATORY CONTROL SAMPLE: 2863085

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863086 2863087

Parameter	Units	2863086		2863087		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50287016001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Phosphate as P04	mg/L	ND			1.6	1.6			0		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 621317	Analysis Method: SM 5310C
QC Batch Method: SM 5310C	Analysis Description: 5310C Total Organic Carbon
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002, 50287016005

METHOD BLANK: 2863315 Matrix: Water

Associated Lab Samples: 50287016001, 50287016002, 50287016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/18/21 20:18	

LABORATORY CONTROL SAMPLE: 2863316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863317 2863318

Parameter	Units	50287011001		50287011002		50287016001		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Total Organic Carbon	mg/L	1.2	10	10	10	11.0	10.9	98	97	80-120	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863319 2863320

Parameter	Units	50287011002		50287016001		50287016002		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Total Organic Carbon	mg/L	3.0	10	10	10	12.8	12.6	98	97	80-120	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863321 2863322

Parameter	Units	50287016001		50287016002		50287016005		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Total Organic Carbon	mg/L	2.3	10	10	10	12.2	12.2	99	99	80-120	0	20

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 621629

Analysis Method: SM 5310C

QC Batch Method: SM 5310C

Analysis Description: 5310C Dissolved Organic Carbon

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287016001, 50287016002

METHOD BLANK: 2864686

Matrix: Water

Associated Lab Samples: 50287016001, 50287016002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/19/21 17:11	

LABORATORY CONTROL SAMPLE: 2864687

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864688 2864689

Parameter	Units	50287011001		50287011002		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Dissolved Organic Carbon	mg/L	1.5	10	11.3	11.2	98	97	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864690 2864691

Parameter	Units	50287011002		50287016001		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Dissolved Organic Carbon	mg/L	2.9	10	12.4	12.5	95	96	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864692 2864693

Parameter	Units	50287016001		50287016002		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Dissolved Organic Carbon	mg/L	2.7	10	12.3	12.3	97	96	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Sample: AP-8 **Lab ID: 50287016001** Collected: 05/07/21 13:50 Received: 05/08/21 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.163 ± 0.440 (0.816) C:NA T:93%	pCi/L	06/10/21 14:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.17 ± 0.484 (0.799) C:77% T:91%	pCi/L	06/10/21 10:59	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.33 ± 0.924 (1.62)	pCi/L	06/14/21 09:02	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Sample: DUP 2 **Lab ID: 50287016002** Collected: 05/07/21 14:50 Received: 05/08/21 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.123 ± 0.380 (0.864) C:NA T:100%	pCi/L	06/10/21 14:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.465 ± 0.378 (0.750) C:72% T:88%	pCi/L	06/10/21 14:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.465 ± 0.758 (1.61)	pCi/L	06/14/21 09:02	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Sample: AP-8 RAD MS **Lab ID: 50287016003** Collected: 05/07/21 13:50 Received: 05/08/21 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	100.90 %REC ± NA (NA) C:NA T:NA	pCi/L	06/10/21 14:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	81.33 %REC ± NA (NA) C:NA T:NA	pCi/L	06/10/21 10:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	104.92 %REC 3.90 RPD ± NA (NA) C:NA T:NA	pCi/L	06/10/21 14:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	80.53 %REC 0.99 RPD ± NA (NA) C:NA T:NA	pCi/L	06/10/21 10:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: Field Blank Lab ID: 50287016005 Collected: 05/07/21 15:00 Received: 05/08/21 11:00 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0642 ± 0.333 (0.691) C:NA T:93%	pCi/L	06/10/21 14:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0848 ± 0.314 (0.712) C:77% T:87%	pCi/L	06/10/21 14:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.149 ± 0.647 (1.40)	pCi/L	06/14/21 09:02	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

QC Batch: 450381

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50287016001, 50287016002, 50287016003, 50287016004, 50287016005

METHOD BLANK: 2173647

Matrix: Water

Associated Lab Samples: 50287016001, 50287016002, 50287016003, 50287016004, 50287016005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0896 ± 0.248 (0.587) C:NA T:97%	pCi/L	06/10/21 14:06	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

2d	The initial calibration verification for this analyte is above laboratory acceptance limits. Analyte was not detected above the reporting limit in any of the associated samples.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
PL	The minimum mass of dried residue of 2.5 mg could not be obtained using the routine sample volume of 100 mL.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287016001	AP-8	EPA 9056	622073		
50287016002	DUP 2	EPA 9056	622073		
50287016005	Field Blank	EPA 9056	622073		
50287016001	AP-8	EPA 3010	620875	EPA 6010	621538
50287016002	DUP 2	EPA 3010	620875	EPA 6010	621538
50287016005	Field Blank	EPA 3010	620875	EPA 6010	621538
50287016001	AP-8	EPA 3010	620880	EPA 6010	621319
50287016002	DUP 2	EPA 3010	620880	EPA 6010	621319
50287016001	AP-8	EPA 200.2	620481	EPA 6020	620746
50287016002	DUP 2	EPA 200.2	620481	EPA 6020	620746
50287016005	Field Blank	EPA 200.2	620481	EPA 6020	620746
50287016001	AP-8	EPA 7470	621557	EPA 7470	621993
50287016002	DUP 2	EPA 7470	621557	EPA 7470	621993
50287016005	Field Blank	EPA 7470	621557	EPA 7470	621993
50287016001	AP-8	EPA 903.1	450381		
50287016002	DUP 2	EPA 903.1	450381		
50287016003	AP-8 RAD MS	EPA 903.1	450381		
50287016004	AP-8 RAD MSD	EPA 903.1	450381		
50287016005	Field Blank	EPA 903.1	450381		
50287016001	AP-8	EPA 904.0	450379		
50287016002	DUP 2	EPA 904.0	450379		
50287016003	AP-8 RAD MS	EPA 904.0	450379		
50287016004	AP-8 RAD MSD	EPA 904.0	450379		
50287016005	Field Blank	EPA 904.0	450379		
50287016001	AP-8	Total Radium Calculation	452242		
50287016002	DUP 2	Total Radium Calculation	452242		
50287016005	Field Blank	Total Radium Calculation	452242		
50287016001	AP-8	SM 2320B	620375		
50287016002	DUP 2	SM 2320B	620374		
50287016005	Field Blank	SM 2320B	620374		
50287016001	AP-8	SM 2540C	620265		
50287016002	DUP 2	SM 2540C	620265		
50287016005	Field Blank	SM 2540C	620265		
50287016001	AP-8	SM 4500-H+B	620744		
50287016002	DUP 2	SM 4500-H+B	620744		
50287016005	Field Blank	SM 4500-H+B	620744		
50287016001	AP-8	SM 4500-S2-D	620054		
50287016002	DUP 2	SM 4500-S2-D	620054		
50287016005	Field Blank	SM 4500-S2-D	620054		
50287016001	AP-8	HACH 8146	620720		
50287016002	DUP 2	HACH 8146	620720		
50287016005	Field Blank	HACH 8146	620720		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM-CCR Profile 2 Report 4

Pace Project No.: 50287016

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287016001	AP-8	EPA 353.2	619659		
50287016002	DUP 2	EPA 353.2	619659		
50287016005	Field Blank	EPA 353.2	619659		
50287016001	AP-8	EPA 365.1	621263	EPA 365.1	621481
50287016002	DUP 2	EPA 365.1	621263	EPA 365.1	621481
50287016005	Field Blank	EPA 365.1	621263	EPA 365.1	621481
50287016001	AP-8	SM 5310C	621317		
50287016002	DUP 2	SM 5310C	621317		
50287016005	Field Blank	SM 5310C	621317		
50287016001	AP-8	SM 5310C	621629		
50287016002	DUP 2	SM 5310C	621629		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DAP 5/8/21 1130

1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____
2. Custody Seal on Cooler/Box Present: Yes No
 (If yes)Seals Intact: Yes No (leave blank if no seals were present)
3. Thermometer: 1 2 3 4 5 6 A B C D E F
4. Cooler Temperature: 3.3/2.7, 2.4/1.8, 2.7/2.1
 Temp should be above freezing to 6°C (Initial/Corrected)

5. Packing Material: Bubble Wrap Bubble Bags
 None Other _____
6. Ice Type: Wet Blue None
7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis: <u>Nitrate</u>	/		Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	/		
Time 5035A TC placed in Freezer or Short Holds To Lab Time: <u>1150</u>			Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		/	Residual Chlorine Check (Total/Amenable/Free Cyanide)			/
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			/
Containers Intact?:	/		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Present?		/	
Extra labels on Terracore Vials? (soils only)		/	Trip Blank Custody Seals?:			/

COMMENTS:

Sample Container Count

Sample Line Item	WGJU	SBS DI BK Kit	R	DG9H	VG9H	VOA VIAL HS (≥6mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Matrix	pH <2	pH >9	pH >10	
				1 13																									
2 14													2			2	1	2	1	1	1		1			WT	✓	✓	
3 15													↓			↓	↓	↓	↓	↓	↓		↓			↓	↓	↓	
4 16													↓			↓	↓	↓	↓	↓	↓		↓			↓	↓	↓	
5 17													↓			↓	↓	↓	↓	↓	↓		↓			↓	↓	↓	
6 18													↓			↓	↓	↓	↓	↓	↓		↓			↓	↓	↓	
7 19																													
8 20																													
9 21																													
10 22																													
11 23																													
12 24																													

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac		
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic		
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic		
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic		
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic		
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic		
WGJU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic		
JGFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)		
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass				

July 08, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR/IDEM Profile 2 Report 4
Pace Project No.: 50287048

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Ms. Slawa Bruder, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50287048001	AP-1R	Water	05/08/21 11:15	05/10/21 08:30
50287048002	AP-2A	Water	05/08/21 12:40	05/10/21 08:30
50287048003	AP-2BO	Water	05/08/21 13:50	05/10/21 08:30
50287048004	AP-3	Water	05/08/21 15:05	05/10/21 08:30
50287048005	AP-3A	Water	05/08/21 15:45	05/10/21 08:30
50287048006	AP-4A	Water	05/08/21 16:35	05/10/21 08:30
50287048007	AP-4I	Water	05/08/21 17:10	05/10/21 08:30
50287048008	AP-7	Water	05/08/21 09:50	05/10/21 08:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50287048001	AP-1R	EPA 9056	RMR	3	PASI-I		
		EPA 6010	JDG	15	PASI-I		
		EPA 6010	JPK	2	PASI-I		
		EPA 6020	RAM	6	PASI-I		
		EPA 7470	LBT	1	PASI-I		
		EPA 903.1	MK1	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	RMK	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	WZE	1	PASI-I		
		SM 4500-H+B	WDB	1	PASI-I		
		SM 4500-S2-D	SWJ	1	PASI-I		
		HACH 8146	SWJ	1	PASI-I		
		EPA 353.2	SLB	2	PASI-I		
		EPA 365.1	SKK	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50287048002	AP-2A	EPA 9056	RMR	3	PASI-I
				EPA 6010	JDG	15	PASI-I
				EPA 6010	JPK	2	PASI-I
EPA 6020	RAM			6	PASI-I		
EPA 7470	LBT			1	PASI-I		
EPA 903.1	MK1			1	PASI-PA		
EPA 904.0	JC2			1	PASI-PA		
Total Radium Calculation	RMK			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	WZE			1	PASI-I		
SM 4500-H+B	WDB			1	PASI-I		
SM 4500-S2-D	SWJ			1	PASI-I		
HACH 8146	SWJ			1	PASI-I		
EPA 353.2	SLB			2	PASI-I		
EPA 365.1	SKK			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50287048003	AP-2BO			EPA 9056	RMR	3	PASI-I
				EPA 6010	JDG	15	PASI-I
				EPA 6010	JPK	2	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50287048004	AP-3	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50287048005	AP-3A	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50287048006	AP-4A	EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
SM 2540C	WZE	1	PASI-I		
SM 4500-H+B	WDB	1	PASI-I		
SM 4500-S2-D	SWJ	1	PASI-I		
HACH 8146	SWJ	1	PASI-I		
EPA 353.2	SLB	2	PASI-I		
EPA 365.1	SKK	1	PASI-I		
SM 5310C	GWA	1	PASI-I		
SM 5310C	GWA	1	PASI-I		
50287048007	AP-4I	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50287048008	AP-7	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287048001	AP-1R					
EPA 9056	Chloride	119	mg/L	25.0	05/23/21 00:33	
EPA 9056	Sulfate	976	mg/L	25.0	05/23/21 00:33	
EPA 6010	Aluminum	991	ug/L	200	05/19/21 12:29	
EPA 6010	Barium	68.7	ug/L	10.0	05/19/21 12:29	
EPA 6010	Boron	8520	ug/L	100	05/19/21 12:29	
EPA 6010	Calcium	428000	ug/L	5000	05/19/21 13:04	
EPA 6010	Iron	12300	ug/L	100	05/19/21 12:29	
EPA 6010	Magnesium	57800	ug/L	1000	05/19/21 12:29	
EPA 6010	Manganese	9020	ug/L	10.0	05/19/21 12:29	
EPA 6010	Molybdenum	15.0	ug/L	10.0	05/19/21 12:29	
EPA 6010	Potassium	2600	ug/L	1000	05/19/21 12:29	
EPA 6010	Silica	22800	ug/L	450	05/19/21 12:29	N2
EPA 6010	Sodium	49800	ug/L	1000	05/19/21 12:29	
EPA 6010	Manganese, Dissolved	8860	ug/L	10.0	05/19/21 04:17	
EPA 6010	Molybdenum, Dissolved	15.3	ug/L	10.0	05/19/21 04:17	
EPA 6020	Arsenic	1.8	ug/L	1.0	05/17/21 14:20	
EPA 903.1	Radium-226	0.375 ± 0.409 (0.643) C:NA T:102%	pCi/L		06/14/21 13:06	
EPA 904.0	Radium-228	0.624 ± 0.404 (0.770) C:75% T:92%	pCi/L		06/11/21 14:00	
Total Radium Calculation	Total Radium	0.999 ± 0.813 (1.41)	pCi/L		06/14/21 17:55	
SM 2320B	Alkalinity, Total as CaCO3	262	mg/L	2.0	05/13/21 12:54	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	262	mg/L	2.0	05/13/21 12:54	
SM 2540C	Total Dissolved Solids	1820	mg/L	20.0	05/13/21 10:23	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	05/14/21 10:51	H3
HACH 8146	Iron, Ferrous	3.5	mg/L	1.0	05/14/21 13:07	H3,N2
EPA 365.1	Phosphate as P04	2.0	mg/L	0.15	05/19/21 10:17	
50287048002	AP-2A					
EPA 9056	Chloride	106	mg/L	25.0	05/24/21 10:41	
EPA 9056	Fluoride	0.15	mg/L	0.10	05/24/21 10:25	
EPA 9056	Sulfate	1700	mg/L	25.0	05/24/21 10:41	
EPA 6010	Barium	45.3	ug/L	10.0	05/19/21 12:31	
EPA 6010	Boron	18200	ug/L	100	05/19/21 12:31	
EPA 6010	Calcium	594000	ug/L	5000	05/19/21 13:06	
EPA 6010	Iron	3910	ug/L	100	05/19/21 12:31	
EPA 6010	Lithium	64.6	ug/L	20.0	05/19/21 12:31	
EPA 6010	Magnesium	4240	ug/L	1000	05/19/21 12:31	
EPA 6010	Manganese	742	ug/L	10.0	05/19/21 12:31	
EPA 6010	Molybdenum	1920	ug/L	10.0	05/19/21 12:31	
EPA 6010	Potassium	43300	ug/L	1000	05/19/21 12:31	
EPA 6010	Silica	8130	ug/L	450	05/19/21 12:31	N2

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287048002	AP-2A					
EPA 6010	Sodium	48100	ug/L	1000	05/19/21 12:31	
EPA 6010	Manganese, Dissolved	736	ug/L	10.0	05/19/21 04:19	
EPA 6010	Molybdenum, Dissolved	1820	ug/L	10.0	05/19/21 04:19	
EPA 6020	Arsenic	2.7	ug/L	1.0	05/17/21 17:04	
EPA 903.1	Radium-226	0.169 ± 0.332 (0.607) C:NA T:100%	pCi/L		06/14/21 13:06	
EPA 904.0	Radium-228	1.06 ± 0.512 (0.904) C:75% T:88%	pCi/L		06/11/21 14:00	
Total Radium Calculation	Total Radium	1.23 ± 0.844 (1.51)	pCi/L		06/14/21 17:55	
SM 2320B	Alkalinity, Total as CaCO3	34.7	mg/L	2.0	05/13/21 12:54	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	34.7	mg/L	2.0	05/13/21 12:54	
SM 2540C	Total Dissolved Solids	2370	mg/L	40.0	05/13/21 10:24	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/14/21 10:52	H3
HACH 8146	Iron, Ferrous	0.74	mg/L	0.20	05/14/21 13:08	H3, N2
EPA 365.1	Phosphate as P04	0.61	mg/L	0.15	05/19/21 10:18	
50287048003	AP-2BO					
EPA 9056	Chloride	100	mg/L	25.0	05/24/21 11:14	
EPA 9056	Sulfate	1500	mg/L	25.0	05/24/21 11:14	
EPA 6010	Barium	25.4	ug/L	10.0	05/19/21 12:33	
EPA 6010	Boron	16800	ug/L	100	05/19/21 12:33	
EPA 6010	Calcium	570000	ug/L	5000	05/19/21 13:25	
EPA 6010	Iron	241	ug/L	100	05/19/21 12:33	
EPA 6010	Magnesium	39700	ug/L	1000	05/19/21 12:33	
EPA 6010	Manganese	2820	ug/L	10.0	05/19/21 12:33	
EPA 6010	Molybdenum	190	ug/L	10.0	05/19/21 12:33	
EPA 6010	Potassium	15100	ug/L	1000	05/19/21 12:33	
EPA 6010	Silica	11800	ug/L	450	05/19/21 12:33	N2
EPA 6010	Sodium	37000	ug/L	1000	05/19/21 12:33	
EPA 6010	Manganese, Dissolved	2550	ug/L	10.0	05/19/21 04:21	
EPA 6010	Molybdenum, Dissolved	173	ug/L	10.0	05/19/21 04:21	
EPA 6020	Arsenic	1.8	ug/L	1.0	05/17/21 17:09	
EPA 6020	Cobalt	3.5	ug/L	1.0	05/17/21 17:09	
EPA 903.1	Radium-226	0.267 ± 0.279 (0.393) C:NA T:100%	pCi/L		06/14/21 13:06	
EPA 904.0	Radium-228	0.809 ± 0.471 (0.885) C:76% T:92%	pCi/L		06/11/21 14:00	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287048003	AP-2BO					
Total Radium Calculation	Total Radium	1.08 ± 0.750 (1.28)	pCi/L		06/14/21 17:55	
SM 2320B	Alkalinity, Total as CaCO3	145	mg/L	2.0	05/13/21 12:54	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	145	mg/L	2.0	05/13/21 12:54	
SM 2540C	Total Dissolved Solids	2200	mg/L	40.0	05/13/21 10:25	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	05/14/21 10:55	H3
EPA 353.2	Nitrogen, Nitrate	0.13	mg/L	0.10	05/10/21 10:11	
SM 5310C	Total Organic Carbon	2.2	mg/L	1.0	05/19/21 02:19	
SM 5310C	Dissolved Organic Carbon	2.4	mg/L	1.0	05/20/21 02:55	
50287048004	AP-3					
EPA 9056	Chloride	47.4	mg/L	25.0	05/24/21 11:46	
EPA 9056	Sulfate	1050	mg/L	25.0	05/24/21 11:46	
EPA 6010	Barium	24.5	ug/L	10.0	05/19/21 12:37	
EPA 6010	Boron	4440	ug/L	100	05/19/21 12:37	
EPA 6010	Calcium	440000	ug/L	5000	05/19/21 13:27	
EPA 6010	Iron	215	ug/L	100	05/19/21 12:37	
EPA 6010	Magnesium	48800	ug/L	1000	05/19/21 12:37	
EPA 6010	Manganese	377	ug/L	10.0	05/19/21 12:37	
EPA 6010	Potassium	7290	ug/L	1000	05/19/21 12:37	
EPA 6010	Silica	14500	ug/L	450	05/19/21 12:37	N2
EPA 6010	Sodium	36800	ug/L	1000	05/19/21 12:37	
EPA 6010	Manganese, Dissolved	539	ug/L	10.0	05/19/21 04:23	
EPA 6020	Selenium	2.3	ug/L	1.0	05/17/21 17:13	
EPA 903.1	Radium-226	0.341 ± 0.524 (0.901)	pCi/L		06/14/21 13:06	
EPA 904.0	Radium-228	C:NA T:99% 0.115 ± 0.321 (0.720) C:77% T:89%	pCi/L		06/11/21 14:00	
Total Radium Calculation	Total Radium	0.456 ± 0.845 (1.62)	pCi/L		06/14/21 17:55	
SM 2320B	Alkalinity, Total as CaCO3	354	mg/L	2.0	05/13/21 12:54	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	354	mg/L	2.0	05/13/21 12:54	
SM 2540C	Total Dissolved Solids	1740	mg/L	20.0	05/13/21 10:25	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/14/21 11:00	H3
EPA 353.2	Nitrogen, Nitrate	3.6	mg/L	0.10	05/10/21 10:13	
EPA 365.1	Phosphate as P04	0.27	mg/L	0.15	05/19/21 10:19	
50287048005	AP-3A					
EPA 9056	Chloride	159	mg/L	25.0	05/24/21 12:51	
EPA 9056	Sulfate	1720	mg/L	25.0	05/24/21 12:51	
EPA 6010	Barium	35.2	ug/L	10.0	05/19/21 12:39	
EPA 6010	Boron	27200	ug/L	100	05/19/21 12:39	
EPA 6010	Calcium	694000	ug/L	5000	05/19/21 13:29	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287048005	AP-3A					
EPA 6010	Iron	6720	ug/L	100	05/19/21 12:39	
EPA 6010	Magnesium	19400	ug/L	1000	05/19/21 12:39	
EPA 6010	Manganese	2540	ug/L	10.0	05/19/21 12:39	
EPA 6010	Molybdenum	645	ug/L	10.0	05/19/21 12:39	
EPA 6010	Potassium	16000	ug/L	1000	05/19/21 12:39	
EPA 6010	Silica	11700	ug/L	450	05/19/21 12:39	N2
EPA 6010	Sodium	51400	ug/L	1000	05/19/21 12:39	
EPA 6010	Manganese, Dissolved	2470	ug/L	10.0	05/19/21 04:25	
EPA 6010	Molybdenum, Dissolved	632	ug/L	10.0	05/19/21 04:25	
EPA 6020	Arsenic	1.2	ug/L	1.0	05/17/21 17:17	
EPA 903.1	Radium-226	0.795 ± 0.629 (0.918) C:NA T:95%	pCi/L		06/14/21 13:47	
EPA 904.0	Radium-228	0.976 ± 0.453 (0.763) C:76% T:89%	pCi/L		06/11/21 14:00	
Total Radium Calculation	Total Radium	1.77 ± 1.08 (1.68)	pCi/L		06/14/21 17:55	
SM 2320B	Alkalinity, Total as CaCO3	54.7	mg/L	2.0	05/13/21 12:54	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	54.7	mg/L	2.0	05/13/21 12:54	
SM 2540C	Total Dissolved Solids	2740	mg/L	40.0	05/13/21 10:26	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/14/21 11:03	H3
HACH 8146	Iron, Ferrous	3.9	mg/L	2.0	05/14/21 13:09	H3,N2
EPA 365.1	Phosphate as P04	0.20	mg/L	0.15	05/19/21 10:20	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	05/19/21 13:38	
50287048006	AP-4A					
EPA 9056	Chloride	133	mg/L	25.0	05/24/21 13:24	
EPA 9056	Sulfate	1860	mg/L	25.0	05/24/21 13:24	
EPA 6010	Barium	31.0	ug/L	10.0	05/19/21 12:47	
EPA 6010	Boron	21200	ug/L	100	05/19/21 12:47	
EPA 6010	Calcium	627000	ug/L	5000	05/19/21 13:31	
EPA 6010	Iron	8440	ug/L	100	05/19/21 12:47	
EPA 6010	Lithium	36.6	ug/L	20.0	05/19/21 12:47	
EPA 6010	Magnesium	93500	ug/L	1000	05/19/21 12:47	
EPA 6010	Manganese	2640	ug/L	10.0	05/19/21 12:47	
EPA 6010	Molybdenum	222	ug/L	10.0	05/19/21 12:47	
EPA 6010	Potassium	17200	ug/L	1000	05/19/21 12:47	
EPA 6010	Silica	11800	ug/L	450	05/19/21 12:47	N2
EPA 6010	Sodium	59300	ug/L	1000	05/19/21 12:47	
EPA 6010	Manganese, Dissolved	2570	ug/L	10.0	05/19/21 04:28	
EPA 6010	Molybdenum, Dissolved	209	ug/L	10.0	05/19/21 04:28	
EPA 903.1	Radium-226	0.484 ± 0.438 (0.645) C:NA T:100%	pCi/L		06/14/21 13:47	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287048006	AP-4A					
EPA 904.0	Radium-228	0.568 ± 0.373 (0.705) C:77% T:90%	pCi/L		06/11/21 14:00	
Total Radium Calculation	Total Radium	1.05 ± 0.811 (1.35)	pCi/L		06/14/21 17:55	
SM 2320B	Alkalinity, Total as CaCO3	148	mg/L	2.0	05/13/21 12:54	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	148	mg/L	2.0	05/13/21 12:54	
SM 2540C	Total Dissolved Solids	2760	mg/L	40.0	05/13/21 10:26	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/14/21 11:26	H3
HACH 8146	Iron, Ferrous	5.6	mg/L	2.0	05/14/21 13:09	H3,N2
EPA 365.1	Phosphate as P04	0.26	mg/L	0.15	05/19/21 10:22	
50287048007	AP-4I					
EPA 9056	Chloride	103	mg/L	25.0	05/24/21 13:57	
EPA 9056	Fluoride	0.16	mg/L	0.10	05/24/21 13:40	
EPA 9056	Sulfate	1790	mg/L	25.0	05/24/21 13:57	
EPA 6010	Barium	26.1	ug/L	10.0	05/19/21 12:49	
EPA 6010	Boron	13100	ug/L	100	05/19/21 12:49	
EPA 6010	Calcium	644000	ug/L	5000	05/19/21 13:33	
EPA 6010	Iron	858	ug/L	100	05/19/21 12:49	
EPA 6010	Magnesium	23900	ug/L	1000	05/19/21 12:49	
EPA 6010	Manganese	4010	ug/L	10.0	05/19/21 12:49	
EPA 6010	Molybdenum	101	ug/L	10.0	05/19/21 12:49	
EPA 6010	Potassium	8900	ug/L	1000	05/19/21 12:49	
EPA 6010	Silica	9990	ug/L	450	05/19/21 12:49	N2
EPA 6010	Sodium	38400	ug/L	1000	05/19/21 12:49	
EPA 6010	Manganese, Dissolved	3990	ug/L	10.0	05/19/21 04:30	
EPA 6010	Molybdenum, Dissolved	105	ug/L	10.0	05/19/21 04:30	
EPA 6020	Cobalt	1.9	ug/L	1.0	05/17/21 17:35	
EPA 903.1	Radium-226	0.223 ± 0.464 (0.836) C:NA T:96%	pCi/L		06/14/21 13:47	
EPA 904.0	Radium-228	0.609 ± 0.407 (0.775) C:71% T:92%	pCi/L		06/11/21 14:00	
Total Radium Calculation	Total Radium	0.832 ± 0.871 (1.61)	pCi/L		06/14/21 17:55	
SM 2320B	Alkalinity, Total as CaCO3	98.1	mg/L	2.0	05/13/21 12:54	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	98.1	mg/L	2.0	05/13/21 12:54	
SM 2540C	Total Dissolved Solids	2540	mg/L	40.0	05/13/21 10:27	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/14/21 11:27	H3
50287048008	AP-7					
EPA 9056	Chloride	4.8	mg/L	0.25	05/24/21 14:13	

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SUMMARY OF DETECTION

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287048008	AP-7					
EPA 9056	Fluoride	0.12	mg/L	0.10	05/24/21 14:13	
EPA 9056	Sulfate	293	mg/L	25.0	05/24/21 14:46	
EPA 6010	Barium	79.5	ug/L	10.0	05/19/21 12:52	
EPA 6010	Boron	236	ug/L	100	05/19/21 12:52	
EPA 6010	Calcium	213000	ug/L	2000	05/19/21 13:35	
EPA 6010	Iron	36100	ug/L	100	05/19/21 12:52	
EPA 6010	Magnesium	65900	ug/L	1000	05/19/21 12:52	
EPA 6010	Manganese	1330	ug/L	10.0	05/19/21 12:52	
EPA 6010	Potassium	2650	ug/L	1000	05/19/21 12:52	
EPA 6010	Silica	27300	ug/L	450	05/19/21 12:52	N2
EPA 6010	Sodium	11500	ug/L	1000	05/19/21 12:52	
EPA 6010	Manganese, Dissolved	1360	ug/L	10.0	05/19/21 04:32	
EPA 6020	Arsenic	1.9	ug/L	1.0	05/17/21 17:39	
EPA 903.1	Radium-226	0.334 ± 0.403 (0.614)	pCi/L		06/11/21 14:58	
EPA 904.0	Radium-228	C:NA T:89% 0.341 ± 0.329 (0.670) C:68% T:82%	pCi/L		06/11/21 11:14	
Total Radium Calculation	Total Radium	0.675 ± 0.732 (1.28)	pCi/L		06/14/21 17:55	
SM 2320B	Alkalinity, Total as CaCO3	496	mg/L	2.0	05/13/21 12:54	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	496	mg/L	2.0	05/13/21 12:54	
SM 2540C	Total Dissolved Solids	930	mg/L	20.0	05/13/21 10:28	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/14/21 11:20	H3
HACH 8146	Iron, Ferrous	10.8	mg/L	5.0	05/14/21 13:10	H3,N2
EPA 365.1	Phosphate as P04	0.70	mg/L	0.15	05/19/21 10:23	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	05/20/21 06:04	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-1R	Lab ID: 50287048001	Collected: 05/08/21 11:15	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	119	mg/L	25.0	100		05/23/21 00:33	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/23/21 00:00	16984-48-8	
Sulfate	976	mg/L	25.0	100		05/23/21 00:33	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	991	ug/L	200	1	05/18/21 07:03	05/19/21 12:29	7429-90-5	
Barium	68.7	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:29	7440-39-3	
Boron	8520	ug/L	100	1	05/18/21 07:03	05/19/21 12:29	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:29	7440-43-9	
Calcium	428000	ug/L	5000	5	05/18/21 07:03	05/19/21 13:04	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:29	7440-47-3	
Iron	12300	ug/L	100	1	05/18/21 07:03	05/19/21 12:29	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:29	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:29	7439-93-2	
Magnesium	57800	ug/L	1000	1	05/18/21 07:03	05/19/21 12:29	7439-95-4	
Manganese	9020	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:29	7439-96-5	
Molybdenum	15.0	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:29	7439-98-7	
Potassium	2600	ug/L	1000	1	05/18/21 07:03	05/19/21 12:29	7440-09-7	
Silica	22800	ug/L	450	1	05/18/21 07:03	05/19/21 12:29	7631-86-9	N2
Sodium	49800	ug/L	1000	1	05/18/21 07:03	05/19/21 12:29	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	8860	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:17	7439-96-5	
Molybdenum, Dissolved	15.3	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:17	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 14:20	7440-36-0	
Arsenic	1.8	ug/L	1.0	1	05/13/21 08:34	05/17/21 14:20	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/13/21 08:34	05/18/21 18:50	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 14:20	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 14:20	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 14:20	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 10:56	05/19/21 18:34	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	262	mg/L	2.0	1		05/13/21 12:54		
Alkalinity, Bicarbonate (CaCO3)	262	mg/L	2.0	1		05/13/21 12:54		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-1R	Lab ID: 50287048001	Collected: 05/08/21 11:15	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	1820	mg/L	20.0	1		05/13/21 10:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.6	Std. Units	0.10	1		05/14/21 10:51		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 13:25	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	3.5	mg/L	1.0	5		05/14/21 13:07		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/10/21 10:08	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/10/21 10:08	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	2.0	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:17		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 01:58	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 02:15		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-2A	Lab ID: 50287048002	Collected: 05/08/21 12:40	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	106	mg/L	25.0	100		05/24/21 10:41	16887-00-6	
Fluoride	0.15	mg/L	0.10	1		05/24/21 10:25	16984-48-8	
Sulfate	1700	mg/L	25.0	100		05/24/21 10:41	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 07:03	05/19/21 12:31	7429-90-5	
Barium	45.3	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:31	7440-39-3	
Boron	18200	ug/L	100	1	05/18/21 07:03	05/19/21 12:31	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:31	7440-43-9	
Calcium	594000	ug/L	5000	5	05/18/21 07:03	05/19/21 13:06	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:31	7440-47-3	
Iron	3910	ug/L	100	1	05/18/21 07:03	05/19/21 12:31	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:31	7439-92-1	
Lithium	64.6	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:31	7439-93-2	
Magnesium	4240	ug/L	1000	1	05/18/21 07:03	05/19/21 12:31	7439-95-4	
Manganese	742	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:31	7439-96-5	
Molybdenum	1920	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:31	7439-98-7	
Potassium	43300	ug/L	1000	1	05/18/21 07:03	05/19/21 12:31	7440-09-7	
Silica	8130	ug/L	450	1	05/18/21 07:03	05/19/21 12:31	7631-86-9	N2
Sodium	48100	ug/L	1000	1	05/18/21 07:03	05/19/21 12:31	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	736	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:19	7439-96-5	
Molybdenum, Dissolved	1820	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:19	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:04	7440-36-0	
Arsenic	2.7	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:04	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/13/21 08:34	05/17/21 17:04	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:04	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:04	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:04	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 10:56	05/19/21 18:36	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	34.7	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Bicarbonate (CaCO3)	34.7	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-2A	Lab ID: 50287048002	Collected: 05/08/21 12:40	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2370	mg/L	40.0	1		05/13/21 10:24		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		05/14/21 10:52		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 13:25	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	0.74	mg/L	0.20	1		05/14/21 13:08		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/10/21 10:10	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/10/21 10:10	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.61	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:18		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 02:09	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 02:35		

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-2BO	Lab ID: 50287048003	Collected: 05/08/21 13:50	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	100	mg/L	25.0	100		05/24/21 11:14	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 10:57	16984-48-8	
Sulfate	1500	mg/L	25.0	100		05/24/21 11:14	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 07:03	05/19/21 12:33	7429-90-5	
Barium	25.4	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:33	7440-39-3	
Boron	16800	ug/L	100	1	05/18/21 07:03	05/19/21 12:33	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:33	7440-43-9	
Calcium	570000	ug/L	5000	5	05/18/21 07:03	05/19/21 13:25	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:33	7440-47-3	
Iron	241	ug/L	100	1	05/18/21 07:03	05/19/21 12:33	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:33	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:33	7439-93-2	
Magnesium	39700	ug/L	1000	1	05/18/21 07:03	05/19/21 12:33	7439-95-4	
Manganese	2820	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:33	7439-96-5	
Molybdenum	190	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:33	7439-98-7	
Potassium	15100	ug/L	1000	1	05/18/21 07:03	05/19/21 12:33	7440-09-7	
Silica	11800	ug/L	450	1	05/18/21 07:03	05/19/21 12:33	7631-86-9	N2
Sodium	37000	ug/L	1000	1	05/18/21 07:03	05/19/21 12:33	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	2550	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:21	7439-96-5	
Molybdenum, Dissolved	173	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:21	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:09	7440-36-0	
Arsenic	1.8	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:09	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/13/21 08:34	05/17/21 17:09	7440-41-7	
Cobalt	3.5	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:09	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:09	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:09	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 10:56	05/19/21 18:42	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	145	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Bicarbonate (CaCO3)	145	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-2BO	Lab ID: 50287048003	Collected: 05/08/21 13:50	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2200	mg/L	40.0	1		05/13/21 10:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.5	Std. Units	0.10	1		05/14/21 10:55		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 13:25	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 13:08		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	0.13	mg/L	0.10	1		05/10/21 10:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/10/21 10:11	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	2.2	mg/L	1.0	1		05/19/21 02:19	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	2.4	mg/L	1.0	1		05/20/21 02:55		

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-3	Lab ID: 50287048004	Collected: 05/08/21 15:05	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	47.4	mg/L	25.0	100		05/24/21 11:46	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 11:30	16984-48-8	
Sulfate	1050	mg/L	25.0	100		05/24/21 11:46	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 07:03	05/19/21 12:37	7429-90-5	
Barium	24.5	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:37	7440-39-3	
Boron	4440	ug/L	100	1	05/18/21 07:03	05/19/21 12:37	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:37	7440-43-9	
Calcium	440000	ug/L	5000	5	05/18/21 07:03	05/19/21 13:27	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:37	7440-47-3	
Iron	215	ug/L	100	1	05/18/21 07:03	05/19/21 12:37	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:37	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:37	7439-93-2	
Magnesium	48800	ug/L	1000	1	05/18/21 07:03	05/19/21 12:37	7439-95-4	
Manganese	377	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:37	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:37	7439-98-7	
Potassium	7290	ug/L	1000	1	05/18/21 07:03	05/19/21 12:37	7440-09-7	
Silica	14500	ug/L	450	1	05/18/21 07:03	05/19/21 12:37	7631-86-9	N2
Sodium	36800	ug/L	1000	1	05/18/21 07:03	05/19/21 12:37	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	539	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:23	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:23	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:13	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:13	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/13/21 08:34	05/17/21 17:13	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:13	7440-48-4	
Selenium	2.3	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:13	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:13	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 10:56	05/19/21 18:45	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	354	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Bicarbonate (CaCO3)	354	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-3	Lab ID: 50287048004	Collected: 05/08/21 15:05	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	1740	mg/L	20.0	1		05/13/21 10:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		05/14/21 11:00		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 13:25	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 13:09		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	3.6	mg/L	0.10	1		05/10/21 10:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/10/21 10:13	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.27	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 13:26	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 03:14		

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-3A	Lab ID: 50287048005	Collected: 05/08/21 15:45	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	159	mg/L	25.0	100		05/24/21 12:51	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 12:35	16984-48-8	
Sulfate	1720	mg/L	25.0	100		05/24/21 12:51	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 07:03	05/19/21 12:39	7429-90-5	
Barium	35.2	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:39	7440-39-3	
Boron	27200	ug/L	100	1	05/18/21 07:03	05/19/21 12:39	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:39	7440-43-9	
Calcium	694000	ug/L	5000	5	05/18/21 07:03	05/19/21 13:29	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:39	7440-47-3	
Iron	6720	ug/L	100	1	05/18/21 07:03	05/19/21 12:39	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:39	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:39	7439-93-2	
Magnesium	19400	ug/L	1000	1	05/18/21 07:03	05/19/21 12:39	7439-95-4	
Manganese	2540	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:39	7439-96-5	
Molybdenum	645	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:39	7439-98-7	
Potassium	16000	ug/L	1000	1	05/18/21 07:03	05/19/21 12:39	7440-09-7	
Silica	11700	ug/L	450	1	05/18/21 07:03	05/19/21 12:39	7631-86-9	N2
Sodium	51400	ug/L	1000	1	05/18/21 07:03	05/19/21 12:39	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	2470	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:25	7439-96-5	
Molybdenum, Dissolved	632	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:25	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:17	7440-36-0	
Arsenic	1.2	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:17	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/13/21 08:34	05/17/21 17:17	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:17	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:17	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:17	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 10:56	05/19/21 18:47	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	54.7	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Bicarbonate (CaCO3)	54.7	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-3A	Lab ID: 50287048005	Collected: 05/08/21 15:45	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2740	mg/L	40.0	1		05/13/21 10:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		05/14/21 11:03		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 13:25	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	3.9	mg/L	2.0	10		05/14/21 13:09		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/10/21 10:34	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/10/21 10:34	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.20	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.5	mg/L	1.0	1		05/19/21 13:38	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	2.0	2		05/20/21 17:17		D3

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-4A	Lab ID: 50287048006	Collected: 05/08/21 16:35	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	133	mg/L	25.0	100		05/24/21 13:24	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 13:08	16984-48-8	
Sulfate	1860	mg/L	25.0	100		05/24/21 13:24	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 07:03	05/19/21 12:47	7429-90-5	
Barium	31.0	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:47	7440-39-3	
Boron	21200	ug/L	100	1	05/18/21 07:03	05/19/21 12:47	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:47	7440-43-9	
Calcium	627000	ug/L	5000	5	05/18/21 07:03	05/19/21 13:31	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:47	7440-47-3	
Iron	8440	ug/L	100	1	05/18/21 07:03	05/19/21 12:47	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:47	7439-92-1	
Lithium	36.6	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:47	7439-93-2	
Magnesium	93500	ug/L	1000	1	05/18/21 07:03	05/19/21 12:47	7439-95-4	
Manganese	2640	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:47	7439-96-5	
Molybdenum	222	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:47	7439-98-7	
Potassium	17200	ug/L	1000	1	05/18/21 07:03	05/19/21 12:47	7440-09-7	
Silica	11800	ug/L	450	1	05/18/21 07:03	05/19/21 12:47	7631-86-9	N2
Sodium	59300	ug/L	1000	1	05/18/21 07:03	05/19/21 12:47	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	2570	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:28	7439-96-5	
Molybdenum, Dissolved	209	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:28	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:30	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:30	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/13/21 08:34	05/17/21 17:30	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:30	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:30	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:30	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 10:56	05/19/21 18:49	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	148	mg/L	2.0	1		05/13/21 12:54		
Alkalinity, Bicarbonate (CaCO3)	148	mg/L	2.0	1		05/13/21 12:54		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-4A	Lab ID: 50287048006	Collected: 05/08/21 16:35	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2760	mg/L	40.0	1		05/13/21 10:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		05/14/21 11:26		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 13:25	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	5.6	mg/L	2.0	10		05/14/21 13:09		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/10/21 10:24	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/10/21 10:24	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.26	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 13:50	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 04:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-4I	Lab ID: 50287048007	Collected: 05/08/21 17:10	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	103	mg/L	25.0	100		05/24/21 13:57	16887-00-6	
Fluoride	0.16	mg/L	0.10	1		05/24/21 13:40	16984-48-8	
Sulfate	1790	mg/L	25.0	100		05/24/21 13:57	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 07:03	05/19/21 12:49	7429-90-5	
Barium	26.1	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:49	7440-39-3	
Boron	13100	ug/L	100	1	05/18/21 07:03	05/19/21 12:49	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:49	7440-43-9	
Calcium	644000	ug/L	5000	5	05/18/21 07:03	05/19/21 13:33	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:49	7440-47-3	
Iron	858	ug/L	100	1	05/18/21 07:03	05/19/21 12:49	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:49	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:49	7439-93-2	
Magnesium	23900	ug/L	1000	1	05/18/21 07:03	05/19/21 12:49	7439-95-4	
Manganese	4010	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:49	7439-96-5	
Molybdenum	101	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:49	7439-98-7	
Potassium	8900	ug/L	1000	1	05/18/21 07:03	05/19/21 12:49	7440-09-7	
Silica	9990	ug/L	450	1	05/18/21 07:03	05/19/21 12:49	7631-86-9	N2
Sodium	38400	ug/L	1000	1	05/18/21 07:03	05/19/21 12:49	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	3990	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:30	7439-96-5	
Molybdenum, Dissolved	105	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:30	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:35	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:35	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/13/21 08:34	05/17/21 17:35	7440-41-7	
Cobalt	1.9	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:35	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:35	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:35	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 10:56	05/19/21 18:55	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	98.1	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Bicarbonate (CaCO3)	98.1	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-4I		Lab ID: 50287048007		Collected: 05/08/21 17:10	Received: 05/10/21 08:30	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	2540	mg/L	40.0	1		05/13/21 10:27		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.3	Std. Units	0.10	1		05/14/21 11:27		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		05/11/21 13:25	18496-25-8	
Iron, Ferrous		Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis						
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 13:10		H3,N2
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis						
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/10/21 10:26	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/10/21 10:26	14797-65-0	
365.1 Total Phosphorus		Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis						
Phosphate as P04	ND	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:22		
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 14:01	7440-44-0	
5310C Dissolved Organic Carbon		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 05:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-7	Lab ID: 50287048008	Collected: 05/08/21 09:50	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	4.8	mg/L	0.25	1		05/24/21 14:13	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		05/24/21 14:13	16984-48-8	
Sulfate	293	mg/L	25.0	100		05/24/21 14:46	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 07:03	05/19/21 12:52	7429-90-5	
Barium	79.5	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:52	7440-39-3	
Boron	236	ug/L	100	1	05/18/21 07:03	05/19/21 12:52	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:52	7440-43-9	
Calcium	213000	ug/L	2000	2	05/18/21 07:03	05/19/21 13:35	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:52	7440-47-3	
Iron	36100	ug/L	100	1	05/18/21 07:03	05/19/21 12:52	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:52	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:52	7439-93-2	
Magnesium	65900	ug/L	1000	1	05/18/21 07:03	05/19/21 12:52	7439-95-4	
Manganese	1330	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:52	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:52	7439-98-7	
Potassium	2650	ug/L	1000	1	05/18/21 07:03	05/19/21 12:52	7440-09-7	
Silica	27300	ug/L	450	1	05/18/21 07:03	05/19/21 12:52	7631-86-9	N2
Sodium	11500	ug/L	1000	1	05/18/21 07:03	05/19/21 12:52	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	1360	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:32	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/17/21 13:21	05/19/21 04:32	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:39	7440-36-0	
Arsenic	1.9	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:39	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/13/21 08:34	05/17/21 17:39	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:39	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:39	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/21 08:34	05/17/21 17:39	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 10:56	05/19/21 18:57	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	496	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Bicarbonate (CaCO3)	496	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-7	Lab ID: 50287048008	Collected: 05/08/21 09:50	Received: 05/10/21 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	930	mg/L	20.0	1		05/13/21 10:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		05/14/21 11:20		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 13:25	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	10.8	mg/L	5.0	25		05/14/21 13:10		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/10/21 10:06	14797-55-8	H3
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/10/21 10:06	14797-65-0	H3
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.70	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 14:11	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.0	mg/L	1.0	1		05/20/21 06:04		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch: 622073

Analysis Method: EPA 9056

QC Batch Method: EPA 9056

Analysis Description: 9056 IC Anions

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048001

METHOD BLANK: 2866917

Matrix: Water

Associated Lab Samples: 50287048001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/21/21 15:26	
Fluoride	mg/L	ND	0.10	05/21/21 15:26	
Sulfate	mg/L	ND	0.25	05/21/21 15:26	

LABORATORY CONTROL SAMPLE: 2866918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	95	80-120	
Fluoride	mg/L	0.5	0.49	97	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2866919 2866920

Parameter	Units	50287016001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	11.7	1.2	1.2	12.8	13.0	90	108	80-120	2	15	E
Fluoride	mg/L	1.6	0.5	0.5	2.1	2.1	96	94	80-120	1	15	
Sulfate	mg/L	778	250	250	1000	997	89	88	80-120	0	15	

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	622232	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

METHOD BLANK: 2867990 Matrix: Water
Associated Lab Samples: 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/24/21 16:56	
Fluoride	mg/L	ND	0.10	05/24/21 16:56	
Sulfate	mg/L	ND	0.25	05/24/21 16:56	

LABORATORY CONTROL SAMPLE: 2867991

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	96	80-120	
Fluoride	mg/L	0.5	0.48	95	80-120	
Sulfate	mg/L	2.5	2.5	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2867992 2867993

Parameter	Units	50287048004		2867992		2867993		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Chloride	mg/L	47.4	125	125	165	163	94	93	80-120	1	15		
Fluoride	mg/L	ND	0.5	0.5	0.45	0.45	77	77	80-120	0	15	M0	
Sulfate	mg/L	1050	250	250	1140	1130	38	33	80-120	1	15	M0	

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	620583	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

METHOD BLANK: 2859789 Matrix: Water

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	05/19/21 18:30	

LABORATORY CONTROL SAMPLE: 2859790

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859791 2859792

Parameter	Units	50287048002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.7	4.8	95	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	620875	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

METHOD BLANK: 2861706 Matrix: Water

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/19/21 11:54	
Barium	ug/L	ND	10.0	05/19/21 11:54	
Boron	ug/L	ND	100	05/19/21 11:54	
Cadmium	ug/L	ND	2.0	05/19/21 11:54	
Calcium	ug/L	ND	1000	05/19/21 11:54	
Chromium	ug/L	ND	10.0	05/19/21 11:54	
Iron	ug/L	ND	100	05/19/21 11:54	
Lead	ug/L	ND	10.0	05/19/21 11:54	
Lithium	ug/L	ND	20.0	05/19/21 11:54	
Magnesium	ug/L	ND	1000	05/19/21 11:54	
Manganese	ug/L	ND	10.0	05/19/21 11:54	
Molybdenum	ug/L	ND	10.0	05/19/21 11:54	
Potassium	ug/L	ND	1000	05/19/21 11:54	
Silica	ug/L	ND	450	05/19/21 11:54	N2
Sodium	ug/L	ND	1000	05/19/21 11:54	

LABORATORY CONTROL SAMPLE: 2861707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	80-120	
Barium	ug/L	1000	988	99	80-120	
Boron	ug/L	1000	1010	101	80-120	
Cadmium	ug/L	1000	986	99	80-120	
Calcium	ug/L	10000	10200	102	80-120	
Chromium	ug/L	1000	984	98	80-120	
Iron	ug/L	10000	9930	99	80-120	
Lead	ug/L	1000	972	97	80-120	
Lithium	ug/L	1000	1010	101	80-120	
Magnesium	ug/L	10000	9870	99	80-120	
Manganese	ug/L	1000	973	97	80-120	
Molybdenum	ug/L	1000	1020	102	80-120	
Potassium	ug/L	10000	10200	102	80-120	
Silica	ug/L	10700	9890	92	80-120	N2
Sodium	ug/L	10000	10300	103	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Parameter	Units	2861708			2861709			% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		50287016001	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
Aluminum	ug/L	1760	10000	10000	11900	11800	101	100	75-125	1	20			
Barium	ug/L	15.1	1000	1000	998	994	98	98	75-125	0	20			
Boron	ug/L	510	1000	1000	1520	1500	101	99	75-125	2	20			
Cadmium	ug/L	10.5	1000	1000	1000	1000	99	99	75-125	0	20			
Calcium	ug/L	150000	10000	10000	162000	157000	123	73	75-125	3	20	P6		
Chromium	ug/L	ND	1000	1000	968	974	96	97	75-125	1	20			
Iron	ug/L	99100	10000	10000	110000	107000	109	77	75-125	3	20			
Lead	ug/L	ND	1000	1000	950	954	95	95	75-125	0	20			
Lithium	ug/L	74.3	1000	1000	1130	1120	106	105	75-125	1	20			
Magnesium	ug/L	50200	10000	10000	60600	59000	104	88	75-125	3	20			
Manganese	ug/L	10400	1000	1000	11300	11100	97	74	75-125	2	20	P6		
Molybdenum	ug/L	ND	1000	1000	1010	1010	101	101	75-125	0	20			
Potassium	ug/L	3440	10000	10000	14000	13900	106	104	75-125	1	20			
Silica	ug/L	48200	10700	10700	61700	59100	126	103		4		N2		
Sodium	ug/L	11600	10000	10000	22300	21800	107	103	75-125	2	20			

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	620254	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008		

METHOD BLANK:	2858238	Matrix:	Water
Associated Lab Samples:	50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/19/21 03:34	
Molybdenum, Dissolved	ug/L	ND	10.0	05/19/21 03:34	

LABORATORY CONTROL SAMPLE:	2858239					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	952	95	80-120	
Molybdenum, Dissolved	ug/L	1000	998	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2858240			2858241								
Parameter	Units	50286949010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	118	1000	1000	1030	1050	91	93	75-125	2	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	976	997	97	99	75-125	2	20	

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	620408	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
Associated Lab Samples:		Laboratory:	Pace Analytical Services - Indianapolis
50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008			

METHOD BLANK:	2859025	Matrix:	Water
Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008			

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/17/21 13:15	
Arsenic	ug/L	ND	1.0	05/17/21 13:15	
Beryllium	ug/L	ND	0.20	05/17/21 13:15	
Cobalt	ug/L	ND	1.0	05/17/21 13:15	
Selenium	ug/L	ND	1.0	05/17/21 13:15	
Thallium	ug/L	ND	1.0	05/17/21 13:15	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	43.0	107	80-120	
Arsenic	ug/L	40	40.1	100	80-120	
Beryllium	ug/L	40	38.8	97	80-120	
Cobalt	ug/L	40	41.5	104	80-120	
Selenium	ug/L	40	41.4	103	80-120	
Thallium	ug/L	40	41.5	104	80-120	

Parameter	Units	2859027		2859028		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50287048001 Result	MS Spike Conc.	MSD Spike Conc.									
Antimony	ug/L	ND	40	40	38.6	39.5	96	98	75-125	2	20		
Arsenic	ug/L	1.8	40	40	40.6	40.2	97	96	75-125	1	20		
Beryllium	ug/L	ND	40	40	39.5	39.2	99	98	75-125	1	20		
Cobalt	ug/L	ND	40	40	38.9	38.3	95	93	75-125	1	20		
Selenium	ug/L	ND	40	40	38.3	39.7	95	98	75-125	3	20		
Thallium	ug/L	ND	40	40	41.9	42.2	105	106	75-125	1	20		

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	620375	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008		

METHOD BLANK:	2858908	Matrix:	Water
Associated Lab Samples:	50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/13/21 12:54	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/13/21 12:54	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/13/21 12:54	

LABORATORY CONTROL SAMPLE: 2858909						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	46.9	94	90-110	

SAMPLE DUPLICATE: 2858910						
Parameter	Units	50286942004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	587	590	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	587	590	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2858911						
Parameter	Units	50287016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	11.4	10.9	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	11.4	10.9	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	620508	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

METHOD BLANK: 2859466 Matrix: Water

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/13/21 10:21	

LABORATORY CONTROL SAMPLE: 2859467

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	283	94	80-120	

SAMPLE DUPLICATE: 2859468

Parameter	Units	50287048001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1820	1840	1	10	

SAMPLE DUPLICATE: 2859469

Parameter	Units	50287048002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2370	2300	3	10	

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	620744	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005

SAMPLE DUPLICATE: 2860852

Parameter	Units	50287419005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.3	8.3	0	2	H3

SAMPLE DUPLICATE: 2860853

Parameter	Units	50287016001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.2	5.2	1	2	H3

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	620748	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048006, 50287048007, 50287048008

SAMPLE DUPLICATE: 2860865

Parameter	Units	50287048008 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	6.9	1	2	H3

SAMPLE DUPLICATE: 2860866

Parameter	Units	50287329001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.3	8.3	0	2	H3

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	619957	Analysis Method:	SM 4500-S2-D
QC Batch Method:	SM 4500-S2-D	Analysis Description:	4500S2D Sulfide Water
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

METHOD BLANK: 2857021 Matrix: Water

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/11/21 13:25	

LABORATORY CONTROL SAMPLE: 2857022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.46	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857023 2857024

Parameter	Units	50287011001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.47	0.47	94	94	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857025 2857026

Parameter	Units	50287011002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.50	0.48	96	92	90-110	4	20	

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	620723	Analysis Method:	HACH 8146
QC Batch Method:	HACH 8146	Analysis Description:	Iron, Ferrous
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

METHOD BLANK: 2860771 Matrix: Water

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/14/21 13:07	H3,N2

LABORATORY CONTROL SAMPLE: 2860772

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	103	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860773 2860774

Parameter	Units	50287048002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	0.74	2	2	2.5	2.5	88	87	90-110	1	20	H3,M3,N2

MATRIX SPIKE SAMPLE: 2860775

Parameter	Units	50287126003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	5.8	10	16.0	102	90-110	H3,N2

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	619755	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008		

METHOD BLANK:	2856472	Matrix:	Water
Associated Lab Samples:	50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/10/21 10:02	
Nitrogen, Nitrite	mg/L	ND	0.10	05/10/21 10:02	

LABORATORY CONTROL SAMPLE:	2856473					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.1	108	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2856474			2856475									
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50287048004 Result	Spike Conc.	Spike Conc.	Conc.								
Nitrogen, Nitrate	mg/L	3.6	2	2	2	5.7	5.6	105	103	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	2	2	2	2.2	2.2	111	111	90-110	0	20 M3	

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	621261	Analysis Method:	EPA 365.1
QC Batch Method:	EPA 365.1	Analysis Description:	365.1 Total Phosphorus
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008		

METHOD BLANK:	2863075	Matrix:	Water
Associated Lab Samples:	50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007, 50287048008		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/19/21 10:07	

LABORATORY CONTROL SAMPLE:	2863076					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2863077			2863078								
Parameter	Units	50287011002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	0.80			2.5	2.3					5	

MATRIX SPIKE SAMPLE:	2863079										
Parameter	Units	50287048008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
Phosphate as P04	mg/L		0.70		2.3						

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	621317	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50287048001, 50287048002, 50287048003		

METHOD BLANK: 2863315 Matrix: Water
Associated Lab Samples: 50287048001, 50287048002, 50287048003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/18/21 20:18	

LABORATORY CONTROL SAMPLE: 2863316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863317 2863318

Parameter	Units	50287011001		50287011002		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Total Organic Carbon	mg/L	1.2	10	10	11.0	10.9	98	97	80-120	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863319 2863320

Parameter	Units	50287011002		50287011002		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Total Organic Carbon	mg/L	3.0	10	10	12.8	12.6	98	97	80-120	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863321 2863322

Parameter	Units	50287016001		50287016001		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Total Organic Carbon	mg/L	2.3	10	10	12.2	12.2	99	99	80-120	0	20		

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	621318	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

METHOD BLANK: 2863330 Matrix: Water
Associated Lab Samples: 50287048004, 50287048005, 50287048006, 50287048007, 50287048008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/19/21 13:06	

LABORATORY CONTROL SAMPLE: 2863331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863332 2863333

Parameter	Units	50287048008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	ND	10	10	10.4	10.3	98	97	80-120	1	20	

MATRIX SPIKE SAMPLE: 2863334

Parameter	Units	50287087002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	8.0	10	18.4	103	80-120	

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	621629	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Dissolved Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006

METHOD BLANK: 2864686 Matrix: Water
Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/19/21 17:11	

LABORATORY CONTROL SAMPLE: 2864687

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864688 2864689

Parameter	Units	50287011001		50287011002		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result						
Dissolved Organic Carbon	mg/L	1.5	10	10	11.3	11.2	98	97	80-120	0	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864690 2864691

Parameter	Units	50287011002		50287011003		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result						
Dissolved Organic Carbon	mg/L	2.9	10	10	12.4	12.5	95	96	80-120	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864692 2864693

Parameter	Units	50287016001		50287016002		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result						
Dissolved Organic Carbon	mg/L	2.7	10	10	12.3	12.3	97	96	80-120	0	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	621630	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Dissolved Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287048007, 50287048008

METHOD BLANK: 2864694 Matrix: Water
Associated Lab Samples: 50287048007, 50287048008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/20/21 04:20	

LABORATORY CONTROL SAMPLE: 2864695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864696 2864697

Parameter	Units	50287126005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	10	10	9.4	9.5	94	95	80-120	1	20	

MATRIX SPIKE SAMPLE: 2864698

Parameter	Units	50287134004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	ND	10	9.9	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-1R **Lab ID: 50287048001** Collected: 05/08/21 11:15 Received: 05/10/21 08:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.375 ± 0.409 (0.643) C:NA T:102%	pCi/L	06/14/21 13:06	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.624 ± 0.404 (0.770) C:75% T:92%	pCi/L	06/11/21 14:00	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.999 ± 0.813 (1.41)	pCi/L	06/14/21 17:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-2A **Lab ID: 50287048002** Collected: 05/08/21 12:40 Received: 05/10/21 08:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.169 ± 0.332 (0.607) C:NA T:100%	pCi/L	06/14/21 13:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.06 ± 0.512 (0.904) C:75% T:88%	pCi/L	06/11/21 14:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.23 ± 0.844 (1.51)	pCi/L	06/14/21 17:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-2BO **Lab ID: 50287048003** Collected: 05/08/21 13:50 Received: 05/10/21 08:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.267 ± 0.279 (0.393) C:NA T:100%	pCi/L	06/14/21 13:06	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.809 ± 0.471 (0.885) C:76% T:92%	pCi/L	06/11/21 14:00	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.08 ± 0.750 (1.28)	pCi/L	06/14/21 17:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-3 **Lab ID: 50287048004** Collected: 05/08/21 15:05 Received: 05/10/21 08:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.341 ± 0.524 (0.901) C:NA T:99%	pCi/L	06/14/21 13:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.115 ± 0.321 (0.720) C:77% T:89%	pCi/L	06/11/21 14:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.456 ± 0.845 (1.62)	pCi/L	06/14/21 17:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-3A **Lab ID: 50287048005** Collected: 05/08/21 15:45 Received: 05/10/21 08:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.795 ± 0.629 (0.918) C:NA T:95%	pCi/L	06/14/21 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.976 ± 0.453 (0.763) C:76% T:89%	pCi/L	06/11/21 14:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.77 ± 1.08 (1.68)	pCi/L	06/14/21 17:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-4A **Lab ID: 50287048006** Collected: 05/08/21 16:35 Received: 05/10/21 08:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.484 ± 0.438 (0.645) C:NA T:100%	pCi/L	06/14/21 13:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.568 ± 0.373 (0.705) C:77% T:90%	pCi/L	06/11/21 14:00	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.05 ± 0.811 (1.35)	pCi/L	06/14/21 17:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-4I **Lab ID: 50287048007** Collected: 05/08/21 17:10 Received: 05/10/21 08:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.223 ± 0.464 (0.836) C:NA T:96%	pCi/L	06/14/21 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.609 ± 0.407 (0.775) C:71% T:92%	pCi/L	06/11/21 14:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.832 ± 0.871 (1.61)	pCi/L	06/14/21 17:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Sample: AP-7 **Lab ID: 50287048008** Collected: 05/08/21 09:50 Received: 05/10/21 08:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.334 ± 0.403 (0.614) C:NA T:89%	pCi/L	06/11/21 14:58	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.341 ± 0.329 (0.670) C:68% T:82%	pCi/L	06/11/21 11:14	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.675 ± 0.732 (1.28)	pCi/L	06/14/21 17:55	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch: 450383

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50287048008

METHOD BLANK: 2173651

Matrix: Water

Associated Lab Samples: 50287048008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.120 ± 0.274 (0.647) C:NA T:101%	pCi/L	06/11/21 14:18	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	450386	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007

METHOD BLANK: 2173656 Matrix: Water

Associated Lab Samples: 50287048001, 50287048002, 50287048003, 50287048004, 50287048005, 50287048006, 50287048007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0436 ± 0.226 (0.524) C:NA T:99%	pCi/L	06/14/21 13:06	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

QC Batch:	450382	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 50287048008

METHOD BLANK:	2173650	Matrix:	Water
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Associated Lab Samples: 50287048008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.223 ± 0.304 (0.650) C:73% T:90%	pCi/L	06/11/21 11:19	

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QUALIFIERS

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287048001	AP-1R	EPA 9056	622073		
50287048002	AP-2A	EPA 9056	622232		
50287048003	AP-2BO	EPA 9056	622232		
50287048004	AP-3	EPA 9056	622232		
50287048005	AP-3A	EPA 9056	622232		
50287048006	AP-4A	EPA 9056	622232		
50287048007	AP-4I	EPA 9056	622232		
50287048008	AP-7	EPA 9056	622232		
50287048001	AP-1R	EPA 3010	620875	EPA 6010	621538
50287048002	AP-2A	EPA 3010	620875	EPA 6010	621538
50287048003	AP-2BO	EPA 3010	620875	EPA 6010	621538
50287048004	AP-3	EPA 3010	620875	EPA 6010	621538
50287048005	AP-3A	EPA 3010	620875	EPA 6010	621538
50287048006	AP-4A	EPA 3010	620875	EPA 6010	621538
50287048007	AP-4I	EPA 3010	620875	EPA 6010	621538
50287048008	AP-7	EPA 3010	620875	EPA 6010	621538
50287048001	AP-1R	EPA 3010	620254	EPA 6010	621448
50287048002	AP-2A	EPA 3010	620254	EPA 6010	621448
50287048003	AP-2BO	EPA 3010	620254	EPA 6010	621448
50287048004	AP-3	EPA 3010	620254	EPA 6010	621448
50287048005	AP-3A	EPA 3010	620254	EPA 6010	621448
50287048006	AP-4A	EPA 3010	620254	EPA 6010	621448
50287048007	AP-4I	EPA 3010	620254	EPA 6010	621448
50287048008	AP-7	EPA 3010	620254	EPA 6010	621448
50287048001	AP-1R	EPA 200.2	620408	EPA 6020	620701
50287048002	AP-2A	EPA 200.2	620408	EPA 6020	620701
50287048003	AP-2BO	EPA 200.2	620408	EPA 6020	620701
50287048004	AP-3	EPA 200.2	620408	EPA 6020	620701
50287048005	AP-3A	EPA 200.2	620408	EPA 6020	620701
50287048006	AP-4A	EPA 200.2	620408	EPA 6020	620701
50287048007	AP-4I	EPA 200.2	620408	EPA 6020	620701
50287048008	AP-7	EPA 200.2	620408	EPA 6020	620701
50287048001	AP-1R	EPA 7470	620583	EPA 7470	621705
50287048002	AP-2A	EPA 7470	620583	EPA 7470	621705
50287048003	AP-2BO	EPA 7470	620583	EPA 7470	621705
50287048004	AP-3	EPA 7470	620583	EPA 7470	621705
50287048005	AP-3A	EPA 7470	620583	EPA 7470	621705
50287048006	AP-4A	EPA 7470	620583	EPA 7470	621705
50287048007	AP-4I	EPA 7470	620583	EPA 7470	621705
50287048008	AP-7	EPA 7470	620583	EPA 7470	621705
50287048001	AP-1R	EPA 903.1	450386		
50287048002	AP-2A	EPA 903.1	450386		
50287048003	AP-2BO	EPA 903.1	450386		
50287048004	AP-3	EPA 903.1	450386		
50287048005	AP-3A	EPA 903.1	450386		
50287048006	AP-4A	EPA 903.1	450386		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287048007	AP-4I	EPA 903.1	450386		
50287048008	AP-7	EPA 903.1	450383		
50287048001	AP-1R	EPA 904.0	450385		
50287048002	AP-2A	EPA 904.0	450385		
50287048003	AP-2BO	EPA 904.0	450385		
50287048004	AP-3	EPA 904.0	450385		
50287048005	AP-3A	EPA 904.0	450385		
50287048006	AP-4A	EPA 904.0	450385		
50287048007	AP-4I	EPA 904.0	450385		
50287048008	AP-7	EPA 904.0	450382		
50287048001	AP-1R	Total Radium Calculation	452347		
50287048002	AP-2A	Total Radium Calculation	452347		
50287048003	AP-2BO	Total Radium Calculation	452347		
50287048004	AP-3	Total Radium Calculation	452347		
50287048005	AP-3A	Total Radium Calculation	452347		
50287048006	AP-4A	Total Radium Calculation	452347		
50287048007	AP-4I	Total Radium Calculation	452347		
50287048008	AP-7	Total Radium Calculation	452347		
50287048001	AP-1R	SM 2320B	620375		
50287048002	AP-2A	SM 2320B	620375		
50287048003	AP-2BO	SM 2320B	620375		
50287048004	AP-3	SM 2320B	620375		
50287048005	AP-3A	SM 2320B	620375		
50287048006	AP-4A	SM 2320B	620375		
50287048007	AP-4I	SM 2320B	620375		
50287048008	AP-7	SM 2320B	620375		
50287048001	AP-1R	SM 2540C	620508		
50287048002	AP-2A	SM 2540C	620508		
50287048003	AP-2BO	SM 2540C	620508		
50287048004	AP-3	SM 2540C	620508		
50287048005	AP-3A	SM 2540C	620508		
50287048006	AP-4A	SM 2540C	620508		
50287048007	AP-4I	SM 2540C	620508		
50287048008	AP-7	SM 2540C	620508		
50287048001	AP-1R	SM 4500-H+B	620744		
50287048002	AP-2A	SM 4500-H+B	620744		
50287048003	AP-2BO	SM 4500-H+B	620744		
50287048004	AP-3	SM 4500-H+B	620744		
50287048005	AP-3A	SM 4500-H+B	620744		
50287048006	AP-4A	SM 4500-H+B	620748		
50287048007	AP-4I	SM 4500-H+B	620748		
50287048008	AP-7	SM 4500-H+B	620748		
50287048001	AP-1R	SM 4500-S2-D	619957		
50287048002	AP-2A	SM 4500-S2-D	619957		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287048003	AP-2BO	SM 4500-S2-D	619957		
50287048004	AP-3	SM 4500-S2-D	619957		
50287048005	AP-3A	SM 4500-S2-D	619957		
50287048006	AP-4A	SM 4500-S2-D	619957		
50287048007	AP-4I	SM 4500-S2-D	619957		
50287048008	AP-7	SM 4500-S2-D	619957		
50287048001	AP-1R	HACH 8146	620723		
50287048002	AP-2A	HACH 8146	620723		
50287048003	AP-2BO	HACH 8146	620723		
50287048004	AP-3	HACH 8146	620723		
50287048005	AP-3A	HACH 8146	620723		
50287048006	AP-4A	HACH 8146	620723		
50287048007	AP-4I	HACH 8146	620723		
50287048008	AP-7	HACH 8146	620723		
50287048001	AP-1R	EPA 353.2	619755		
50287048002	AP-2A	EPA 353.2	619755		
50287048003	AP-2BO	EPA 353.2	619755		
50287048004	AP-3	EPA 353.2	619755		
50287048005	AP-3A	EPA 353.2	619755		
50287048006	AP-4A	EPA 353.2	619755		
50287048007	AP-4I	EPA 353.2	619755		
50287048008	AP-7	EPA 353.2	619755		
50287048001	AP-1R	EPA 365.1	621261	EPA 365.1	621480
50287048002	AP-2A	EPA 365.1	621261	EPA 365.1	621480
50287048003	AP-2BO	EPA 365.1	621261	EPA 365.1	621480
50287048004	AP-3	EPA 365.1	621261	EPA 365.1	621480
50287048005	AP-3A	EPA 365.1	621261	EPA 365.1	621480
50287048006	AP-4A	EPA 365.1	621261	EPA 365.1	621480
50287048007	AP-4I	EPA 365.1	621261	EPA 365.1	621480
50287048008	AP-7	EPA 365.1	621261	EPA 365.1	621480
50287048001	AP-1R	SM 5310C	621317		
50287048002	AP-2A	SM 5310C	621317		
50287048003	AP-2BO	SM 5310C	621317		
50287048004	AP-3	SM 5310C	621318		
50287048005	AP-3A	SM 5310C	621318		
50287048006	AP-4A	SM 5310C	621318		
50287048007	AP-4I	SM 5310C	621318		
50287048008	AP-7	SM 5310C	621318		
50287048001	AP-1R	SM 5310C	621629		
50287048002	AP-2A	SM 5310C	621629		
50287048003	AP-2BO	SM 5310C	621629		
50287048004	AP-3	SM 5310C	621629		
50287048005	AP-3A	SM 5310C	621629		
50287048006	AP-4A	SM 5310C	621629		
50287048007	AP-4I	SM 5310C	621630		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR/IDEM Profile 2 Report 4

Pace Project No.: 50287048

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287048008	AP-7	SM 5310C	621630		

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MS 5/15/21 0835

- 1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____
- 2. Custody Seal on Cooler/Box Present: Yes No
(If yes)Seals Intact: Yes No (leave blank if no seals were present)
- 3. Thermometer: 1 2 3 4 5 6 A B C D E F
- 4. Cooler Temperature: 1.6/1.6 1.2/1.2 1.5/1.5 1.3/1.3
Temp should be above freezing to 6°C (Initial/Corrected)

- 5. Packing Material: Bubble Wrap Bubble Bags
 None Other _____
- 6. Ice Type: Wet Blue None
- 7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		<input checked="" type="checkbox"/>	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis: <u>MS</u>	<input checked="" type="checkbox"/>		Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> <u>NaOH (>10)</u> <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	<input checked="" type="checkbox"/>		
Time 5035A TC placed in Freezer or Short Holds To Lab		Time: <u>0850</u>	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>Present</u>	<u>Absent</u>	<u>N/A</u>
Rush TAT Requested (4 days or less):		<input checked="" type="checkbox"/>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			<input checked="" type="checkbox"/>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<input checked="" type="checkbox"/>
Containers Intact?:	<input checked="" type="checkbox"/>		Headspace in VOA Vials (>6mm): See Container Count form for details	<u>Present</u>	<u>Absent</u>	<u>No VOA Vials Sent</u>
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<input checked="" type="checkbox"/>		Trip Blank Present?		<input checked="" type="checkbox"/>	
Extra labels on Terracore Vials? (soils only)		<input checked="" type="checkbox"/>	Trip Blank Custody Seals?:		<input checked="" type="checkbox"/>	

COMMENTS:

Sample Container Count

Sample Line Item	WGUFU	SBS DI BK Kit	R	DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Matrix	pH <2	pH >9	pH >10
				1																2	1	2	1	1	1		1	
2																↓	↓	↓	↓	↓	↓		↓					
3																												
4																												
5																												
6																												
7																↓	↓	↓	↓	↓	↓		↓					
8																												
9																												
10																												
11																												
12																												

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic	C	Air Cassettes
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic	R	Terra core kit
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic	SP5T	120mL Coliform Na Thiosulfate
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic	U	Summa Can
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic	ZPLC	Ziploc Bag
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic	WT	Water
WGUFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic	SL	Solid
JGFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)	NAL	Non-aqueous liquid
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass			WP	Wipe

Sample Container Count

Sample Line Item	WGUFU	SBS DI BK Kit	R	DG9H	VG9H	VOA VIAL HS (≥6mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H				Matrix	pH <2	pH >9	pH >10	
																																1
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic	C	Air Cassettes
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic	R	Terra core kit
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic	SP5T	120mL Coliform Na Thiosulfate
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic	U	Summa Can
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic	ZPLC	Ziploc Bag
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic	WT	Water
WGUFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic	SL	Solid
JGFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)	NAL	Non-aqueous liquid
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass			WP	Wipe

July 08, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2 R4
Pace Project No.: 50287126

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on May 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Ms. Slawa Bruder, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IDEM - CCR Sampling P2 R4
Pace Project No.: 50287126

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50287126001	AP-4B	Water	05/10/21 09:10	05/11/21 11:45
50287126002	AP-5	Water	05/10/21 10:20	05/11/21 11:45
50287126003	AP-5A	Water	05/10/21 11:05	05/11/21 11:45
50287126004	AP-6A	Water	05/10/21 12:15	05/11/21 11:45
50287126005	AP-6B	Water	05/10/21 13:00	05/11/21 11:45

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50287126001	AP-4B	EPA 9056	RMR	3	PASI-I		
		EPA 6010	JDG	15	PASI-I		
		EPA 6010	KJE	2	PASI-I		
		EPA 6020	RAM	6	PASI-I		
		EPA 7470	LBT	1	PASI-I		
		EPA 903.1	MK1	1	PASI-PA		
		EPA 904.0	VAL	1	PASI-PA		
		Total Radium Calculation	RMK	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	WZE	1	PASI-I		
		SM 4500-H+B	WDB	1	PASI-I		
		SM 4500-S2-D	SWJ	1	PASI-I		
		HACH 8146	SWJ	1	PASI-I		
		EPA 353.2	SLB	2	PASI-I		
		EPA 365.1	SKK	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50287126002	AP-5	EPA 9056	RMR	3	PASI-I
				EPA 6010	JDG	15	PASI-I
EPA 6010	KJE			2	PASI-I		
EPA 6020	RAM			6	PASI-I		
EPA 7470	LBT			1	PASI-I		
EPA 903.1	MK1			1	PASI-PA		
EPA 904.0	VAL			1	PASI-PA		
Total Radium Calculation	RMK			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	WZE			1	PASI-I		
SM 4500-H+B	WDB			1	PASI-I		
SM 4500-S2-D	SWJ			1	PASI-I		
HACH 8146	SWJ			1	PASI-I		
EPA 353.2	SLB			2	PASI-I		
EPA 365.1	SKK			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50287126003	AP-5A			EPA 9056	RMR	3	PASI-I
				EPA 6010	JDG	15	PASI-I
		EPA 6010	KJE	2	PASI-I		

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2 R4
Pace Project No.: 50287126

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50287126004	AP-6A	EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	KJE	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
SM 4500-H+B	WDB	1	PASI-I		
SM 4500-S2-D	SWJ	1	PASI-I		
HACH 8146	SWJ	1	PASI-I		
EPA 353.2	SLB	2	PASI-I		
EPA 365.1	SKK	1	PASI-I		
SM 5310C	GWA	1	PASI-I		
SM 5310C	GWA	1	PASI-I		
50287126005	AP-6B	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	KJE	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 7470	LBT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287126001	AP-4B					
EPA 9056	Chloride	16.4	mg/L	2.5	05/23/21 19:25	
EPA 9056	Sulfate	121	mg/L	2.5	05/23/21 19:25	
EPA 6010	Barium	100	ug/L	10.0	05/21/21 08:24	
EPA 6010	Boron	515	ug/L	100	05/21/21 08:24	
EPA 6010	Calcium	165000	ug/L	1000	05/21/21 08:24	
EPA 6010	Iron	189	ug/L	100	05/21/21 08:24	
EPA 6010	Magnesium	34400	ug/L	1000	05/21/21 08:24	
EPA 6010	Silica	10300	ug/L	450	05/21/21 08:24	N2
EPA 6010	Sodium	10600	ug/L	1000	05/21/21 08:24	
EPA 6020	Selenium	16.7	ug/L	1.0	05/17/21 21:04	
EPA 903.1	Radium-226	0.180 ± 0.274 (0.441) C:NA T:91%	pCi/L		06/15/21 16:23	
EPA 904.0	Radium-228	0.870 ± 0.482 (0.883) C:77% T:84%	pCi/L		06/14/21 14:39	
Total Radium Calculation	Total Radium	1.05 ± 0.756 (1.32)	pCi/L		06/16/21 08:44	
SM 2320B	Alkalinity, Total as CaCO3	362	mg/L	2.0	05/13/21 16:15	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	362	mg/L	2.0	05/13/21 16:15	
SM 2540C	Total Dissolved Solids	599	mg/L	10.0	05/13/21 15:59	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/14/21 11:35	H3
EPA 353.2	Nitrogen, Nitrate	10.4	mg/L	1.0	05/11/21 14:39	
50287126002	AP-5					
EPA 9056	Chloride	18.2	mg/L	2.5	05/23/21 20:14	
EPA 9056	Sulfate	457	mg/L	25.0	05/23/21 20:30	
EPA 6010	Barium	15.7	ug/L	10.0	05/21/21 08:31	
EPA 6010	Boron	3290	ug/L	100	05/21/21 08:31	
EPA 6010	Calcium	233000	ug/L	2000	05/21/21 12:08	
EPA 6010	Iron	240	ug/L	100	05/21/21 08:31	
EPA 6010	Magnesium	28700	ug/L	1000	05/21/21 08:31	
EPA 6010	Manganese	1170	ug/L	10.0	05/21/21 08:31	
EPA 6010	Molybdenum	72.1	ug/L	10.0	05/21/21 08:31	
EPA 6010	Potassium	7740	ug/L	1000	05/21/21 08:31	
EPA 6010	Silica	12300	ug/L	450	05/21/21 08:31	N2
EPA 6010	Sodium	13600	ug/L	1000	05/21/21 08:31	
EPA 6010	Manganese, Dissolved	528	ug/L	10.0	05/23/21 07:54	
EPA 6010	Molybdenum, Dissolved	71.4	ug/L	10.0	05/23/21 07:54	
EPA 6020	Cobalt	1.5	ug/L	1.0	05/17/21 21:08	
EPA 6020	Selenium	3.0	ug/L	1.0	05/17/21 21:08	
EPA 903.1	Radium-226	0.000 ± 0.465 (0.941) C:NA T:92%	pCi/L		06/15/21 16:23	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287126002	AP-5					
EPA 904.0	Radium-228	0.595 ± 0.470 (0.941) C:73% T:85%	pCi/L		06/14/21 14:40	
Total Radium Calculation	Total Radium	0.595 ± 0.935 (1.88)	pCi/L		06/16/21 08:44	
SM 2320B	Alkalinity, Total as CaCO3	280	mg/L	2.0	05/13/21 16:15	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	280	mg/L	2.0	05/13/21 16:15	
SM 2540C	Total Dissolved Solids	980	mg/L	20.0	05/13/21 16:00	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	05/14/21 11:42	H3
EPA 353.2	Nitrogen, Nitrate	3.4	mg/L	0.10	05/11/21 14:41	
50287126003	AP-5A					
EPA 9056	Chloride	52.8	mg/L	2.5	05/23/21 21:36	
EPA 9056	Sulfate	2030	mg/L	25.0	05/23/21 21:52	
EPA 6010	Aluminum	644	ug/L	200	05/21/21 08:33	
EPA 6010	Barium	33.5	ug/L	10.0	05/21/21 08:33	
EPA 6010	Boron	15000	ug/L	100	05/21/21 08:33	
EPA 6010	Calcium	652000	ug/L	5000	05/21/21 12:10	
EPA 6010	Iron	13600	ug/L	100	05/21/21 08:33	
EPA 6010	Magnesium	39100	ug/L	1000	05/21/21 08:33	
EPA 6010	Manganese	1930	ug/L	10.0	05/21/21 08:33	
EPA 6010	Molybdenum	234	ug/L	10.0	05/21/21 08:33	
EPA 6010	Potassium	4290	ug/L	1000	05/21/21 08:33	
EPA 6010	Silica	16400	ug/L	450	05/21/21 08:33	N2
EPA 6010	Sodium	59200	ug/L	1000	05/21/21 08:33	
EPA 6010	Manganese, Dissolved	1860	ug/L	10.0	05/23/21 08:00	
EPA 6010	Molybdenum, Dissolved	224	ug/L	10.0	05/23/21 08:00	
EPA 6020	Arsenic	1.2	ug/L	1.0	05/17/21 21:12	
EPA 6020	Cobalt	1.0	ug/L	1.0	05/17/21 21:12	
EPA 903.1	Radium-226	0.167 ± 0.290 (0.518) C:NA T:100%	pCi/L		06/15/21 16:38	
EPA 904.0	Radium-228	0.0524 ± 0.479 (1.09) C:74% T:83%	pCi/L		06/14/21 14:40	
Total Radium Calculation	Total Radium	0.219 ± 0.769 (1.61)	pCi/L		06/16/21 08:44	
SM 2320B	Alkalinity, Total as CaCO3	104	mg/L	2.0	05/13/21 16:15	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	2.0	05/13/21 16:15	
SM 2540C	Total Dissolved Solids	2480	mg/L	40.0	05/13/21 16:02	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/14/21 11:50	H3
HACH 8146	Iron, Ferrous	5.8	mg/L	1.0	05/14/21 13:10	H3,N2
EPA 365.1	Phosphate as P04	0.62	mg/L	0.15	05/19/21 16:04	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287126004	AP-6A					
EPA 9056	Chloride	29.7	mg/L	2.5	05/23/21 22:25	
EPA 9056	Sulfate	864	mg/L	25.0	05/23/21 22:41	
EPA 6010	Barium	31.2	ug/L	10.0	05/21/21 08:35	
EPA 6010	Boron	7250	ug/L	100	05/21/21 08:35	
EPA 6010	Calcium	395000	ug/L	2000	05/21/21 12:12	
EPA 6010	Iron	18700	ug/L	100	05/21/21 08:35	
EPA 6010	Magnesium	96700	ug/L	1000	05/21/21 08:35	
EPA 6010	Manganese	1350	ug/L	10.0	05/21/21 08:35	
EPA 6010	Potassium	2920	ug/L	1000	05/21/21 08:35	
EPA 6010	Silica	13800	ug/L	450	05/21/21 08:35	N2
EPA 6010	Sodium	20100	ug/L	1000	05/21/21 08:35	
EPA 6010	Manganese, Dissolved	1210	ug/L	10.0	05/23/21 08:03	
EPA 6020	Arsenic	1.8	ug/L	1.0	05/17/21 21:17	
EPA 903.1	Radium-226	0.000 ± 0.262 (0.532)	pCi/L		06/15/21 16:38	
EPA 904.0	Radium-228	C:NA T:97% 0.536 ± 0.436 (0.874)	pCi/L		06/14/21 14:40	
		C:77% T:81%				
Total Radium Calculation	Total Radium	0.536 ± 0.698 (1.41)	pCi/L		06/16/21 08:44	
SM 2320B	Alkalinity, Total as CaCO3	314	mg/L	2.0	05/13/21 16:15	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	314	mg/L	2.0	05/13/21 16:15	
SM 2540C	Total Dissolved Solids	1810	mg/L	20.0	05/13/21 16:03	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/14/21 11:56	H3
HACH 8146	Iron, Ferrous	3.6	mg/L	1.0	05/14/21 13:11	H3, N2
EPA 365.1	Phosphate as P04	0.80	mg/L	0.15	05/19/21 16:04	
50287126005	AP-6B					
EPA 9056	Chloride	24.2	mg/L	2.5	05/23/21 23:13	
EPA 9056	Sulfate	685	mg/L	25.0	05/23/21 23:30	
EPA 6010	Barium	36.5	ug/L	10.0	05/21/21 08:37	
EPA 6010	Boron	1260	ug/L	100	05/21/21 08:37	
EPA 6010	Calcium	292000	ug/L	2000	05/21/21 12:14	
EPA 6010	Iron	111	ug/L	100	05/21/21 08:37	
EPA 6010	Magnesium	60500	ug/L	1000	05/21/21 08:37	
EPA 6010	Silica	13000	ug/L	450	05/21/21 08:37	N2
EPA 6010	Sodium	19500	ug/L	1000	05/21/21 08:37	
EPA 903.1	Radium-226	-0.240 ± 0.373 (0.901)	pCi/L		06/15/21 16:38	
EPA 904.0	Radium-228	C:NA T:94% 0.577 ± 0.445 (0.877)	pCi/L		06/14/21 14:40	
		C:75% T:77%				

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287126005	AP-6B					
Total Radium Calculation	Total Radium	0.577 ± 0.818 (1.78)	pCi/L		06/16/21 08:44	
SM 2320B	Alkalinity, Total as CaCO3	253	mg/L	2.0	05/13/21 16:15	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	253	mg/L	2.0	05/13/21 16:15	
SM 2540C	Total Dissolved Solids	1280	mg/L	20.0	05/13/21 16:03	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/14/21 11:57	H3
EPA 353.2	Nitrogen, Nitrate	2.7	mg/L	0.10	05/11/21 14:22	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-4B	Lab ID: 50287126001	Collected: 05/10/21 09:10	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	16.4	mg/L	2.5	10		05/23/21 19:25	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/23/21 19:09	16984-48-8	
Sulfate	121	mg/L	2.5	10		05/23/21 19:25	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/19/21 06:46	05/21/21 08:24	7429-90-5	
Barium	100	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:24	7440-39-3	
Boron	515	ug/L	100	1	05/19/21 06:46	05/21/21 08:24	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 08:24	7440-43-9	
Calcium	165000	ug/L	1000	1	05/19/21 06:46	05/21/21 08:24	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:24	7440-47-3	
Iron	189	ug/L	100	1	05/19/21 06:46	05/21/21 08:24	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:24	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 08:24	7439-93-2	
Magnesium	34400	ug/L	1000	1	05/19/21 06:46	05/21/21 08:24	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:24	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:24	7439-98-7	
Potassium	ND	ug/L	1000	1	05/19/21 06:46	05/21/21 08:24	7440-09-7	
Silica	10300	ug/L	450	1	05/19/21 06:46	05/21/21 08:24	7631-86-9	N2
Sodium	10600	ug/L	1000	1	05/19/21 06:46	05/21/21 08:24	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	ND	ug/L	10.0	1	05/20/21 06:54	05/23/21 07:52	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/20/21 06:54	05/23/21 07:52	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:04	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:04	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:04	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:04	7440-48-4	
Selenium	16.7	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:04	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:04	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 11:00	05/19/21 19:29	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	362	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Bicarbonate (CaCO3)	362	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-4B	Lab ID: 50287126001	Collected: 05/10/21 09:10	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	599	mg/L	10.0	1		05/13/21 15:59		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		05/14/21 11:35		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 13:10		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	10.4	mg/L	1.0	10		05/11/21 14:39	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	1.0	10		05/11/21 14:39	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 16:43	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 08:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-5	Lab ID: 50287126002	Collected: 05/10/21 10:20	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	18.2	mg/L	2.5	10		05/23/21 20:14	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/23/21 19:58	16984-48-8	
Sulfate	457	mg/L	25.0	100		05/23/21 20:30	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/19/21 06:46	05/21/21 08:31	7429-90-5	
Barium	15.7	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:31	7440-39-3	
Boron	3290	ug/L	100	1	05/19/21 06:46	05/21/21 08:31	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 08:31	7440-43-9	
Calcium	233000	ug/L	2000	2	05/19/21 06:46	05/21/21 12:08	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:31	7440-47-3	
Iron	240	ug/L	100	1	05/19/21 06:46	05/21/21 08:31	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:31	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 08:31	7439-93-2	
Magnesium	28700	ug/L	1000	1	05/19/21 06:46	05/21/21 08:31	7439-95-4	
Manganese	1170	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:31	7439-96-5	
Molybdenum	72.1	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:31	7439-98-7	
Potassium	7740	ug/L	1000	1	05/19/21 06:46	05/21/21 08:31	7440-09-7	
Silica	12300	ug/L	450	1	05/19/21 06:46	05/21/21 08:31	7631-86-9	N2
Sodium	13600	ug/L	1000	1	05/19/21 06:46	05/21/21 08:31	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	528	ug/L	10.0	1	05/20/21 06:54	05/23/21 07:54	7439-96-5	
Molybdenum, Dissolved	71.4	ug/L	10.0	1	05/20/21 06:54	05/23/21 07:54	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:08	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:08	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:08	7440-41-7	
Cobalt	1.5	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:08	7440-48-4	
Selenium	3.0	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:08	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:08	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 11:00	05/19/21 19:31	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	280	mg/L	2.0	1		05/13/21 16:15		
Alkalinity, Bicarbonate (CaCO3)	280	mg/L	2.0	1		05/13/21 16:15		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-5	Lab ID: 50287126002	Collected: 05/10/21 10:20	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	980	mg/L	20.0	1		05/13/21 16:00		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.7	Std. Units	0.10	1		05/14/21 11:42		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 13:10		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	3.4	mg/L	0.10	1		05/11/21 14:41	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:41	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:02		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 16:52	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 09:03		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-5A	Lab ID: 50287126003	Collected: 05/10/21 11:05	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	52.8	mg/L	2.5	10		05/23/21 21:36	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/23/21 21:19	16984-48-8	
Sulfate	2030	mg/L	25.0	100		05/23/21 21:52	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	644	ug/L	200	1	05/19/21 06:46	05/21/21 08:33	7429-90-5	
Barium	33.5	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:33	7440-39-3	
Boron	15000	ug/L	100	1	05/19/21 06:46	05/21/21 08:33	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 08:33	7440-43-9	
Calcium	652000	ug/L	5000	5	05/19/21 06:46	05/21/21 12:10	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:33	7440-47-3	
Iron	13600	ug/L	100	1	05/19/21 06:46	05/21/21 08:33	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:33	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 08:33	7439-93-2	
Magnesium	39100	ug/L	1000	1	05/19/21 06:46	05/21/21 08:33	7439-95-4	
Manganese	1930	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:33	7439-96-5	
Molybdenum	234	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:33	7439-98-7	
Potassium	4290	ug/L	1000	1	05/19/21 06:46	05/21/21 08:33	7440-09-7	
Silica	16400	ug/L	450	1	05/19/21 06:46	05/21/21 08:33	7631-86-9	N2
Sodium	59200	ug/L	1000	1	05/19/21 06:46	05/21/21 08:33	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	1860	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:00	7439-96-5	
Molybdenum, Dissolved	224	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:00	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:12	7440-36-0	
Arsenic	1.2	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:12	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:12	7440-41-7	
Cobalt	1.0	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:12	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:12	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 11:00	05/19/21 19:33	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	104	mg/L	2.0	1		05/13/21 16:15		
Alkalinity, Bicarbonate (CaCO3)	104	mg/L	2.0	1		05/13/21 16:15		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-5A	Lab ID: 50287126003	Collected: 05/10/21 11:05	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2480	mg/L	40.0	1		05/13/21 16:02		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		05/14/21 11:50		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	5.8	mg/L	1.0	5		05/14/21 13:10		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/11/21 14:19	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:19	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.62	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 17:33	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 10:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-6A	Lab ID: 50287126004	Collected: 05/10/21 12:15	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	29.7	mg/L	2.5	10		05/23/21 22:25	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/23/21 22:08	16984-48-8	
Sulfate	864	mg/L	25.0	100		05/23/21 22:41	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/19/21 06:46	05/21/21 08:35	7429-90-5	
Barium	31.2	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:35	7440-39-3	
Boron	7250	ug/L	100	1	05/19/21 06:46	05/21/21 08:35	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 08:35	7440-43-9	
Calcium	395000	ug/L	2000	2	05/19/21 06:46	05/21/21 12:12	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:35	7440-47-3	
Iron	18700	ug/L	100	1	05/19/21 06:46	05/21/21 08:35	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:35	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 08:35	7439-93-2	
Magnesium	96700	ug/L	1000	1	05/19/21 06:46	05/21/21 08:35	7439-95-4	
Manganese	1350	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:35	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:35	7439-98-7	
Potassium	2920	ug/L	1000	1	05/19/21 06:46	05/21/21 08:35	7440-09-7	
Silica	13800	ug/L	450	1	05/19/21 06:46	05/21/21 08:35	7631-86-9	N2
Sodium	20100	ug/L	1000	1	05/19/21 06:46	05/21/21 08:35	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	1210	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:03	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:03	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:17	7440-36-0	
Arsenic	1.8	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:17	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:17	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:17	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:17	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:17	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 11:00	05/19/21 19:35	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	314	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Bicarbonate (CaCO3)	314	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-6A	Lab ID: 50287126004	Collected: 05/10/21 12:15	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	1810	mg/L	20.0	1		05/13/21 16:03		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		05/14/21 11:56		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	3.6	mg/L	1.0	5		05/14/21 13:11		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/11/21 14:21	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:21	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.80	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 17:43	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 10:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-6B	Lab ID: 50287126005	Collected: 05/10/21 13:00	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	24.2	mg/L	2.5	10		05/23/21 23:13	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/23/21 22:57	16984-48-8	
Sulfate	685	mg/L	25.0	100		05/23/21 23:30	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/19/21 06:46	05/21/21 08:37	7429-90-5	
Barium	36.5	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:37	7440-39-3	
Boron	1260	ug/L	100	1	05/19/21 06:46	05/21/21 08:37	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 08:37	7440-43-9	
Calcium	292000	ug/L	2000	2	05/19/21 06:46	05/21/21 12:14	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:37	7440-47-3	
Iron	111	ug/L	100	1	05/19/21 06:46	05/21/21 08:37	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:37	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 08:37	7439-93-2	
Magnesium	60500	ug/L	1000	1	05/19/21 06:46	05/21/21 08:37	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:37	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:37	7439-98-7	
Potassium	ND	ug/L	1000	1	05/19/21 06:46	05/21/21 08:37	7440-09-7	
Silica	13000	ug/L	450	1	05/19/21 06:46	05/21/21 08:37	7631-86-9	N2
Sodium	19500	ug/L	1000	1	05/19/21 06:46	05/21/21 08:37	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	ND	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:05	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:05	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:21	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:21	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:21	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:21	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:21	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:21	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/19/21 11:00	05/19/21 19:37	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	253	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Bicarbonate (CaCO3)	253	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-6B	Lab ID: 50287126005	Collected: 05/10/21 13:00	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	1280	mg/L	20.0	1		05/13/21 16:03		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		05/14/21 11:57		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 13:11		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	2.7	mg/L	0.10	1		05/11/21 14:22	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:22	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:05		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 17:52	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 11:07		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch:	622300	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2868169 Matrix: Water
Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/23/21 18:36	
Fluoride	mg/L	ND	0.10	05/23/21 18:36	
Sulfate	mg/L	ND	0.25	05/23/21 18:36	

LABORATORY CONTROL SAMPLE: 2868170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.3	100	80-120	
Fluoride	mg/L	0.5	0.51	103	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2868171 2868172

Parameter	Units	50287175004		2868171		2868172		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Chloride	mg/L	104	12.5	12.5	119	119	123	119	119	80-120	0	15	M0
Fluoride	mg/L	0.24	0.5	0.5	0.78	0.80	110	114	114	80-120	2	15	
Sulfate	mg/L	83.2	25	25	108	108	99	100	100	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch:	620588	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2859797 Matrix: Water
Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	05/19/21 19:25	

LABORATORY CONTROL SAMPLE: 2859798

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859799 2859800

Parameter	Units	50287193003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.2	4.9	104	99	75-125	5	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch:	621103	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2862602 Matrix: Water

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/21/21 08:29	
Barium	ug/L	ND	10.0	05/21/21 08:29	
Boron	ug/L	ND	100	05/21/21 08:29	
Cadmium	ug/L	ND	2.0	05/21/21 08:29	
Calcium	ug/L	ND	1000	05/21/21 08:29	
Chromium	ug/L	ND	10.0	05/21/21 08:29	
Iron	ug/L	ND	100	05/21/21 08:29	
Lead	ug/L	ND	10.0	05/21/21 08:29	
Lithium	ug/L	ND	20.0	05/21/21 08:29	
Magnesium	ug/L	ND	1000	05/21/21 08:29	
Manganese	ug/L	ND	10.0	05/21/21 08:29	
Molybdenum	ug/L	ND	10.0	05/21/21 08:29	
Potassium	ug/L	ND	1000	05/21/21 08:29	
Silica	ug/L	ND	450	05/21/21 08:29	N2
Sodium	ug/L	ND	1000	05/21/21 08:29	

LABORATORY CONTROL SAMPLE: 2862603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	80-120	
Barium	ug/L	1000	1020	102	80-120	
Boron	ug/L	1000	1020	102	80-120	
Cadmium	ug/L	1000	1020	102	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Chromium	ug/L	1000	1030	103	80-120	
Iron	ug/L	10000	10200	102	80-120	
Lead	ug/L	1000	1020	102	80-120	
Lithium	ug/L	1000	997	100	80-120	
Magnesium	ug/L	10000	10100	101	80-120	
Manganese	ug/L	1000	1000	100	80-120	
Molybdenum	ug/L	1000	1050	105	80-120	
Potassium	ug/L	10000	10400	104	80-120	
Silica	ug/L	10700	9960	93		N2
Sodium	ug/L	10000	10200	102	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2862604			2862605							
Parameter	Units	50287175004	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD		
Aluminum	ug/L	ND	10000	10000	10600	10600	105	105	75-125	0	20	
Barium	ug/L	73.7	1000	1000	1080	1080	101	101	75-125	0	20	
Boron	ug/L	279	1000	1000	1310	1310	103	103	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	1020	1010	102	101	75-125	0	20	
Calcium	ug/L	85000	10000	10000	95300	93000	103	80	75-125	2	20	
Chromium	ug/L	ND	1000	1000	1020	1010	102	101	75-125	1	20	
Iron	ug/L	1340	10000	10000	11300	11300	100	99	75-125	0	20	
Lead	ug/L	ND	1000	1000	979	982	98	98	75-125	0	20	
Lithium	ug/L	67.6	1000	1000	1120	1120	105	105	75-125	0	20	
Magnesium	ug/L	20400	10000	10000	30400	29700	101	94	75-125	2	20	
Manganese	ug/L	186	1000	1000	1170	1170	98	98	75-125	0	20	
Molybdenum	ug/L	71.6	1000	1000	1110	1110	104	104	75-125	0	20	
Potassium	ug/L	8910	10000	10000	19600	19400	107	105	75-125	1	20	
Silica	ug/L	10900	10700	10700	21200	21300	96	97		0	N2	
Sodium	ug/L	68000	10000	10000	78700	76600	108	86	75-125	3	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch: 621084 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
 Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2862541 Matrix: Water

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/23/21 07:12	
Molybdenum, Dissolved	ug/L	ND	10.0	05/23/21 07:12	

LABORATORY CONTROL SAMPLE: 2862542

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	1000	100	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862543 2862544

Parameter	Units	50287119003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	168	1000	1000	1140	1160	97	99	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1020	1030	101	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch: 620693 Analysis Method: EPA 6020
 QC Batch Method: EPA 200.2 Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2860670 Matrix: Water
 Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/18/21 13:27	
Arsenic	ug/L	ND	1.0	05/18/21 13:27	
Beryllium	ug/L	ND	0.20	05/18/21 13:27	
Cobalt	ug/L	ND	1.0	05/18/21 13:27	
Selenium	ug/L	ND	1.0	05/18/21 13:27	
Thallium	ug/L	ND	1.0	05/18/21 13:27	

LABORATORY CONTROL SAMPLE: 2860671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.4	106	80-120	
Arsenic	ug/L	40	39.1	98	80-120	
Beryllium	ug/L	40	38.2	96	80-120	
Cobalt	ug/L	40	42.1	105	80-120	
Selenium	ug/L	40	40.0	100	80-120	
Thallium	ug/L	40	41.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860708 2860709

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50287175004 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	37.7	36.6	94	91	75-125	3	20
Arsenic	ug/L	4.4	40	40	38.9	37.6	86	83	75-125	3	20
Beryllium	ug/L	ND	40	40	34.8	33.8	87	85	75-125	3	20
Cobalt	ug/L	ND	40	40	34.7	33.8	87	84	75-125	3	20
Selenium	ug/L	ND	40	40	34.3	35.6	85	89	75-125	4	20
Thallium	ug/L	ND	40	40	37.6	36.9	94	92	75-125	2	20

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch: 620498 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2859440 Matrix: Water
 Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/13/21 16:15	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/13/21 16:15	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/13/21 16:15	

LABORATORY CONTROL SAMPLE: 2859441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.1	98	90-110	

SAMPLE DUPLICATE: 2859442

Parameter	Units	50287193002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	712	737	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	712	737	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2859443

Parameter	Units	50287193003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	315	324	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	315	324	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch:	620510	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2859472 Matrix: Water
Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/13/21 15:50	

LABORATORY CONTROL SAMPLE: 2859473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	276	92	80-120	

SAMPLE DUPLICATE: 2859474

Parameter	Units	50287093004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	205	209	2	10	

SAMPLE DUPLICATE: 2859475

Parameter	Units	50287119001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	676	666	1	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch: 620748

Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B

Analysis Description: 4500H+B pH

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

SAMPLE DUPLICATE: 2860865

Parameter	Units	50287048008 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	6.9	1	2	H3

SAMPLE DUPLICATE: 2860866

Parameter	Units	50287329001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.3	8.3	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4
Pace Project No.: 50287126

QC Batch: 620459 Analysis Method: SM 4500-S2-D
QC Batch Method: SM 4500-S2-D Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2859274 Matrix: Water
Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/13/21 09:45	

LABORATORY CONTROL SAMPLE: 2859275

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859276 2859277

Parameter	Units	50287175004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.46	0.46	91	91	90-110	0	20	

MATRIX SPIKE SAMPLE: 2859278

Parameter	Units	50287226001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.38	73	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch:	620723	Analysis Method:	HACH 8146
QC Batch Method:	HACH 8146	Analysis Description:	Iron, Ferrous
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50287126001, 50287126002, 50287126003, 50287126004, 50287126005		

METHOD BLANK:	2860771	Matrix:	Water
Associated Lab Samples:	50287126001, 50287126002, 50287126003, 50287126004, 50287126005		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/14/21 13:07	H3,N2

LABORATORY CONTROL SAMPLE:	2860772
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Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	103	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2860773	2860774
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Parameter	Units	50287048002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	0.74	2	2	2.5	2.5	88	87	90-110	1	20	H3,M3,N2

MATRIX SPIKE SAMPLE:	2860775
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Parameter	Units	50287126003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	5.8	10	16.0	102	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch:	620058	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2857445 Matrix: Water
Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/11/21 13:47	
Nitrogen, Nitrite	mg/L	ND	0.10	05/11/21 13:47	

LABORATORY CONTROL SAMPLE: 2857446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857447 2857448

Parameter	Units	50286944002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.1	1.2	104	108	90-110	3	20	H3
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	110	114	90-110	4	20	H3,M0

MATRIX SPIKE SAMPLE: 2857552

Parameter	Units	50287134005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.0	102	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	110	90-110	

MATRIX SPIKE SAMPLE: 2857565

Parameter	Units	50287134002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.59	59	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.98	96	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch: 621544

Analysis Method: EPA 365.1

QC Batch Method: EPA 365.1

Analysis Description: 365.1 Total Phosphorus

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2864231

Matrix: Water

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/19/21 15:48	

LABORATORY CONTROL SAMPLE: 2864232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864233 2864234

Parameter	Units	50287091001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	0.18			1.7	2.0				19		

MATRIX SPIKE SAMPLE: 2864235

Parameter	Units	50287126002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		2.0			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch: 621318

Analysis Method: SM 5310C

QC Batch Method: SM 5310C

Analysis Description: 5310C Total Organic Carbon

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2863330

Matrix: Water

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/19/21 13:06	

LABORATORY CONTROL SAMPLE: 2863331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863332 2863333

Parameter	Units	50287048008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	ND	10	10	10.4	10.3	98	97	80-120	1	20	

MATRIX SPIKE SAMPLE: 2863334

Parameter	Units	50287087002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	8.0	10	18.4	103	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch: 621630	Analysis Method: SM 5310C
QC Batch Method: SM 5310C	Analysis Description: 5310C Dissolved Organic Carbon
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2864694 Matrix: Water
Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/20/21 04:20	

LABORATORY CONTROL SAMPLE: 2864695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864696 2864697

Parameter	Units	50287126005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	10	10	9.4	9.5	94	95	80-120	1	20	

MATRIX SPIKE SAMPLE: 2864698

Parameter	Units	50287134004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	ND	10	9.9	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-4B **Lab ID: 50287126001** Collected: 05/10/21 09:10 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.180 ± 0.274 (0.441) C:NA T:91%	pCi/L	06/15/21 16:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.870 ± 0.482 (0.883) C:77% T:84%	pCi/L	06/14/21 14:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.05 ± 0.756 (1.32)	pCi/L	06/16/21 08:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-5 **Lab ID: 50287126002** Collected: 05/10/21 10:20 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.465 (0.941) C:NA T:92%	pCi/L	06/15/21 16:23	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.595 ± 0.470 (0.941) C:73% T:85%	pCi/L	06/14/21 14:40	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.595 ± 0.935 (1.88)	pCi/L	06/16/21 08:44	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-5A **Lab ID: 50287126003** Collected: 05/10/21 11:05 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.167 ± 0.290 (0.518) C:NA T:100%	pCi/L	06/15/21 16:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.0524 ± 0.479 (1.09) C:74% T:83%	pCi/L	06/14/21 14:40	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.219 ± 0.769 (1.61)	pCi/L	06/16/21 08:44	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-6A **Lab ID: 50287126004** Collected: 05/10/21 12:15 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.262 (0.532) C:NA T:97%	pCi/L	06/15/21 16:38	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.536 ± 0.436 (0.874) C:77% T:81%	pCi/L	06/14/21 14:40	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.536 ± 0.698 (1.41)	pCi/L	06/16/21 08:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Sample: AP-6B **Lab ID: 50287126005** Collected: 05/10/21 13:00 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.240 ± 0.373 (0.901) C:NA T:94%	pCi/L	06/15/21 16:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.577 ± 0.445 (0.877) C:75% T:77%	pCi/L	06/14/21 14:40	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.577 ± 0.818 (1.78)	pCi/L	06/16/21 08:44	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch: 450427

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2173764

Matrix: Water

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.553 ± 0.343 (0.636) C:79% T:88%	pCi/L	06/14/21 11:28	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

QC Batch: 450428

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

METHOD BLANK: 2173765

Matrix: Water

Associated Lab Samples: 50287126001, 50287126002, 50287126003, 50287126004, 50287126005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.138 ± 0.239 (0.602) C:NA T:102%	pCi/L	06/15/21 16:23	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287126001	AP-4B	EPA 9056	622300		
50287126002	AP-5	EPA 9056	622300		
50287126003	AP-5A	EPA 9056	622300		
50287126004	AP-6A	EPA 9056	622300		
50287126005	AP-6B	EPA 9056	622300		
50287126001	AP-4B	EPA 3010	621103	EPA 6010	622008
50287126002	AP-5	EPA 3010	621103	EPA 6010	622008
50287126003	AP-5A	EPA 3010	621103	EPA 6010	622008
50287126004	AP-6A	EPA 3010	621103	EPA 6010	622008
50287126005	AP-6B	EPA 3010	621103	EPA 6010	622008
50287126001	AP-4B	EPA 3010	621084	EPA 6010	622263
50287126002	AP-5	EPA 3010	621084	EPA 6010	622263
50287126003	AP-5A	EPA 3010	621084	EPA 6010	622263
50287126004	AP-6A	EPA 3010	621084	EPA 6010	622263
50287126005	AP-6B	EPA 3010	621084	EPA 6010	622263
50287126001	AP-4B	EPA 200.2	620693	EPA 6020	620958
50287126002	AP-5	EPA 200.2	620693	EPA 6020	620958
50287126003	AP-5A	EPA 200.2	620693	EPA 6020	620958
50287126004	AP-6A	EPA 200.2	620693	EPA 6020	620958
50287126005	AP-6B	EPA 200.2	620693	EPA 6020	620958
50287126001	AP-4B	EPA 7470	620588	EPA 7470	621706
50287126002	AP-5	EPA 7470	620588	EPA 7470	621706
50287126003	AP-5A	EPA 7470	620588	EPA 7470	621706
50287126004	AP-6A	EPA 7470	620588	EPA 7470	621706
50287126005	AP-6B	EPA 7470	620588	EPA 7470	621706
50287126001	AP-4B	EPA 903.1	450428		
50287126002	AP-5	EPA 903.1	450428		
50287126003	AP-5A	EPA 903.1	450428		
50287126004	AP-6A	EPA 903.1	450428		
50287126005	AP-6B	EPA 903.1	450428		
50287126001	AP-4B	EPA 904.0	450427		
50287126002	AP-5	EPA 904.0	450427		
50287126003	AP-5A	EPA 904.0	450427		
50287126004	AP-6A	EPA 904.0	450427		
50287126005	AP-6B	EPA 904.0	450427		
50287126001	AP-4B	Total Radium Calculation	452609		
50287126002	AP-5	Total Radium Calculation	452609		
50287126003	AP-5A	Total Radium Calculation	452609		
50287126004	AP-6A	Total Radium Calculation	452609		
50287126005	AP-6B	Total Radium Calculation	452609		
50287126001	AP-4B	SM 2320B	620498		
50287126002	AP-5	SM 2320B	620498		
50287126003	AP-5A	SM 2320B	620498		
50287126004	AP-6A	SM 2320B	620498		
50287126005	AP-6B	SM 2320B	620498		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2 R4

Pace Project No.: 50287126

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287126001	AP-4B	SM 2540C	620510		
50287126002	AP-5	SM 2540C	620510		
50287126003	AP-5A	SM 2540C	620510		
50287126004	AP-6A	SM 2540C	620510		
50287126005	AP-6B	SM 2540C	620510		
50287126001	AP-4B	SM 4500-H+B	620748		
50287126002	AP-5	SM 4500-H+B	620748		
50287126003	AP-5A	SM 4500-H+B	620748		
50287126004	AP-6A	SM 4500-H+B	620748		
50287126005	AP-6B	SM 4500-H+B	620748		
50287126001	AP-4B	SM 4500-S2-D	620459		
50287126002	AP-5	SM 4500-S2-D	620459		
50287126003	AP-5A	SM 4500-S2-D	620459		
50287126004	AP-6A	SM 4500-S2-D	620459		
50287126005	AP-6B	SM 4500-S2-D	620459		
50287126001	AP-4B	HACH 8146	620723		
50287126002	AP-5	HACH 8146	620723		
50287126003	AP-5A	HACH 8146	620723		
50287126004	AP-6A	HACH 8146	620723		
50287126005	AP-6B	HACH 8146	620723		
50287126001	AP-4B	EPA 353.2	620058		
50287126002	AP-5	EPA 353.2	620058		
50287126003	AP-5A	EPA 353.2	620058		
50287126004	AP-6A	EPA 353.2	620058		
50287126005	AP-6B	EPA 353.2	620058		
50287126001	AP-4B	EPA 365.1	621544	EPA 365.1	621609
50287126002	AP-5	EPA 365.1	621544	EPA 365.1	621609
50287126003	AP-5A	EPA 365.1	621544	EPA 365.1	621609
50287126004	AP-6A	EPA 365.1	621544	EPA 365.1	621609
50287126005	AP-6B	EPA 365.1	621544	EPA 365.1	621609
50287126001	AP-4B	SM 5310C	621318		
50287126002	AP-5	SM 5310C	621318		
50287126003	AP-5A	SM 5310C	621318		
50287126004	AP-6A	SM 5310C	621318		
50287126005	AP-6B	SM 5310C	621318		
50287126001	AP-4B	SM 5310C	621630		
50287126002	AP-5	SM 5310C	621630		
50287126003	AP-5A	SM 5310C	621630		
50287126004	AP-6A	SM 5310C	621630		
50287126005	AP-6B	SM 5310C	621630		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

1310

Date/Time and Initials of person examining contents: WS 5-11-21

1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____

2. Custody Seal on Cooler/Box Present: Yes No

(If yes) Seals Intact: Yes No (leave blank if no seals were present)

3. Thermometer: 1 2 3 4 5 6 A B C D E F

4. Cooler Temperature: 3.2/2.6, 3.6/3.0, 3.9/3.3
Temp should be above freezing to 6°C (Initial/Corrected)

5. Packing Material: Bubble Wrap Bubble Bags

None Other _____

6. Ice Type: Wet Blue None

7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		<input checked="" type="checkbox"/>	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis: <u>Nitrates</u>	<input checked="" type="checkbox"/>		Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	<input checked="" type="checkbox"/>		
Time 5035A TC placed in Freezer or Short Holds To Lab Time: <u>1345</u>			Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>Present</u>	<u>Absent</u>	<u>N/A</u>
Rush TAT Requested (4 days or less):		<input checked="" type="checkbox"/>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			<input checked="" type="checkbox"/>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<input checked="" type="checkbox"/>
Containers Intact?:	<input checked="" type="checkbox"/>		Headspace in VOA Vials (>6mm): See Container Count form for details	<u>Present</u>	<u>Absent</u>	<u>No VOA Vials Sent</u>
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<input checked="" type="checkbox"/>		Trip Blank Present?		<input checked="" type="checkbox"/>	
Extra labels on Terracore Vials? (soils only)		<input checked="" type="checkbox"/>	Trip Blank Custody Seals?:		<input checked="" type="checkbox"/>	

COMMENTS: Lids switched on 4 AG35 and BP35 for sample "AP-6B" DAY 5/11/21

July 22, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2 R5
Pace Project No.: 50287134

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on May 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Ms. Slawa Bruder, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Florida: Cert E871149 SEKS WET

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50287134001	AP-10A	Water	05/10/21 17:10	05/11/21 11:45
50287134002	MW-20A	Water	05/10/21 14:40	05/11/21 11:45
50287134003	MW-20I	Water	05/10/21 15:35	05/11/21 11:45
50287134004	MW-20B	Water	05/10/21 16:14	05/11/21 11:45
50287134005	FIELD BLANK 4	Water	05/10/21 17:35	05/11/21 11:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50287134001	AP-10A	EPA 9056	RMR	3	PASI-I		
		EPA 6010	JDG	14	PASI-I		
		EPA 6010	KJE	2	PASI-I		
		EPA 6020	RAM	6	PASI-I		
		EPA 903.1	MK1	1	PASI-PA		
		EPA 904.0	VAL	1	PASI-PA		
		Total Radium Calculation	RMK	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	WZE	1	PASI-I		
		SM 4500-H+B	WDB	1	PASI-I		
		SM 4500-S2-D	SWJ	1	PASI-I		
		HACH 8146	SWJ	1	PASI-I		
		EPA 353.2	SLB	2	PASI-I		
		EPA 365.1	SKK	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50287134002	MW-20A	EPA 9056	RMR	3	PASI-I
				EPA 6010	JDG	14	PASI-I
				EPA 6010	KJE	2	PASI-I
EPA 6020	RAM			6	PASI-I		
EPA 903.1	MK1			1	PASI-PA		
EPA 904.0	VAL			1	PASI-PA		
Total Radium Calculation	RMK			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	WZE			1	PASI-I		
SM 4500-H+B	WDB			1	PASI-I		
SM 4500-S2-D	SWJ			1	PASI-I		
HACH 8146	SWJ			1	PASI-I		
EPA 353.2	SLB			2	PASI-I		
EPA 365.1	SKK			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50287134003	MW-20I			EPA 9056	RMR	3	PASI-I
				EPA 6010	JDG	14	PASI-I
				EPA 6010	KJE	2	PASI-I
		EPA 6020	RAM	6	PASI-I		
		EPA 903.1	MK1	1	PASI-PA		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50287134004	MW-20B	EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	14	PASI-I
		EPA 6010	KJE	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50287134005	FIELD BLANK 4	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	14	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	WDB	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287134001	AP-10A					
EPA 9056	Chloride	142	mg/L	25.0	05/24/21 00:51	
EPA 9056	Sulfate	1570	mg/L	25.0	05/24/21 00:51	
EPA 6010	Barium	33.5	ug/L	10.0	05/21/21 08:40	
EPA 6010	Boron	29200	ug/L	100	05/21/21 08:40	
EPA 6010	Calcium	698000	ug/L	5000	05/21/21 12:20	
EPA 6010	Iron	7490	ug/L	100	05/21/21 08:40	
EPA 6010	Magnesium	8840	ug/L	1000	05/21/21 08:40	
EPA 6010	Manganese	2380	ug/L	10.0	05/21/21 08:40	
EPA 6010	Molybdenum	758	ug/L	10.0	05/21/21 08:40	
EPA 6010	Potassium	16100	ug/L	1000	05/21/21 08:40	
EPA 6010	Silica	11500	ug/L	450	05/21/21 08:40	N2
EPA 6010	Sodium	55600	ug/L	1000	05/21/21 08:40	
EPA 6010	Manganese, Dissolved	2370	ug/L	10.0	05/23/21 08:07	
EPA 6010	Molybdenum, Dissolved	742	ug/L	10.0	05/23/21 08:07	
EPA 903.1	Radium-226	0.572 ± 0.627	pCi/L		06/15/21 16:23	
		(1.01) C:NA T:101%				
EPA 904.0	Radium-228	0.767 ± 0.472	pCi/L		06/14/21 14:39	
		(0.895) C:76%				
		T:85%				
Total Radium Calculation	Total Radium	1.34 ± 1.10 (1.91)	pCi/L		06/16/21 08:44	
SM 2320B	Alkalinity, Total as CaCO3	52.2	mg/L	2.0	05/13/21 16:15	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	52.2	mg/L	2.0	05/13/21 16:15	
SM 2540C	Total Dissolved Solids	2600	mg/L	40.0	05/13/21 16:04	
SM 4500-H+B	pH at 25 Degrees C	8.3	Std. Units	0.10	05/14/21 12:09	H3
HACH 8146	Iron, Ferrous	3.9	mg/L	1.0	05/14/21 13:11	H3, N2
EPA 365.1	Phosphate as P04	0.21	mg/L	0.15	05/19/21 16:11	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/19/21 18:03	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	05/20/21 17:44	
50287134002	MW-20A					
EPA 9056	Chloride	73.1	mg/L	2.5	05/24/21 01:24	
EPA 9056	Sulfate	1050	mg/L	25.0	05/24/21 01:40	
EPA 6010	Aluminum	293	ug/L	200	05/21/21 08:42	
EPA 6010	Barium	38.4	ug/L	10.0	05/21/21 08:42	
EPA 6010	Boron	16200	ug/L	100	05/21/21 08:42	
EPA 6010	Calcium	454000	ug/L	5000	05/21/21 12:22	
EPA 6010	Iron	9030	ug/L	100	05/21/21 08:42	
EPA 6010	Magnesium	34000	ug/L	1000	05/21/21 08:42	
EPA 6010	Manganese	1490	ug/L	10.0	05/21/21 08:42	
EPA 6010	Molybdenum	436	ug/L	10.0	05/21/21 08:42	
EPA 6010	Potassium	6150	ug/L	1000	05/21/21 08:42	
EPA 6010	Silica	13300	ug/L	450	05/21/21 08:42	N2
EPA 6010	Sodium	33000	ug/L	1000	05/21/21 08:42	
EPA 6010	Manganese, Dissolved	1520	ug/L	10.0	05/23/21 08:10	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287134002	MW-20A					
EPA 6010	Molybdenum, Dissolved	488	ug/L	10.0	05/23/21 08:10	
EPA 6020	Arsenic	1.8	ug/L	1.0	05/17/21 21:39	
EPA 903.1	Radium-226	0.262 ± 0.301 (0.178)	pCi/L		06/15/21 16:23	
EPA 904.0	Radium-228	C:NA T:89% 1.52 ± 0.565 (0.863)	pCi/L		06/14/21 14:39	
		C:77% T:83%				
Total Radium Calculation	Total Radium	1.78 ± 0.866 (1.04)	pCi/L		06/16/21 08:44	
SM 2320B	Alkalinity, Total as CaCO3	176	mg/L	2.0	05/13/21 16:15	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	176	mg/L	2.0	05/13/21 16:15	
SM 2540C	Total Dissolved Solids	1530	mg/L	20.0	05/13/21 16:04	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	05/14/21 12:37	H3
HACH 8146	Iron, Ferrous	2.5	mg/L	0.40	05/14/21 13:12	H3,N2
EPA 365.1	Phosphate as P04	0.53	mg/L	0.15	05/19/21 16:12	
50287134003	MW-20I					
EPA 9056	Chloride	6.6	mg/L	0.25	05/24/21 01:56	
EPA 9056	Sulfate	29.5	mg/L	2.5	05/24/21 02:13	
EPA 6010	Barium	57.9	ug/L	10.0	05/21/21 08:57	
EPA 6010	Boron	265	ug/L	100	05/21/21 08:57	
EPA 6010	Calcium	113000	ug/L	1000	05/21/21 08:57	
EPA 6010	Magnesium	24400	ug/L	1000	05/21/21 08:57	
EPA 6010	Manganese	1700	ug/L	10.0	05/21/21 08:57	
EPA 6010	Silica	11000	ug/L	450	05/21/21 08:57	N2
EPA 6010	Sodium	4580	ug/L	1000	05/21/21 08:57	
EPA 6010	Manganese, Dissolved	1700	ug/L	10.0	05/23/21 08:12	
EPA 6020	Cobalt	1.1	ug/L	1.0	05/17/21 21:43	
EPA 6020	Selenium	1.5	ug/L	1.0	05/17/21 21:43	
EPA 903.1	Radium-226	0.252 ± 0.524 (0.944)	pCi/L		06/15/21 16:23	
EPA 904.0	Radium-228	C:NA T:96% -0.0888 ± 0.349 (0.824)	pCi/L		06/14/21 14:39	
		C:80% T:89%				
Total Radium Calculation	Total Radium	0.252 ± 0.873 (1.77)	pCi/L		06/16/21 08:44	
SM 2320B	Alkalinity, Total as CaCO3	316	mg/L	2.0	05/13/21 16:15	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	316	mg/L	2.0	05/13/21 16:15	
SM 2540C	Total Dissolved Solids	402	mg/L	10.0	05/13/21 16:04	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/14/21 12:39	H3
EPA 353.2	Nitrogen, Nitrate	1.5	mg/L	0.10	05/11/21 14:32	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287134003	MW-20I					
EPA 365.1	Phosphate as P04	0.18	mg/L	0.15	05/19/21 16:12	
50287134004	MW-20B					
EPA 9056	Chloride	13.4	mg/L	2.5	05/24/21 02:44	
EPA 9056	Sulfate	73.2	mg/L	2.5	05/24/21 02:44	
EPA 6010	Aluminum	374	ug/L	200	05/21/21 08:59	
EPA 6010	Barium	116	ug/L	10.0	05/21/21 08:59	
EPA 6010	Boron	576	ug/L	100	05/21/21 08:59	
EPA 6010	Calcium	180000	ug/L	1000	05/21/21 08:59	
EPA 6010	Iron	380	ug/L	100	05/21/21 08:59	
EPA 6010	Magnesium	27000	ug/L	1000	05/21/21 08:59	
EPA 6010	Manganese	33.4	ug/L	10.0	05/21/21 08:59	
EPA 6010	Silica	14300	ug/L	450	05/21/21 08:59	N2
EPA 6010	Sodium	11000	ug/L	1000	05/21/21 08:59	
EPA 6010	Manganese, Dissolved	21.1	ug/L	10.0	05/23/21 08:14	
EPA 6020	Selenium	6.9	ug/L	1.0	05/17/21 21:47	
EPA 903.1	Radium-226	-0.0600 ± 0.390 (0.846) C:NA T:92%	pCi/L		06/15/21 16:23	
EPA 904.0	Radium-228	1.16 ± 0.479 (0.767) C:79% T:87%	pCi/L		06/14/21 14:39	
Total Radium Calculation	Total Radium	1.16 ± 0.869 (1.61)	pCi/L		06/16/21 08:44	
SM 2320B	Alkalinity, Total as CaCO3	458	mg/L	2.0	05/13/21 16:15	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	458	mg/L	2.0	05/13/21 16:15	
SM 2540C	Total Dissolved Solids	631	mg/L	10.0	05/13/21 16:05	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/14/21 12:41	H3
EPA 353.2	Nitrogen, Nitrate	4.9	mg/L	0.10	05/11/21 14:34	
EPA 365.1	Phosphate as P04	0.37	mg/L	0.15	05/19/21 16:13	
50287134005	FIELD BLANK 4					
EPA 903.1	Radium-226	0.262 ± 0.365 (0.609) C:NA T:98%	pCi/L		06/15/21 16:23	
EPA 904.0	Radium-228	0.0920 ± 0.357 (0.807) C:80% T:90%	pCi/L		06/14/21 14:39	
Total Radium Calculation	Total Radium	0.354 ± 0.722 (1.42)	pCi/L		06/16/21 08:44	
SM 4500-H+B	pH at 25 Degrees C	6.4	Std. Units	0.10	05/14/21 12:49	H3
EPA 365.1	Phosphate as P04	0.65	mg/L	0.15	05/19/21 16:13	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: AP-10A		Lab ID: 50287134001	Collected: 05/10/21 17:10	Received: 05/11/21 11:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions		Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis						
Chloride	142	mg/L	25.0	100		05/24/21 00:51	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 00:19	16984-48-8	
Sulfate	1570	mg/L	25.0	100		05/24/21 00:51	14808-79-8	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Aluminum	ND	ug/L	200	1	05/19/21 06:46	05/21/21 08:40	7429-90-5	
Barium	33.5	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:40	7440-39-3	
Boron	29200	ug/L	100	1	05/19/21 06:46	05/21/21 08:40	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 08:40	7440-43-9	
Calcium	698000	ug/L	5000	5	05/19/21 06:46	05/21/21 12:20	7440-70-2	
Iron	7490	ug/L	100	1	05/19/21 06:46	05/21/21 08:40	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:40	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 08:40	7439-93-2	
Magnesium	8840	ug/L	1000	1	05/19/21 06:46	05/21/21 08:40	7439-95-4	
Manganese	2380	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:40	7439-96-5	
Molybdenum	758	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:40	7439-98-7	
Potassium	16100	ug/L	1000	1	05/19/21 06:46	05/21/21 08:40	7440-09-7	
Silica	11500	ug/L	450	1	05/19/21 06:46	05/21/21 08:40	7631-86-9	N2
Sodium	55600	ug/L	1000	1	05/19/21 06:46	05/21/21 08:40	7440-23-5	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Manganese, Dissolved	2370	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:07	7439-96-5	
Molybdenum, Dissolved	742	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:07	7439-98-7	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:34	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:34	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:34	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:34	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:34	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:34	7440-28-0	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Indianapolis						
Alkalinity, Total as CaCO3	52.2	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Bicarbonate (CaCO3)	52.2	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	2600	mg/L	40.0	1		05/13/21 16:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: AP-10A	Lab ID: 50287134001	Collected: 05/10/21 17:10	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	8.3	Std. Units	0.10	1		05/14/21 12:09		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	3.9	mg/L	1.0	5		05/14/21 13:11		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/11/21 14:24	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:24	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.21	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:11		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.4	mg/L	1.0	1		05/19/21 18:03	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.4	mg/L	1.0	1		05/20/21 17:44		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: MW-20A		Lab ID: 50287134002	Collected: 05/10/21 14:40	Received: 05/11/21 11:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions		Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis						
Chloride	73.1	mg/L	2.5	10		05/24/21 01:24	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 01:08	16984-48-8	
Sulfate	1050	mg/L	25.0	100		05/24/21 01:40	14808-79-8	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Aluminum	293	ug/L	200	1	05/19/21 06:46	05/21/21 08:42	7429-90-5	
Barium	38.4	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:42	7440-39-3	
Boron	16200	ug/L	100	1	05/19/21 06:46	05/21/21 08:42	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 08:42	7440-43-9	
Calcium	454000	ug/L	5000	5	05/19/21 06:46	05/21/21 12:22	7440-70-2	
Iron	9030	ug/L	100	1	05/19/21 06:46	05/21/21 08:42	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:42	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 08:42	7439-93-2	
Magnesium	34000	ug/L	1000	1	05/19/21 06:46	05/21/21 08:42	7439-95-4	
Manganese	1490	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:42	7439-96-5	
Molybdenum	436	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:42	7439-98-7	
Potassium	6150	ug/L	1000	1	05/19/21 06:46	05/21/21 08:42	7440-09-7	
Silica	13300	ug/L	450	1	05/19/21 06:46	05/21/21 08:42	7631-86-9	N2
Sodium	33000	ug/L	1000	1	05/19/21 06:46	05/21/21 08:42	7440-23-5	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Manganese, Dissolved	1520	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:10	7439-96-5	
Molybdenum, Dissolved	488	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:10	7439-98-7	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:39	7440-36-0	
Arsenic	1.8	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:39	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:39	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:39	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:39	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:39	7440-28-0	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Indianapolis						
Alkalinity, Total as CaCO3	176	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Bicarbonate (CaCO3)	176	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	1530	mg/L	20.0	1		05/13/21 16:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: MW-20A		Lab ID: 50287134002		Collected: 05/10/21 14:40	Received: 05/11/21 11:45	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.5	Std. Units	0.10	1		05/14/21 12:37		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous		Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis						
Iron, Ferrous	2.5	mg/L	0.40	2		05/14/21 13:12		H3,N2
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis						
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/11/21 14:26	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:26	14797-65-0	
365.1 Total Phosphorus		Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis						
Phosphate as P04	0.53	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:12		
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 18:14	7440-44-0	
5310C Dissolved Organic Carbon		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 12:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: MW-20I	Lab ID: 50287134003	Collected: 05/10/21 15:35	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	6.6	mg/L	0.25	1		05/24/21 01:56	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 01:56	16984-48-8	
Sulfate	29.5	mg/L	2.5	10		05/24/21 02:13	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/19/21 06:46	05/21/21 08:57	7429-90-5	
Barium	57.9	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:57	7440-39-3	
Boron	265	ug/L	100	1	05/19/21 06:46	05/21/21 08:57	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 08:57	7440-43-9	
Calcium	113000	ug/L	1000	1	05/19/21 06:46	05/21/21 08:57	7440-70-2	
Iron	ND	ug/L	100	1	05/19/21 06:46	05/21/21 08:57	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:57	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 08:57	7439-93-2	
Magnesium	24400	ug/L	1000	1	05/19/21 06:46	05/21/21 08:57	7439-95-4	
Manganese	1700	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:57	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:57	7439-98-7	
Potassium	ND	ug/L	1000	1	05/19/21 06:46	05/21/21 08:57	7440-09-7	
Silica	11000	ug/L	450	1	05/19/21 06:46	05/21/21 08:57	7631-86-9	N2
Sodium	4580	ug/L	1000	1	05/19/21 06:46	05/21/21 08:57	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	1700	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:12	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:12	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:43	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:43	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:43	7440-41-7	
Cobalt	1.1	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:43	7440-48-4	
Selenium	1.5	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:43	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:43	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	316	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Bicarbonate (CaCO3)	316	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	402	mg/L	10.0	1		05/13/21 16:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: MW-20I		Lab ID: 50287134003		Collected: 05/10/21 15:35	Received: 05/11/21 11:45	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.3	Std. Units	0.10	1		05/14/21 12:39		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous		Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis						
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 13:12		H3,N2
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis						
Nitrogen, Nitrate	1.5	mg/L	0.10	1		05/11/21 14:32	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:32	14797-65-0	
365.1 Total Phosphorus		Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis						
Phosphate as P04	0.18	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:12		
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 18:43	7440-44-0	
5310C Dissolved Organic Carbon		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 13:03		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: MW-20B	Lab ID: 50287134004	Collected: 05/10/21 16:14	Received: 05/11/21 11:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	13.4	mg/L	2.5	10		05/24/21 02:44	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 02:29	16984-48-8	
Sulfate	73.2	mg/L	2.5	10		05/24/21 02:44	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	374	ug/L	200	1	05/19/21 06:46	05/21/21 08:59	7429-90-5	
Barium	116	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:59	7440-39-3	
Boron	576	ug/L	100	1	05/19/21 06:46	05/21/21 08:59	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 08:59	7440-43-9	
Calcium	180000	ug/L	1000	1	05/19/21 06:46	05/21/21 08:59	7440-70-2	
Iron	380	ug/L	100	1	05/19/21 06:46	05/21/21 08:59	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:59	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 08:59	7439-93-2	
Magnesium	27000	ug/L	1000	1	05/19/21 06:46	05/21/21 08:59	7439-95-4	
Manganese	33.4	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:59	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 08:59	7439-98-7	
Potassium	ND	ug/L	1000	1	05/19/21 06:46	05/21/21 08:59	7440-09-7	
Silica	14300	ug/L	450	1	05/19/21 06:46	05/21/21 08:59	7631-86-9	N2
Sodium	11000	ug/L	1000	1	05/19/21 06:46	05/21/21 08:59	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	21.1	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:14	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/20/21 06:54	05/23/21 08:14	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:47	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:47	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:47	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:47	7440-48-4	
Selenium	6.9	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:47	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:47	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	458	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Bicarbonate (CaCO3)	458	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	631	mg/L	10.0	1		05/13/21 16:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: MW-20B		Lab ID: 50287134004		Collected: 05/10/21 16:14	Received: 05/11/21 11:45	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.0	Std. Units	0.10	1		05/14/21 12:41		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous		Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis						
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 13:12		H3,N2
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis						
Nitrogen, Nitrate	4.9	mg/L	0.10	1		05/11/21 14:34	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:34	14797-65-0	
365.1 Total Phosphorus		Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis						
Phosphate as P04	0.37	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:13		
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 18:53	7440-44-0	
5310C Dissolved Organic Carbon		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/20/21 13:28		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: FIELD BLANK 4		Lab ID: 50287134005	Collected: 05/10/21 17:35	Received: 05/11/21 11:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions		Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis						
Chloride	ND	mg/L	0.25	1		05/24/21 03:28	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 03:28	16984-48-8	
Sulfate	ND	mg/L	0.25	1		05/24/21 03:28	14808-79-8	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Aluminum	ND	ug/L	200	1	05/19/21 06:46	05/21/21 09:01	7429-90-5	
Barium	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 09:01	7440-39-3	
Boron	ND	ug/L	100	1	05/19/21 06:46	05/21/21 09:01	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/19/21 06:46	05/21/21 09:01	7440-43-9	
Calcium	ND	ug/L	1000	1	05/19/21 06:46	05/21/21 09:01	7440-70-2	
Iron	ND	ug/L	100	1	05/19/21 06:46	05/21/21 09:01	7439-89-6	
Lead	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 09:01	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/19/21 06:46	05/21/21 09:01	7439-93-2	
Magnesium	ND	ug/L	1000	1	05/19/21 06:46	05/21/21 09:01	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 09:01	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/19/21 06:46	05/21/21 09:01	7439-98-7	
Potassium	ND	ug/L	1000	1	05/19/21 06:46	05/21/21 09:01	7440-09-7	
Silica	ND	ug/L	450	1	05/19/21 06:46	05/21/21 09:01	7631-86-9	N2
Sodium	ND	ug/L	1000	1	05/19/21 06:46	05/21/21 09:01	7440-23-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Antimony	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:52	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:52	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/17/21 21:52	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:52	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:52	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/17/21 21:52	7440-28-0	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Indianapolis						
Alkalinity, Total as CaCO3	ND	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 16:15		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	ND	mg/L	10.0	1		05/13/21 16:05		PL
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	6.4	Std. Units	0.10	1		05/14/21 12:49		H3

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: FIELD BLANK 4								
Lab ID: 50287134005								
Collected: 05/10/21 17:35 Received: 05/11/21 11:45 Matrix: Water								
4500S2D Sulfide Water								
Analytical Method: SM 4500-S2-D								
Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	1		05/13/21 09:45	18496-25-8	
Iron, Ferrous								
Analytical Method: HACH 8146								
Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 13:12		H3,N2
353.2 Nitrogen, NO2/NO3 unpres								
Analytical Method: EPA 353.2								
Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/11/21 14:36	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/11/21 14:36	14797-65-0	
365.1 Total Phosphorus								
Analytical Method: EPA 365.1 Preparation Method: EPA 365.1								
Pace Analytical Services - Indianapolis								
Phosphate as P04	0.65	mg/L	0.15	1	05/19/21 13:40	05/19/21 16:13		
5310C TOC								
Analytical Method: SM 5310C								
Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 19:03	7440-44-0	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch:	622300	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2868169 Matrix: Water
Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/23/21 18:36	
Fluoride	mg/L	ND	0.10	05/23/21 18:36	
Sulfate	mg/L	ND	0.25	05/23/21 18:36	

LABORATORY CONTROL SAMPLE: 2868170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.3	100	80-120	
Fluoride	mg/L	0.5	0.51	103	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2868171 2868172

Parameter	Units	50287175004		2868171		2868172		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Chloride	mg/L	104	12.5	12.5	119	119	123	119	119	80-120	0	15	M0
Fluoride	mg/L	0.24	0.5	0.5	0.78	0.80	110	114	114	80-120	2	15	
Sulfate	mg/L	83.2	25	25	108	108	99	100	100	80-120	0	15	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch:	621103	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2862602 Matrix: Water

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/21/21 08:29	
Barium	ug/L	ND	10.0	05/21/21 08:29	
Boron	ug/L	ND	100	05/21/21 08:29	
Cadmium	ug/L	ND	2.0	05/21/21 08:29	
Calcium	ug/L	ND	1000	05/21/21 08:29	
Iron	ug/L	ND	100	05/21/21 08:29	
Lead	ug/L	ND	10.0	05/21/21 08:29	
Lithium	ug/L	ND	20.0	05/21/21 08:29	
Magnesium	ug/L	ND	1000	05/21/21 08:29	
Manganese	ug/L	ND	10.0	05/21/21 08:29	
Molybdenum	ug/L	ND	10.0	05/21/21 08:29	
Potassium	ug/L	ND	1000	05/21/21 08:29	
Silica	ug/L	ND	450	05/21/21 08:29	N2
Sodium	ug/L	ND	1000	05/21/21 08:29	

LABORATORY CONTROL SAMPLE: 2862603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	80-120	
Barium	ug/L	1000	1020	102	80-120	
Boron	ug/L	1000	1020	102	80-120	
Cadmium	ug/L	1000	1020	102	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Iron	ug/L	10000	10200	102	80-120	
Lead	ug/L	1000	1020	102	80-120	
Lithium	ug/L	1000	997	100	80-120	
Magnesium	ug/L	10000	10100	101	80-120	
Manganese	ug/L	1000	1000	100	80-120	
Molybdenum	ug/L	1000	1050	105	80-120	
Potassium	ug/L	10000	10400	104	80-120	
Silica	ug/L	10700	9960	93		N2
Sodium	ug/L	10000	10200	102	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862604												2862605	
Parameter	Units	50287175004 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual		
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD			
Aluminum	ug/L	ND	10000	10000	10600	10600	105	105	75-125	0	20		
Barium	ug/L	73.7	1000	1000	1080	1080	101	101	75-125	0	20		
Boron	ug/L	279	1000	1000	1310	1310	103	103	75-125	0	20		
Cadmium	ug/L	ND	1000	1000	1020	1010	102	101	75-125	0	20		
Calcium	ug/L	85000	10000	10000	95300	93000	103	80	75-125	2	20		
Iron	ug/L	1340	10000	10000	11300	11300	100	99	75-125	0	20		
Lead	ug/L	ND	1000	1000	979	982	98	98	75-125	0	20		
Lithium	ug/L	67.6	1000	1000	1120	1120	105	105	75-125	0	20		
Magnesium	ug/L	20400	10000	10000	30400	29700	101	94	75-125	2	20		
Manganese	ug/L	186	1000	1000	1170	1170	98	98	75-125	0	20		
Molybdenum	ug/L	71.6	1000	1000	1110	1110	104	104	75-125	0	20		
Potassium	ug/L	8910	10000	10000	19600	19400	107	105	75-125	1	20		
Silica	ug/L	10900	10700	10700	21200	21300	96	97		0	N2		
Sodium	ug/L	68000	10000	10000	78700	76600	108	86	75-125	3	20		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch:	621084	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004

METHOD BLANK: 2862541 Matrix: Water

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/23/21 07:12	
Molybdenum, Dissolved	ug/L	ND	10.0	05/23/21 07:12	

LABORATORY CONTROL SAMPLE: 2862542

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	1000	100	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862543 2862544

Parameter	Units	50287119003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	168	1000	1000	1140	1160	97	99	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1020	1030	101	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch:	620693	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2860670 Matrix: Water
Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/18/21 13:27	
Arsenic	ug/L	ND	1.0	05/18/21 13:27	
Beryllium	ug/L	ND	0.20	05/18/21 13:27	
Cobalt	ug/L	ND	1.0	05/18/21 13:27	
Selenium	ug/L	ND	1.0	05/18/21 13:27	
Thallium	ug/L	ND	1.0	05/18/21 13:27	

LABORATORY CONTROL SAMPLE: 2860671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.4	106	80-120	
Arsenic	ug/L	40	39.1	98	80-120	
Beryllium	ug/L	40	38.2	96	80-120	
Cobalt	ug/L	40	42.1	105	80-120	
Selenium	ug/L	40	40.0	100	80-120	
Thallium	ug/L	40	41.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860708 2860709

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50287175004 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	37.7	36.6	94	91	75-125	3	20
Arsenic	ug/L	4.4	40	40	38.9	37.6	86	83	75-125	3	20
Beryllium	ug/L	ND	40	40	34.8	33.8	87	85	75-125	3	20
Cobalt	ug/L	ND	40	40	34.7	33.8	87	84	75-125	3	20
Selenium	ug/L	ND	40	40	34.3	35.6	85	89	75-125	4	20
Thallium	ug/L	ND	40	40	37.6	36.9	94	92	75-125	2	20

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch: 620498 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2859440 Matrix: Water
 Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/13/21 16:15	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/13/21 16:15	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/13/21 16:15	

LABORATORY CONTROL SAMPLE: 2859441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.1	98	90-110	

SAMPLE DUPLICATE: 2859442

Parameter	Units	50287193002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	712	737	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	712	737	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2859443

Parameter	Units	50287193003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	315	324	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	315	324	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5
Pace Project No.: 50287134

QC Batch: 620510 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2859472 Matrix: Water
Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/13/21 15:50	

LABORATORY CONTROL SAMPLE: 2859473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	276	92	80-120	

SAMPLE DUPLICATE: 2859474

Parameter	Units	50287093004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	205	209	2	10	

SAMPLE DUPLICATE: 2859475

Parameter	Units	50287119001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	676	666	1	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch: 620748

Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B

Analysis Description: 4500H+B pH

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001

SAMPLE DUPLICATE: 2860865

Parameter	Units	50287048008 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	6.9	1	2	H3

SAMPLE DUPLICATE: 2860866

Parameter	Units	50287329001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.3	8.3	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch: 620752

Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B

Analysis Description: 4500H+B pH

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134002, 50287134003, 50287134004, 50287134005

SAMPLE DUPLICATE: 2860881

Parameter	Units	50287193003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	2	H3

SAMPLE DUPLICATE: 2860882

Parameter	Units	50287175004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch:	620459	Analysis Method:	SM 4500-S2-D
QC Batch Method:	SM 4500-S2-D	Analysis Description:	4500S2D Sulfide Water
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2859274 Matrix: Water

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/13/21 09:45	

LABORATORY CONTROL SAMPLE: 2859275

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859276 2859277

Parameter	Units	50287175004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.46	0.46	91	91	90-110	0	20	

MATRIX SPIKE SAMPLE: 2859278

Parameter	Units	50287226001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.38	73	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch: 620723	Analysis Method: HACH 8146
QC Batch Method: HACH 8146	Analysis Description: Iron, Ferrous
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2860771 Matrix: Water
Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/14/21 13:07	H3,N2

LABORATORY CONTROL SAMPLE: 2860772

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	103	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860773 2860774

Parameter	Units	50287048002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	0.74	2	2	2.5	2.5	88	87	90-110	1	20	H3,M3,N2

MATRIX SPIKE SAMPLE: 2860775

Parameter	Units	50287126003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	5.8	10	16.0	102	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch:	620058	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2857445 Matrix: Water
Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/11/21 13:47	
Nitrogen, Nitrite	mg/L	ND	0.10	05/11/21 13:47	

LABORATORY CONTROL SAMPLE: 2857446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857447 2857448

Parameter	Units	50286944002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.1	1.2	104	108	90-110	3	20	H3
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	110	114	90-110	4	20	H3,M0

MATRIX SPIKE SAMPLE: 2857552

Parameter	Units	50287134005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.0	102	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	110	90-110	

MATRIX SPIKE SAMPLE: 2857565

Parameter	Units	50287134002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.59	59	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.98	96	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5
Pace Project No.: 50287134

QC Batch: 621545 Analysis Method: EPA 365.1
QC Batch Method: EPA 365.1 Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2864237 Matrix: Water
Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/19/21 16:05	

LABORATORY CONTROL SAMPLE: 2864238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864239 2864240

Parameter	Units	50287068001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	2.1			4.2	4.0				3		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5
Pace Project No.: 50287134

QC Batch: 621318	Analysis Method: SM 5310C
QC Batch Method: SM 5310C	Analysis Description: 5310C Total Organic Carbon
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001, 50287134002

METHOD BLANK: 2863330 Matrix: Water
Associated Lab Samples: 50287134001, 50287134002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/19/21 13:06	

LABORATORY CONTROL SAMPLE: 2863331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863332 2863333

Parameter	Units	50287048008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	ND	10	10	10.4	10.3	98	97	80-120	1	20	

MATRIX SPIKE SAMPLE: 2863334

Parameter	Units	50287087002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L		8.0	10	18.4	103	80-120

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch: 621320	Analysis Method: SM 5310C
QC Batch Method: SM 5310C	Analysis Description: 5310C Total Organic Carbon
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134003, 50287134004, 50287134005

METHOD BLANK: 2863341 Matrix: Water

Associated Lab Samples: 50287134003, 50287134004, 50287134005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/19/21 18:23	

LABORATORY CONTROL SAMPLE: 2863342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863343 2863344

Parameter	Units	50287175004		2863343		2863344		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Total Organic Carbon	mg/L	ND	10	10	9.8	10	98	100	80-120	2	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2863345 2863346

Parameter	Units	50287186001		2863345		2863346		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Total Organic Carbon	mg/L	11.6	20	20	31.2	32.5	98	105	80-120	4	20

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch: 621630

Analysis Method: SM 5310C

QC Batch Method: SM 5310C

Analysis Description: 5310C Dissolved Organic Carbon

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004

METHOD BLANK: 2864694

Matrix: Water

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/20/21 04:20	

LABORATORY CONTROL SAMPLE: 2864695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864696 2864697

Parameter	Units	50287126005		50287134004		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Result	Spike Conc.	Result	Result	% Rec	% Rec				
Dissolved Organic Carbon	mg/L	ND	10	10	10	9.4	9.5	94	95	80-120	1	20	

MATRIX SPIKE SAMPLE: 2864698

Parameter	Units	50287134004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	ND	10	9.9	97	80-120	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: AP-10A **Lab ID: 50287134001** Collected: 05/10/21 17:10 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.572 ± 0.627 (1.01) C:NA T:101%	pCi/L	06/15/21 16:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.767 ± 0.472 (0.895) C:76% T:85%	pCi/L	06/14/21 14:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.34 ± 1.10 (1.91)	pCi/L	06/16/21 08:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: MW-20A **Lab ID: 50287134002** Collected: 05/10/21 14:40 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.262 ± 0.301 (0.178) C:NA T:89%	pCi/L	06/15/21 16:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.52 ± 0.565 (0.863) C:77% T:83%	pCi/L	06/14/21 14:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.78 ± 0.866 (1.04)	pCi/L	06/16/21 08:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: MW-201 **Lab ID: 50287134003** Collected: 05/10/21 15:35 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.252 ± 0.524 (0.944) C:NA T:96%	pCi/L	06/15/21 16:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	-0.0888 ± 0.349 (0.824) C:80% T:89%	pCi/L	06/14/21 14:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.252 ± 0.873 (1.77)	pCi/L	06/16/21 08:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: MW-20B **Lab ID: 50287134004** Collected: 05/10/21 16:14 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.0600 ± 0.390 (0.846) C:NA T:92%	pCi/L	06/15/21 16:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.16 ± 0.479 (0.767) C:79% T:87%	pCi/L	06/14/21 14:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.16 ± 0.869 (1.61)	pCi/L	06/16/21 08:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Sample: FIELD BLANK 4 **Lab ID: 50287134005** Collected: 05/10/21 17:35 Received: 05/11/21 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.262 ± 0.365 (0.609) C:NA T:98%	pCi/L	06/15/21 16:23	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0920 ± 0.357 (0.807) C:80% T:90%	pCi/L	06/14/21 14:39	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.354 ± 0.722 (1.42)	pCi/L	06/16/21 08:44	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch: 450427

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2173764

Matrix: Water

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.553 ± 0.343 (0.636) C:79% T:88%	pCi/L	06/14/21 11:28	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

QC Batch: 450428

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

METHOD BLANK: 2173765

Matrix: Water

Associated Lab Samples: 50287134001, 50287134002, 50287134003, 50287134004, 50287134005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.138 ± 0.239 (0.602) C:NA T:102%	pCi/L	06/15/21 16:23	

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QUALIFIERS

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

PL The minimum mass of dried residue of 2.5 mg could not be obtained using the routine sample volume of 100 mL.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287134001	AP-10A	EPA 9056	622300		
50287134002	MW-20A	EPA 9056	622300		
50287134003	MW-20I	EPA 9056	622300		
50287134004	MW-20B	EPA 9056	622300		
50287134005	FIELD BLANK 4	EPA 9056	622300		
50287134001	AP-10A	EPA 3010	621103	EPA 6010	622008
50287134002	MW-20A	EPA 3010	621103	EPA 6010	622008
50287134003	MW-20I	EPA 3010	621103	EPA 6010	622008
50287134004	MW-20B	EPA 3010	621103	EPA 6010	622008
50287134005	FIELD BLANK 4	EPA 3010	621103	EPA 6010	622008
50287134001	AP-10A	EPA 3010	621084	EPA 6010	622263
50287134002	MW-20A	EPA 3010	621084	EPA 6010	622263
50287134003	MW-20I	EPA 3010	621084	EPA 6010	622263
50287134004	MW-20B	EPA 3010	621084	EPA 6010	622263
50287134001	AP-10A	EPA 200.2	620693	EPA 6020	620958
50287134002	MW-20A	EPA 200.2	620693	EPA 6020	620958
50287134003	MW-20I	EPA 200.2	620693	EPA 6020	620958
50287134004	MW-20B	EPA 200.2	620693	EPA 6020	620958
50287134005	FIELD BLANK 4	EPA 200.2	620693	EPA 6020	620958
50287134001	AP-10A	EPA 903.1	450428		
50287134002	MW-20A	EPA 903.1	450428		
50287134003	MW-20I	EPA 903.1	450428		
50287134004	MW-20B	EPA 903.1	450428		
50287134005	FIELD BLANK 4	EPA 903.1	450428		
50287134001	AP-10A	EPA 904.0	450427		
50287134002	MW-20A	EPA 904.0	450427		
50287134003	MW-20I	EPA 904.0	450427		
50287134004	MW-20B	EPA 904.0	450427		
50287134005	FIELD BLANK 4	EPA 904.0	450427		
50287134001	AP-10A	Total Radium Calculation	452609		
50287134002	MW-20A	Total Radium Calculation	452609		
50287134003	MW-20I	Total Radium Calculation	452609		
50287134004	MW-20B	Total Radium Calculation	452609		
50287134005	FIELD BLANK 4	Total Radium Calculation	452609		
50287134001	AP-10A	SM 2320B	620498		
50287134002	MW-20A	SM 2320B	620498		
50287134003	MW-20I	SM 2320B	620498		
50287134004	MW-20B	SM 2320B	620498		
50287134005	FIELD BLANK 4	SM 2320B	620498		
50287134001	AP-10A	SM 2540C	620510		
50287134002	MW-20A	SM 2540C	620510		
50287134003	MW-20I	SM 2540C	620510		
50287134004	MW-20B	SM 2540C	620510		
50287134005	FIELD BLANK 4	SM 2540C	620510		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2 R5

Pace Project No.: 50287134

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287134001	AP-10A	SM 4500-H+B	620748		
50287134002	MW-20A	SM 4500-H+B	620752		
50287134003	MW-20I	SM 4500-H+B	620752		
50287134004	MW-20B	SM 4500-H+B	620752		
50287134005	FIELD BLANK 4	SM 4500-H+B	620752		
50287134001	AP-10A	SM 4500-S2-D	620459		
50287134002	MW-20A	SM 4500-S2-D	620459		
50287134003	MW-20I	SM 4500-S2-D	620459		
50287134004	MW-20B	SM 4500-S2-D	620459		
50287134005	FIELD BLANK 4	SM 4500-S2-D	620459		
50287134001	AP-10A	HACH 8146	620723		
50287134002	MW-20A	HACH 8146	620723		
50287134003	MW-20I	HACH 8146	620723		
50287134004	MW-20B	HACH 8146	620723		
50287134005	FIELD BLANK 4	HACH 8146	620723		
50287134001	AP-10A	EPA 353.2	620058		
50287134002	MW-20A	EPA 353.2	620058		
50287134003	MW-20I	EPA 353.2	620058		
50287134004	MW-20B	EPA 353.2	620058		
50287134005	FIELD BLANK 4	EPA 353.2	620058		
50287134001	AP-10A	EPA 365.1	621545	EPA 365.1	621610
50287134002	MW-20A	EPA 365.1	621545	EPA 365.1	621610
50287134003	MW-20I	EPA 365.1	621545	EPA 365.1	621610
50287134004	MW-20B	EPA 365.1	621545	EPA 365.1	621610
50287134005	FIELD BLANK 4	EPA 365.1	621545	EPA 365.1	621610
50287134001	AP-10A	SM 5310C	621318		
50287134002	MW-20A	SM 5310C	621318		
50287134003	MW-20I	SM 5310C	621320		
50287134004	MW-20B	SM 5310C	621320		
50287134005	FIELD BLANK 4	SM 5310C	621320		
50287134001	AP-10A	SM 5310C	621630		
50287134002	MW-20A	SM 5310C	621630		
50287134003	MW-20I	SM 5310C	621630		
50287134004	MW-20B	SM 5310C	621630		

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: WS 5-11-21 1310

- 1. Courier: FED EX UPS CLIENT PACE USPS OTHER
- 2. Custody Seal on Cooler/Box Present: Yes No
(If yes)Seals Intact: Yes No (leave blank if no seals were present)
- 3. Thermometer: 1 2 3 4 5 6 A B C D E F
- 4. Cooler Temperature: 3.4/3.3, 27/2.1, 26/2.0
Temp should be above freezing to 6°C (Initial/Corrected)

- 5. Packing Material: Bubble Wrap Bubble Bags
 None Other
- 6. Ice Type: Wet Blue None
- 7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		<input checked="" type="checkbox"/>	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis: <u>Nitrates</u>	<input checked="" type="checkbox"/>		Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	<input checked="" type="checkbox"/>		
Time 5035A TC placed in Freezer or Short Holds To Lab Time: <u>1415</u>			Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>Present</u>	<u>Absent</u>	<u>N/A</u> <input checked="" type="checkbox"/>
Rush TAT Requested (4 days or less):		<input checked="" type="checkbox"/>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			<input checked="" type="checkbox"/>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<input checked="" type="checkbox"/>
Containers Intact?:	<input checked="" type="checkbox"/>		Headspace in VOA Vials (>6mm): See Container Count form for details	<u>Present</u>	<u>Absent</u>	<input checked="" type="checkbox"/>
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<input checked="" type="checkbox"/>		Trip Blank Present?		<input checked="" type="checkbox"/>	
Extra labels on Terracore Vials? (soils only)		<input checked="" type="checkbox"/>	Trip Blank Custody Seals?:		<input checked="" type="checkbox"/>	

COMMENTS:

Sample Container Count

Sample Line Item	WGUFU	SBS DI BK Kit	R	DG9H	VG9H	VOA VIAL HS (≥6mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H				Matrix	pH <2	pH >9	pH >10	
																																1
2													2			2	1	2	1	1	1		1						WT	✓	✓	
3																																
4																																
5																																
6													2			2	1	2	1	1	1		1						WT	✓	✓	
7													↓			↓	↓	↓	↓	↓	↓	↓	↓					↓	↓	↓		
8													↓			↓	↓	↓	↓	↓	↓	↓	↓					↓	↓	↓		
9																																
10																																
11																																
12																																

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac		
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic		
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic		
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic		
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic		
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic		
WGUFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic		
JGFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)		
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass				
						AF	Air Filter
						C	Air Cassettes
						R	Terra core kit
						SP5T	120mL Coliform Na Thiosulfate
						U	Summa Can
						ZPLC	Ziploc Bag
						WT	Water
						SL	Solid
						NAL	Non-aqueous liquid
						WP	Wipe

Sample Container Count

Sample Line Item	WGUFU	SBS DI BK Kit	R	DG9H	VG9H	VOA VIAL HS (≥6mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H						Matrix	pH <2	pH >9	pH >10	
1													1			2	1	2	1		1		1								Wt	✓	✓	
2																																		
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12																																		

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac		
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic		
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic		
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic		
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic		
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic		
WGUFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic		
JGFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)		
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass				
						AF	Air Filter
						C	Air Cassettes
						R	Terra core kit
						SP5T	120mL Coliform Na Thiosulfate
						U	Summa Can
						ZPLC	Ziploc Bag
						WT	Water
						SL	Solid
						NAL	Non-aqueous liquid
						WP	Wipe

July 22, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50287228

Dear Wil Teague:

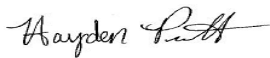
Enclosed are the analytical results for sample(s) received by the laboratory on May 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Ms. Slawa Bruder, ATC Group Services
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50287228

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Florida: Cert E871149 SEKS WET
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50287228001	AP-9A	Water	05/11/21 14:30	05/12/21 10:40
50287228002	MW-19A	Water	05/11/21 10:45	05/12/21 10:40
50287228003	MW-19I	Water	05/11/21 11:35	05/12/21 10:40
50287228004	MW-19B	Water	05/11/21 12:25	05/12/21 10:40
50287228005	DUP 4	Water	05/11/21 13:00	05/12/21 10:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50287228001	AP-9A	EPA 9056	HBS	3	PASI-I		
		EPA 6010	JDG	14	PASI-I		
		EPA 6010	JPK	2	PASI-I		
		EPA 6020	RAM	6	PASI-I		
		EPA 903.1	MK1	1	PASI-PA		
		EPA 904.0	VAL	1	PASI-PA		
		Total Radium Calculation	RMK	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	WZE	1	PASI-I		
		SM 4500-H+B	SWJ	1	PASI-I		
		SM 4500-S2-D	SWJ	1	PASI-I		
		HACH 8146	SWJ	1	PASI-I		
		EPA 353.2	SLB	2	PASI-I		
		EPA 365.1	SKK	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50287228002	MW-19A	EPA 9056	HBS	3	PASI-I
				EPA 6010	JDG	14	PASI-I
				EPA 6010	JPK	2	PASI-I
EPA 6020	RAM			6	PASI-I		
EPA 903.1	MK1			1	PASI-PA		
EPA 904.0	VAL			1	PASI-PA		
Total Radium Calculation	RMK			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	WZE			1	PASI-I		
SM 4500-H+B	SWJ			1	PASI-I		
SM 4500-S2-D	SWJ			1	PASI-I		
HACH 8146	SWJ			1	PASI-I		
EPA 353.2	SLB			2	PASI-I		
EPA 365.1	SKK			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50287228003	MW-19I			EPA 9056	HBS	3	PASI-I
				EPA 6010	JDG	14	PASI-I
				EPA 6010	JPK	2	PASI-I
		EPA 6020	RAM	6	PASI-I		
		EPA 903.1	MK1	1	PASI-PA		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50287228004	MW-19B	EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		EPA 9056	HBS	3	PASI-I
		EPA 6010	JDG	14	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
SM 5310C	GWA	1	PASI-I		
50287228005	DUP 4	EPA 9056	HBS	3	PASI-I
		EPA 6010	JDG	14	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	RAM	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	SLB	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287228001	AP-9A					
EPA 9056	Chloride	143	mg/L	25.0	05/24/21 23:18	
EPA 9056	Fluoride	0.15	mg/L	0.10	05/24/21 23:02	
EPA 9056	Sulfate	1680	mg/L	25.0	05/24/21 23:18	
EPA 6010	Barium	42.1	ug/L	10.0	05/21/21 10:00	
EPA 6010	Boron	32200	ug/L	100	05/21/21 10:00	
EPA 6010	Calcium	748000	ug/L	10000	05/21/21 12:25	
EPA 6010	Iron	6210	ug/L	100	05/21/21 10:00	
EPA 6010	Magnesium	17600	ug/L	1000	05/21/21 10:00	
EPA 6010	Manganese	1660	ug/L	10.0	05/21/21 10:00	
EPA 6010	Molybdenum	2130	ug/L	10.0	05/21/21 10:00	
EPA 6010	Potassium	37000	ug/L	1000	05/21/21 10:00	
EPA 6010	Silica	13500	ug/L	450	05/21/21 10:00	N2
EPA 6010	Sodium	47400	ug/L	1000	05/21/21 10:00	
EPA 6010	Manganese, Dissolved	1590	ug/L	10.0	05/21/21 03:40	
EPA 6010	Molybdenum, Dissolved	2030	ug/L	10.0	05/21/21 03:40	
EPA 903.1	Radium-226	0.230 ± 0.452 (0.812)	pCi/L		06/17/21 13:18	
EPA 904.0	Radium-228	0.747 ± 0.595 (1.18)	pCi/L		06/15/21 17:58	
		C:NA T:98%				
		0.977 ± 1.05 (1.99)	pCi/L		06/17/21 16:26	
	Total Radium					
SM 2320B	Alkalinity, Total as CaCO3	52.9	mg/L	2.0	05/13/21 20:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	52.9	mg/L	2.0	05/13/21 20:55	
SM 2540C	Total Dissolved Solids	2820	mg/L	40.0	05/14/21 10:00	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/19/21 15:03	H3
HACH 8146	Iron, Ferrous	4.4	mg/L	1.0	05/14/21 14:14	H3,N2
EPA 365.1	Phosphate as P04	0.46	mg/L	0.15	05/21/21 13:18	
50287228002	MW-19A					
EPA 9056	Chloride	108	mg/L	25.0	05/24/21 23:51	
EPA 9056	Sulfate	1450	mg/L	25.0	05/24/21 23:51	
EPA 6010	Barium	35.3	ug/L	10.0	05/21/21 10:02	
EPA 6010	Boron	24000	ug/L	100	05/21/21 10:02	
EPA 6010	Calcium	638000	ug/L	5000	05/21/21 12:27	
EPA 6010	Iron	9460	ug/L	100	05/21/21 10:02	
EPA 6010	Magnesium	27200	ug/L	1000	05/21/21 10:02	
EPA 6010	Manganese	1830	ug/L	10.0	05/21/21 10:02	
EPA 6010	Molybdenum	921	ug/L	10.0	05/21/21 10:02	
EPA 6010	Potassium	12600	ug/L	1000	05/21/21 10:02	
EPA 6010	Silica	12500	ug/L	450	05/21/21 10:02	N2
EPA 6010	Sodium	45400	ug/L	1000	05/21/21 10:02	
EPA 6010	Manganese, Dissolved	1760	ug/L	10.0	05/21/21 03:42	
EPA 6010	Molybdenum, Dissolved	890	ug/L	10.0	05/21/21 03:42	
EPA 6020	Arsenic	1.1	ug/L	1.0	05/18/21 01:16	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287228002	MW-19A					
EPA 903.1	Radium-226	-0.0529 ± 0.344 (0.745) C:NA T:93%	pCi/L		06/17/21 13:18	
EPA 904.0	Radium-228	0.745 ± 0.512 (0.979) C:75% T:90%	pCi/L		06/15/21 17:58	
Total Radium Calculation	Total Radium	0.745 ± 0.856 (1.72)	pCi/L		06/17/21 16:26	
SM 2320B	Alkalinity, Total as CaCO3	99.0	mg/L	2.0	05/13/21 20:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	99.0	mg/L	2.0	05/13/21 20:55	
SM 2540C	Total Dissolved Solids	2350	mg/L	40.0	05/14/21 10:01	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/19/21 15:05	H3
HACH 8146	Iron, Ferrous	6.2	mg/L	1.0	05/14/21 14:14	H3,N2
EPA 353.2	Nitrogen, Nitrate	0.22	mg/L	0.10	05/13/21 07:58	
EPA 365.1	Phosphate as P04	0.20	mg/L	0.15	05/21/21 13:19	
50287228003	MW-19I					
EPA 9056	Chloride	11.5	mg/L	2.5	05/25/21 00:24	
EPA 9056	Sulfate	79.0	mg/L	2.5	05/25/21 00:24	
EPA 6010	Barium	59.6	ug/L	10.0	05/21/21 10:04	
EPA 6010	Boron	1020	ug/L	100	05/21/21 10:04	
EPA 6010	Calcium	110000	ug/L	1000	05/21/21 10:04	
EPA 6010	Magnesium	25300	ug/L	1000	05/21/21 10:04	
EPA 6010	Manganese	1860	ug/L	10.0	05/21/21 10:04	
EPA 6010	Silica	8670	ug/L	450	05/21/21 10:04	N2
EPA 6010	Sodium	7580	ug/L	1000	05/21/21 10:04	
EPA 6010	Manganese, Dissolved	1640	ug/L	10.0	05/21/21 03:44	
EPA 903.1	Radium-226	0.149 ± 0.257 (0.460) C:NA T:99%	pCi/L		06/17/21 13:18	
EPA 904.0	Radium-228	0.803 ± 0.493 (0.904) C:75% T:90%	pCi/L		06/15/21 17:58	
Total Radium Calculation	Total Radium	0.952 ± 0.750 (1.36)	pCi/L		06/17/21 16:26	
SM 2320B	Alkalinity, Total as CaCO3	284	mg/L	2.0	05/13/21 20:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	284	mg/L	2.0	05/13/21 20:55	
SM 2540C	Total Dissolved Solids	439	mg/L	10.0	05/14/21 10:01	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/19/21 15:10	H3
EPA 353.2	Nitrogen, Nitrate	0.12	mg/L	0.10	05/13/21 08:03	
50287228004	MW-19B					
EPA 9056	Chloride	11.2	mg/L	2.5	05/25/21 00:56	
EPA 9056	Fluoride	0.14	mg/L	0.10	05/25/21 00:40	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287228004	MW-19B					
EPA 9056	Sulfate	41.5	mg/L	2.5	05/25/21 00:56	
EPA 6010	Barium	51.5	ug/L	10.0	05/21/21 10:06	
EPA 6010	Boron	576	ug/L	100	05/21/21 10:06	
EPA 6010	Calcium	87200	ug/L	1000	05/21/21 10:06	
EPA 6010	Magnesium	17700	ug/L	1000	05/21/21 10:06	
EPA 6010	Potassium	2070	ug/L	1000	05/21/21 10:06	
EPA 6010	Silica	8760	ug/L	450	05/21/21 10:06	N2
EPA 6010	Sodium	8460	ug/L	1000	05/21/21 10:06	
EPA 6020	Selenium	2.1	ug/L	1.0	05/18/21 01:25	
EPA 903.1	Radium-226	-0.379 ± 0.431 (1.05) C:NA T:89%	pCi/L		06/17/21 13:18	
EPA 904.0	Radium-228	0.399 ± 0.510 (1.08) C:72% T:84%	pCi/L		06/15/21 17:58	
Total Radium Calculation	Total Radium	0.399 ± 0.941 (2.13)	pCi/L		06/17/21 16:26	
SM 2320B	Alkalinity, Total as CaCO3	220	mg/L	2.0	05/13/21 20:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	220	mg/L	2.0	05/13/21 20:55	
SM 2540C	Total Dissolved Solids	345	mg/L	10.0	05/14/21 10:02	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	05/19/21 15:12	H3
EPA 353.2	Nitrogen, Nitrate	4.6	mg/L	0.10	05/13/21 08:13	
50287228005	DUP 4					
EPA 9056	Chloride	11.1	mg/L	2.5	05/25/21 01:29	
EPA 9056	Fluoride	0.14	mg/L	0.10	05/25/21 01:13	
EPA 9056	Sulfate	41.4	mg/L	2.5	05/25/21 01:29	
EPA 6010	Barium	51.0	ug/L	10.0	05/21/21 10:08	
EPA 6010	Boron	566	ug/L	100	05/21/21 10:08	
EPA 6010	Calcium	85400	ug/L	1000	05/21/21 10:08	
EPA 6010	Magnesium	17400	ug/L	1000	05/21/21 10:08	
EPA 6010	Potassium	2010	ug/L	1000	05/21/21 10:08	
EPA 6010	Silica	8530	ug/L	450	05/21/21 10:08	N2
EPA 6010	Sodium	9020	ug/L	1000	05/21/21 10:08	
EPA 6020	Selenium	2.0	ug/L	1.0	05/18/21 01:29	
EPA 903.1	Radium-226	-0.110 ± 0.251 (0.591) C:NA T:99%	pCi/L		06/17/21 13:45	
EPA 904.0	Radium-228	0.109 ± 0.383 (0.869) C:77% T:92%	pCi/L		06/15/21 17:56	
Total Radium Calculation	Total Radium	0.109 ± 0.634 (1.46)	pCi/L		06/17/21 16:26	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287228005	DUP 4					
SM 2320B	Alkalinity, Total as CaCO ₃	225	mg/L	2.0	05/13/21 20:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO ₃)	225	mg/L	2.0	05/13/21 20:55	
SM 2540C	Total Dissolved Solids	329	mg/L	10.0	05/14/21 10:02	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	05/19/21 15:14	H3
EPA 353.2	Nitrogen, Nitrate	3.3	mg/L	0.10	05/13/21 08:15	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: AP-9A	Lab ID: 50287228001	Collected: 05/11/21 14:30	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	143	mg/L	25.0	100		05/24/21 23:18	16887-00-6	
Fluoride	0.15	mg/L	0.10	1		05/24/21 23:02	16984-48-8	
Sulfate	1680	mg/L	25.0	100		05/24/21 23:18	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/20/21 13:53	05/21/21 10:00	7429-90-5	
Barium	42.1	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:00	7440-39-3	
Boron	32200	ug/L	100	1	05/20/21 13:53	05/21/21 10:00	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/20/21 13:53	05/21/21 10:00	7440-43-9	
Calcium	748000	ug/L	10000	10	05/20/21 13:53	05/21/21 12:25	7440-70-2	
Iron	6210	ug/L	100	1	05/20/21 13:53	05/21/21 10:00	7439-89-6	
Lead	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:00	7439-92-1	
Lithium	ND	ug/L	200	10	05/20/21 13:53	05/21/21 12:25	7439-93-2	D3
Magnesium	17600	ug/L	1000	1	05/20/21 13:53	05/21/21 10:00	7439-95-4	
Manganese	1660	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:00	7439-96-5	
Molybdenum	2130	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:00	7439-98-7	
Potassium	37000	ug/L	1000	1	05/20/21 13:53	05/21/21 10:00	7440-09-7	
Silica	13500	ug/L	450	1	05/20/21 13:53	05/21/21 10:00	7631-86-9	N2
Sodium	47400	ug/L	1000	1	05/20/21 13:53	05/21/21 10:00	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	1590	ug/L	10.0	1	05/20/21 13:20	05/21/21 03:40	7439-96-5	
Molybdenum, Dissolved	2030	ug/L	10.0	1	05/20/21 13:20	05/21/21 03:40	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:12	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:12	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/16/21 08:25	05/18/21 01:12	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:12	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:12	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	52.9	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Bicarbonate (CaCO3)	52.9	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 20:55		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2820	mg/L	40.0	1		05/14/21 10:00		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: AP-9A	Lab ID: 50287228001	Collected: 05/11/21 14:30	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		05/19/21 15:03		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 11:48	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	4.4	mg/L	1.0	5		05/14/21 14:14		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		05/13/21 08:26	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/13/21 08:26	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.46	mg/L	0.15	1	05/20/21 15:36	05/21/21 13:18		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/21/21 03:44	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/24/21 20:07		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: MW-19A	Lab ID: 50287228002	Collected: 05/11/21 10:45	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	108	mg/L	25.0	100		05/24/21 23:51	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/24/21 23:34	16984-48-8	
Sulfate	1450	mg/L	25.0	100		05/24/21 23:51	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/20/21 13:53	05/21/21 10:02	7429-90-5	
Barium	35.3	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:02	7440-39-3	
Boron	24000	ug/L	100	1	05/20/21 13:53	05/21/21 10:02	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/20/21 13:53	05/21/21 10:02	7440-43-9	
Calcium	638000	ug/L	5000	5	05/20/21 13:53	05/21/21 12:27	7440-70-2	
Iron	9460	ug/L	100	1	05/20/21 13:53	05/21/21 10:02	7439-89-6	
Lead	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:02	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/20/21 13:53	05/21/21 10:02	7439-93-2	
Magnesium	27200	ug/L	1000	1	05/20/21 13:53	05/21/21 10:02	7439-95-4	
Manganese	1830	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:02	7439-96-5	
Molybdenum	921	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:02	7439-98-7	
Potassium	12600	ug/L	1000	1	05/20/21 13:53	05/21/21 10:02	7440-09-7	
Silica	12500	ug/L	450	1	05/20/21 13:53	05/21/21 10:02	7631-86-9	N2
Sodium	45400	ug/L	1000	1	05/20/21 13:53	05/21/21 10:02	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	1760	ug/L	10.0	1	05/20/21 13:20	05/21/21 03:42	7439-96-5	
Molybdenum, Dissolved	890	ug/L	10.0	1	05/20/21 13:20	05/21/21 03:42	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:16	7440-36-0	
Arsenic	1.1	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:16	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/16/21 08:25	05/18/21 01:16	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:16	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:16	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:16	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	99.0	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Bicarbonate (CaCO3)	99.0	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 20:55		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2350	mg/L	40.0	1		05/14/21 10:01		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: MW-19A	Lab ID: 50287228002	Collected: 05/11/21 10:45	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		05/19/21 15:05		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 11:48	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	6.2	mg/L	1.0	5		05/14/21 14:14		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	0.22	mg/L	0.10	1		05/13/21 07:58	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/13/21 07:58	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.20	mg/L	0.15	1	05/20/21 15:36	05/21/21 13:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/21/21 04:10	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/24/21 20:39		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: MW-19I	Lab ID: 50287228003	Collected: 05/11/21 11:35	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	11.5	mg/L	2.5	10		05/25/21 00:24	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/25/21 00:07	16984-48-8	
Sulfate	79.0	mg/L	2.5	10		05/25/21 00:24	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/20/21 13:53	05/21/21 10:04	7429-90-5	
Barium	59.6	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:04	7440-39-3	
Boron	1020	ug/L	100	1	05/20/21 13:53	05/21/21 10:04	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/20/21 13:53	05/21/21 10:04	7440-43-9	
Calcium	110000	ug/L	1000	1	05/20/21 13:53	05/21/21 10:04	7440-70-2	
Iron	ND	ug/L	100	1	05/20/21 13:53	05/21/21 10:04	7439-89-6	
Lead	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:04	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/20/21 13:53	05/21/21 10:04	7439-93-2	
Magnesium	25300	ug/L	1000	1	05/20/21 13:53	05/21/21 10:04	7439-95-4	
Manganese	1860	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:04	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:04	7439-98-7	
Potassium	ND	ug/L	1000	1	05/20/21 13:53	05/21/21 10:04	7440-09-7	
Silica	8670	ug/L	450	1	05/20/21 13:53	05/21/21 10:04	7631-86-9	N2
Sodium	7580	ug/L	1000	1	05/20/21 13:53	05/21/21 10:04	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	1640	ug/L	10.0	1	05/20/21 13:20	05/21/21 03:44	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/20/21 13:20	05/21/21 03:44	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:21	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:21	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/16/21 08:25	05/18/21 01:21	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:21	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:21	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:21	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	284	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Bicarbonate (CaCO3)	284	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 20:55		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	439	mg/L	10.0	1		05/14/21 10:01		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: MW-191	Lab ID: 50287228003	Collected: 05/11/21 11:35	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		05/19/21 15:10		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 11:48	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 14:14		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	0.12	mg/L	0.10	1		05/13/21 08:03	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/13/21 08:03	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/20/21 15:36	05/21/21 13:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/21/21 04:36	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/24/21 21:04		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: MW-19B	Lab ID: 50287228004	Collected: 05/11/21 12:25	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	11.2	mg/L	2.5	10		05/25/21 00:56	16887-00-6	
Fluoride	0.14	mg/L	0.10	1		05/25/21 00:40	16984-48-8	
Sulfate	41.5	mg/L	2.5	10		05/25/21 00:56	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/20/21 13:53	05/21/21 10:06	7429-90-5	
Barium	51.5	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:06	7440-39-3	
Boron	576	ug/L	100	1	05/20/21 13:53	05/21/21 10:06	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/20/21 13:53	05/21/21 10:06	7440-43-9	
Calcium	87200	ug/L	1000	1	05/20/21 13:53	05/21/21 10:06	7440-70-2	
Iron	ND	ug/L	100	1	05/20/21 13:53	05/21/21 10:06	7439-89-6	
Lead	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:06	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/20/21 13:53	05/21/21 10:06	7439-93-2	
Magnesium	17700	ug/L	1000	1	05/20/21 13:53	05/21/21 10:06	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:06	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:06	7439-98-7	
Potassium	2070	ug/L	1000	1	05/20/21 13:53	05/21/21 10:06	7440-09-7	
Silica	8760	ug/L	450	1	05/20/21 13:53	05/21/21 10:06	7631-86-9	N2
Sodium	8460	ug/L	1000	1	05/20/21 13:53	05/21/21 10:06	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	ND	ug/L	10.0	1	05/20/21 13:20	05/21/21 03:58	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/20/21 13:20	05/21/21 03:58	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:25	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:25	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/16/21 08:25	05/18/21 01:25	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:25	7440-48-4	
Selenium	2.1	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:25	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:25	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	220	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Bicarbonate (CaCO3)	220	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 20:55		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	345	mg/L	10.0	1		05/14/21 10:02		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: MW-19B	Lab ID: 50287228004	Collected: 05/11/21 12:25	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.5	Std. Units	0.10	1		05/19/21 15:12		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 11:48	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 14:14		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	4.6	mg/L	0.10	1		05/13/21 08:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/13/21 08:13	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/20/21 15:36	05/21/21 13:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/21/21 05:01	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/24/21 21:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: DUP 4	Lab ID: 50287228005	Collected: 05/11/21 13:00	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	11.1	mg/L	2.5	10		05/25/21 01:29	16887-00-6	
Fluoride	0.14	mg/L	0.10	1		05/25/21 01:13	16984-48-8	
Sulfate	41.4	mg/L	2.5	10		05/25/21 01:29	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/20/21 13:53	05/21/21 10:08	7429-90-5	
Barium	51.0	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:08	7440-39-3	
Boron	566	ug/L	100	1	05/20/21 13:53	05/21/21 10:08	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/20/21 13:53	05/21/21 10:08	7440-43-9	
Calcium	85400	ug/L	1000	1	05/20/21 13:53	05/21/21 10:08	7440-70-2	
Iron	ND	ug/L	100	1	05/20/21 13:53	05/21/21 10:08	7439-89-6	
Lead	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:08	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/20/21 13:53	05/21/21 10:08	7439-93-2	
Magnesium	17400	ug/L	1000	1	05/20/21 13:53	05/21/21 10:08	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:08	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/20/21 13:53	05/21/21 10:08	7439-98-7	
Potassium	2010	ug/L	1000	1	05/20/21 13:53	05/21/21 10:08	7440-09-7	
Silica	8530	ug/L	450	1	05/20/21 13:53	05/21/21 10:08	7631-86-9	N2
Sodium	9020	ug/L	1000	1	05/20/21 13:53	05/21/21 10:08	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	ND	ug/L	10.0	1	05/20/21 13:20	05/21/21 04:00	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/20/21 13:20	05/21/21 04:00	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:29	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:29	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/16/21 08:25	05/18/21 01:29	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:29	7440-48-4	
Selenium	2.0	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:29	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/16/21 08:25	05/18/21 01:29	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	225	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Bicarbonate (CaCO3)	225	mg/L	2.0	1		05/13/21 20:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 20:55		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	329	mg/L	10.0	1		05/14/21 10:02		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: DUP 4	Lab ID: 50287228005	Collected: 05/11/21 13:00	Received: 05/12/21 10:40	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.6	Std. Units	0.10	1		05/19/21 15:14		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/21 11:48	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 14:14		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	3.3	mg/L	0.10	1		05/13/21 08:15	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/13/21 08:15	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/20/21 15:36	05/21/21 13:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/21/21 05:26	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/24/21 21:54		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch: 622453 Analysis Method: EPA 9056
 QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2868626 Matrix: Water
 Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/24/21 16:45	
Fluoride	mg/L	ND	0.10	05/24/21 16:45	
Sulfate	mg/L	ND	0.25	05/24/21 16:45	

LABORATORY CONTROL SAMPLE: 2868627

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	96	80-120	
Fluoride	mg/L	0.5	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2868628 2868629

Parameter	Units	50287187001		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result							
Chloride	mg/L	26.5	12.5	12.5	39.7	39.7	106	106	106	80-120	0	15		
Fluoride	mg/L	0.69	0.5	0.5	1.2	1.2	98	99	99	80-120	0	15		
Sulfate	mg/L	<2.0	2.5	2.5	2.4	2.4	92	92	92	80-120	0	15		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch: 621507 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2864047 Matrix: Water
 Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/21/21 09:42	
Barium	ug/L	ND	10.0	05/21/21 09:42	
Boron	ug/L	ND	100	05/21/21 09:42	
Cadmium	ug/L	ND	2.0	05/21/21 09:42	
Calcium	ug/L	ND	1000	05/21/21 09:42	
Iron	ug/L	ND	100	05/21/21 09:42	
Lead	ug/L	ND	10.0	05/21/21 09:42	
Lithium	ug/L	ND	20.0	05/21/21 09:42	
Magnesium	ug/L	ND	1000	05/21/21 09:42	
Manganese	ug/L	ND	10.0	05/21/21 09:42	
Molybdenum	ug/L	ND	10.0	05/21/21 09:42	
Potassium	ug/L	ND	1000	05/21/21 09:42	
Silica	ug/L	ND	450	05/21/21 09:42	N2
Sodium	ug/L	ND	1000	05/21/21 09:42	

LABORATORY CONTROL SAMPLE: 2864048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	80-120	
Barium	ug/L	1000	1010	101	80-120	
Boron	ug/L	1000	1020	102	80-120	
Cadmium	ug/L	1000	1000	100	80-120	
Calcium	ug/L	10000	10100	101	80-120	
Iron	ug/L	10000	10000	100	80-120	
Lead	ug/L	1000	991	99	80-120	
Lithium	ug/L	1000	1000	100	80-120	
Magnesium	ug/L	10000	9820	98	80-120	
Manganese	ug/L	1000	986	99	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	
Potassium	ug/L	10000	10100	101	80-120	
Silica	ug/L	10700	10300	97		N2
Sodium	ug/L	10000	10100	101	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Parameter	Units	50287382001		2864049		2864050		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS	MSD	MS	MSD	MS	MSD							
Aluminum	ug/L	ND	10000	10000	10300	10200	102	101	75-125	1	20			
Barium	ug/L	0.022 mg/L	1000	1000	1020	1010	100	98	75-125	1	20			
Boron	ug/L	1.1 mg/L	1000	1000	2070	2040	100	97	75-125	2	20			
Cadmium	ug/L	ND	1000	1000	1000	994	100	99	75-125	1	20			
Calcium	ug/L	53.3 mg/L	10000	10000	62400	61200	91	79	75-125	2	20			
Iron	ug/L	ND	10000	10000	9870	9800	99	98	75-125	1	20			
Lead	ug/L	ND	1000	1000	971	969	97	97	75-125	0	20			
Lithium	ug/L	0.031 mg/L	1000	1000	1050	1040	102	101	75-125	2	20			
Magnesium	ug/L	9.1 mg/L	10000	10000	18600	18400	94	92	75-125	1	20			
Manganese	ug/L	ND	1000	1000	975	966	97	96	75-125	1	20			
Molybdenum	ug/L	0.037 mg/L	1000	1000	1070	1060	103	102	75-125	1	20			
Potassium	ug/L	7.7 mg/L	10000	10000	18100	17800	104	102	75-125	1	20			
Silica	ug/L	9.9 mg/L	10700	10700	20100	19800	96	93		1			N2	
Sodium	ug/L	27.4 mg/L	10000	10000	37800	36900	104	95	75-125	2	20			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch:	621086	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2862545 Matrix: Water
Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/21/21 03:36	
Molybdenum, Dissolved	ug/L	ND	10.0	05/21/21 03:36	

LABORATORY CONTROL SAMPLE: 2862546

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	941	94	80-120	
Molybdenum, Dissolved	ug/L	1000	984	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862547 2862548

Parameter	Units	50287228003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	1640	1000	1000	2580	2550	94	92	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch:	620812	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK:	2861280	Matrix:	Water
Associated Lab Samples:	50287228001, 50287228002, 50287228003, 50287228004, 50287228005		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/18/21 13:14	
Arsenic	ug/L	ND	1.0	05/18/21 13:14	
Beryllium	ug/L	ND	0.20	05/18/21 13:14	
Cobalt	ug/L	ND	1.0	05/18/21 13:14	
Selenium	ug/L	ND	1.0	05/18/21 13:14	
Thallium	ug/L	ND	1.0	05/18/21 13:14	

LABORATORY CONTROL SAMPLE: 2861281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.7	107	80-120	
Arsenic	ug/L	40	40.1	100	80-120	
Beryllium	ug/L	40	41.4	104	80-120	
Cobalt	ug/L	40	42.4	106	80-120	
Selenium	ug/L	40	41.4	103	80-120	
Thallium	ug/L	40	42.7	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861282 2861283

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
Antimony	ug/L	40	<1.0	40	38.8	38.9	97	75-125	0	20	
Arsenic	ug/L	40	<1.0	40	40.9	40.5	102	75-125	1	20	
Beryllium	ug/L	40	<1.0	40	38.1	38.2	95	75-125	0	20	
Cobalt	ug/L	40	<1.0	40	39.0	38.9	97	75-125	0	20	
Selenium	ug/L	40	<1.0	40	42.2	39.2	106	75-125	7	20	
Thallium	ug/L	40	<2.0	40	42.6	42.4	106	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch: 620590 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2859812 Matrix: Water
 Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/13/21 20:55	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/13/21 20:55	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/13/21 20:55	

LABORATORY CONTROL SAMPLE: 2859813

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.6	99	90-110	

SAMPLE DUPLICATE: 2859814

Parameter	Units	50287187001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	259	264	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	259	264	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 2859815

Parameter	Units	50287193008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	752	779	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	752	779	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch: 620738

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2860820

Matrix: Water

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/14/21 09:52	

LABORATORY CONTROL SAMPLE: 2860819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	317	106	80-120	

SAMPLE DUPLICATE: 2860821

Parameter	Units	50287193006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1100	1080	2	10	

SAMPLE DUPLICATE: 2860822

Parameter	Units	50287193007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1620	1600	1	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch:	621575	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

SAMPLE DUPLICATE: 2864388

Parameter	Units	50287228001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.1	1	2	H3

SAMPLE DUPLICATE: 2864389

Parameter	Units	50286555001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch: 620460 Analysis Method: SM 4500-S2-D
 QC Batch Method: SM 4500-S2-D Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2859280 Matrix: Water
 Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/13/21 11:48	

LABORATORY CONTROL SAMPLE: 2859281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.46	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859282 2859283

Parameter	Units	50287193003		50287228002		50287228003		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Sulfide	mg/L	ND	0.5	0.5	0.49	0.48	98	96	90-110	2	20

MATRIX SPIKE SAMPLE: 2859284

Parameter	Units	50287228002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.47	94	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch:	620728	Analysis Method:	HACH 8146
QC Batch Method:	HACH 8146	Analysis Description:	Iron, Ferrous
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2860776 Matrix: Water
Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/14/21 14:11	H3,N2

LABORATORY CONTROL SAMPLE: 2860777

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	103	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860778 2860779

Parameter	Units	50287175004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	106	106	90-110	0	20	H3,N2

MATRIX SPIKE SAMPLE: 2860780

Parameter	Units	50287176003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	0.20	1	1.2	98	90-110	H3,N2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch:	620452	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2859241 Matrix: Water
Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/13/21 07:50	
Nitrogen, Nitrite	mg/L	ND	0.10	05/13/21 07:50	

LABORATORY CONTROL SAMPLE: 2859242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	104	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859243 2859244

Parameter	Units	50287175004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.1	1.1	105	107	90-110	2	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	108	111	90-110	2	20 M0	

MATRIX SPIKE SAMPLE: 2859245

Parameter	Units	50287228002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.22	1	0.98	76	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.96	95	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50287228

QC Batch: 621773 Analysis Method: EPA 365.1
QC Batch Method: EPA 365.1 Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2865282 Matrix: Water
Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/21/21 13:17	

LABORATORY CONTROL SAMPLE: 2865283

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2865284 2865285

Parameter	Units	50287228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	0.46			2.0	2.2				10		

MATRIX SPIKE SAMPLE: 2865286

Parameter	Units	50287681002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.8			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch:	621777	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50287228001, 50287228002, 50287228003, 50287228004, 50287228005		

METHOD BLANK:	2865306	Matrix:	Water
Associated Lab Samples:	50287228001, 50287228002, 50287228003, 50287228004, 50287228005		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/20/21 18:54	

LABORATORY CONTROL SAMPLE: 2865307						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.6	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2865308												2865309	
Parameter	Units	50287187001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Total Organic Carbon	mg/L	<0.50	10	10	9.0	9.1	90	91	80-120	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2865314												2865315	
Parameter	Units	50287193003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Total Organic Carbon	mg/L	ND	10	10	9.1	9.3	91	93	80-120	2	20		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch:	622388	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Dissolved Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2868396 Matrix: Water
Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/24/21 10:51	

LABORATORY CONTROL SAMPLE: 2868397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.5	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2868398 2868399

Parameter	Units	50287175004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	10	10	9.7	9.6	97	96	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2868400 2868401

Parameter	Units	50287193003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	10	10	9.5	9.4	95	94	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: AP-9A **Lab ID: 50287228001** Collected: 05/11/21 14:30 Received: 05/12/21 10:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.230 ± 0.452 (0.812) C:NA T:98%	pCi/L	06/17/21 13:18	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.747 ± 0.595 (1.18) C:73% T:83%	pCi/L	06/15/21 17:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.977 ± 1.05 (1.99)	pCi/L	06/17/21 16:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-19A Lab ID: 50287228002 Collected: 05/11/21 10:45 Received: 05/12/21 10:40 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0529 ± 0.344 (0.745) C:NA T:93%	pCi/L	06/17/21 13:18	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.745 ± 0.512 (0.979) C:75% T:90%	pCi/L	06/15/21 17:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.745 ± 0.856 (1.72)	pCi/L	06/17/21 16:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-191 Lab ID: 50287228003 Collected: 05/11/21 11:35 Received: 05/12/21 10:40 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.149 ± 0.257 (0.460) C:NA T:99%	pCi/L	06/17/21 13:18	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.803 ± 0.493 (0.904) C:75% T:90%	pCi/L	06/15/21 17:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.952 ± 0.750 (1.36)	pCi/L	06/17/21 16:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: MW-19B **Lab ID: 50287228004** Collected: 05/11/21 12:25 Received: 05/12/21 10:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.379 ± 0.431 (1.05) C:NA T:89%	pCi/L	06/17/21 13:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.399 ± 0.510 (1.08) C:72% T:84%	pCi/L	06/15/21 17:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.399 ± 0.941 (2.13)	pCi/L	06/17/21 16:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Sample: DUP 4 **Lab ID: 50287228005** Collected: 05/11/21 13:00 Received: 05/12/21 10:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.110 ± 0.251 (0.591) C:NA T:99%	pCi/L	06/17/21 13:45	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.109 ± 0.383 (0.869) C:77% T:92%	pCi/L	06/15/21 17:56	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.109 ± 0.634 (1.46)	pCi/L	06/17/21 16:26	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch: 449558

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2169407

Matrix: Water

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0862 ± 0.267 (0.608) C:NA T:99%	pCi/L	06/17/21 13:05	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

QC Batch: 449559

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

METHOD BLANK: 2169408

Matrix: Water

Associated Lab Samples: 50287228001, 50287228002, 50287228003, 50287228004, 50287228005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.914 ± 0.418 (0.681) C:72% T:87%	pCi/L	06/15/21 14:46	

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QUALIFIERS

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287228001	AP-9A	EPA 9056	622453		
50287228002	MW-19A	EPA 9056	622453		
50287228003	MW-19I	EPA 9056	622453		
50287228004	MW-19B	EPA 9056	622453		
50287228005	DUP 4	EPA 9056	622453		
50287228001	AP-9A	EPA 3010	621507	EPA 6010	622019
50287228002	MW-19A	EPA 3010	621507	EPA 6010	622019
50287228003	MW-19I	EPA 3010	621507	EPA 6010	622019
50287228004	MW-19B	EPA 3010	621507	EPA 6010	622019
50287228005	DUP 4	EPA 3010	621507	EPA 6010	622019
50287228001	AP-9A	EPA 3010	621086	EPA 6010	621976
50287228002	MW-19A	EPA 3010	621086	EPA 6010	621976
50287228003	MW-19I	EPA 3010	621086	EPA 6010	621976
50287228004	MW-19B	EPA 3010	621086	EPA 6010	621976
50287228005	DUP 4	EPA 3010	621086	EPA 6010	621976
50287228001	AP-9A	EPA 200.2	620812	EPA 6020	620962
50287228002	MW-19A	EPA 200.2	620812	EPA 6020	620962
50287228003	MW-19I	EPA 200.2	620812	EPA 6020	620962
50287228004	MW-19B	EPA 200.2	620812	EPA 6020	620962
50287228005	DUP 4	EPA 200.2	620812	EPA 6020	620962
50287228001	AP-9A	EPA 903.1	449558		
50287228002	MW-19A	EPA 903.1	449558		
50287228003	MW-19I	EPA 903.1	449558		
50287228004	MW-19B	EPA 903.1	449558		
50287228005	DUP 4	EPA 903.1	449558		
50287228001	AP-9A	EPA 904.0	449559		
50287228002	MW-19A	EPA 904.0	449559		
50287228003	MW-19I	EPA 904.0	449559		
50287228004	MW-19B	EPA 904.0	449559		
50287228005	DUP 4	EPA 904.0	449559		
50287228001	AP-9A	Total Radium Calculation	452989		
50287228002	MW-19A	Total Radium Calculation	452989		
50287228003	MW-19I	Total Radium Calculation	452989		
50287228004	MW-19B	Total Radium Calculation	452989		
50287228005	DUP 4	Total Radium Calculation	452989		
50287228001	AP-9A	SM 2320B	620590		
50287228002	MW-19A	SM 2320B	620590		
50287228003	MW-19I	SM 2320B	620590		
50287228004	MW-19B	SM 2320B	620590		
50287228005	DUP 4	SM 2320B	620590		
50287228001	AP-9A	SM 2540C	620738		
50287228002	MW-19A	SM 2540C	620738		
50287228003	MW-19I	SM 2540C	620738		
50287228004	MW-19B	SM 2540C	620738		
50287228005	DUP 4	SM 2540C	620738		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5

Pace Project No.: 50287228

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287228001	AP-9A	SM 4500-H+B	621575		
50287228002	MW-19A	SM 4500-H+B	621575		
50287228003	MW-19I	SM 4500-H+B	621575		
50287228004	MW-19B	SM 4500-H+B	621575		
50287228005	DUP 4	SM 4500-H+B	621575		
50287228001	AP-9A	SM 4500-S2-D	620460		
50287228002	MW-19A	SM 4500-S2-D	620460		
50287228003	MW-19I	SM 4500-S2-D	620460		
50287228004	MW-19B	SM 4500-S2-D	620460		
50287228005	DUP 4	SM 4500-S2-D	620460		
50287228001	AP-9A	HACH 8146	620728		
50287228002	MW-19A	HACH 8146	620728		
50287228003	MW-19I	HACH 8146	620728		
50287228004	MW-19B	HACH 8146	620728		
50287228005	DUP 4	HACH 8146	620728		
50287228001	AP-9A	EPA 353.2	620452		
50287228002	MW-19A	EPA 353.2	620452		
50287228003	MW-19I	EPA 353.2	620452		
50287228004	MW-19B	EPA 353.2	620452		
50287228005	DUP 4	EPA 353.2	620452		
50287228001	AP-9A	EPA 365.1	621773	EPA 365.1	621931
50287228002	MW-19A	EPA 365.1	621773	EPA 365.1	621931
50287228003	MW-19I	EPA 365.1	621773	EPA 365.1	621931
50287228004	MW-19B	EPA 365.1	621773	EPA 365.1	621931
50287228005	DUP 4	EPA 365.1	621773	EPA 365.1	621931
50287228001	AP-9A	SM 5310C	621777		
50287228002	MW-19A	SM 5310C	621777		
50287228003	MW-19I	SM 5310C	621777		
50287228004	MW-19B	SM 5310C	621777		
50287228005	DUP 4	SM 5310C	621777		
50287228001	AP-9A	SM 5310C	622388		
50287228002	MW-19A	SM 5310C	622388		
50287228003	MW-19I	SM 5310C	622388		
50287228004	MW-19B	SM 5310C	622388		
50287228005	DUP 4	SM 5310C	622388		

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DAF 5/12/21 1220

- 1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____
- 2. Custody Seal on Cooler/Box Present: Yes No
(If yes) Seals Intact: Yes No (leave blank if no seals were present)
- 3. Thermometer: **1 2 3 4 5 6 A B C D E F**
- 4. Cooler Temperature: 2.4/2.4, 2.7/2.7, 2.6/2.7
Temp should be above freezing to 6°C (Initial/Corrected)

- 5. Packing Material: Bubble Wrap Bubble Bags
 None Other _____
- 6. Ice Type: Wet Blue None
- 7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		<input checked="" type="checkbox"/>	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis: <u>N/A</u>	<input checked="" type="checkbox"/>		Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	<input checked="" type="checkbox"/>		
Time 5035A TC placed in Freezer or Short Holds To Lab Time: <u>1220</u>			Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>Present</u>	<u>Absent</u>	<u>N/A</u>
Rush TAT Requested (4 days or less):		<input checked="" type="checkbox"/>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			<input checked="" type="checkbox"/>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<input checked="" type="checkbox"/>
Containers Intact?:	<input checked="" type="checkbox"/>		Headspace in VOA Vials (>6mm): See Container Count form for details	<u>Present</u>	<u>Absent</u>	No VOA Vials Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<input checked="" type="checkbox"/>		Trip Blank Present?		<input checked="" type="checkbox"/>	
Extra labels on Terracore Vials? (soils only)		<input checked="" type="checkbox"/>	Trip Blank Custody Seals?:			<input checked="" type="checkbox"/>

COMMENTS:

Sample Container Count

Sample Line Item	WGUFU	SBS DI BK Kit	R	DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H				Matrix	pH <2	pH >9	pH >10	
																																1
2																																
3													2			2	1	2	1	1	1		1						WT	✓	✓	
4													↓			↓	↓	↓	↓	↓	↓		↓						↓	✓	✓	
5													↓			↓	↓	↓	↓	↓	↓		↓						↓	✓	✓	
6																																
7																																
8																																
9																																
10																																
11																																
12													2			2	1	2	1	1	1		1						WT	✓	✓	

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic	C	Air Cassettes
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic	R	Terra core kit
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic	SP5T	120mL Coliform Na Thiosulfate
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic	U	Summa Can
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic	ZPLC	Ziploc Bag
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic	WT	Water
WGUFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic	SL	Solid
JGUFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)	NAL	Non-aqueous liquid
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass			WP	Wipe

May 2021 (Profile Soil Borings)

May 27, 2021

Mr. Rob Duncan
ATC Group Services, LLC
7988 Centerpoint Drive
Indianapolis, IN 46256

RE: Project: IPL Petersburg
Pace Project No.: 50287861

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on May 19, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

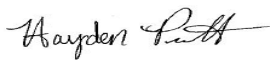
The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis

Revised report replaces the original on 5/25/21. Revised to fix dilutions for 009, 015, and 018. hrp 5/27/21

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IPL Petersburg

Pace Project No.: 50287861

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IPL Petersburg

Pace Project No.: 50287861

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50287861001	GWP-1AS	Water	05/15/21 10:31	05/19/21 09:50
50287861002	GWP-1AI	Water	05/15/21 11:57	05/19/21 09:50
50287861003	GWP-1D	Water	05/14/21 17:00	05/19/21 09:50
50287861004	GWP-2S	Water	05/17/21 17:58	05/19/21 09:50
50287861005	GWP-2I	Water	05/18/21 10:05	05/19/21 09:50
50287861006	GWP-2D	Water	05/18/21 13:02	05/19/21 09:50
50287861007	GWP-3AS	Water	05/14/21 10:29	05/19/21 09:50
50287861008	GWP-3AI	Water	05/14/21 12:31	05/19/21 09:50
50287861009	GWP-3D	Water	05/13/21 17:04	05/19/21 09:50
50287861010	GWP-4S	Water	05/17/21 10:04	05/19/21 09:50
50287861011	GWP-4I	Water	05/17/21 11:45	05/19/21 09:50
50287861012	GWP-4D	Water	05/17/21 14:57	05/19/21 09:50
50287861013	GWP-5AS	Water	05/13/21 10:40	05/19/21 09:50
50287861014	GWP-5AI	Water	05/13/21 12:00	05/19/21 09:50
50287861015	GWP-5D	Water	05/12/21 17:02	05/19/21 09:50
50287861016	GWP-6S	Water	05/16/21 09:47	05/19/21 09:50
50287861017	GWP-6I	Water	05/16/21 11:14	05/19/21 09:50
50287861018	GWP-6D	Water	05/16/21 13:08	05/19/21 09:50
50287861019	GWP-7AS	Water	05/12/21 10:38	05/19/21 09:50
50287861020	GWP-7AI	Water	05/12/21 12:55	05/19/21 09:50
50287861021	GWP-7D	Water	05/11/21 17:06	05/19/21 09:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IPL Petersburg

Pace Project No.: 50287861

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50287861001	GWP-1AS	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50287861002	GWP-1AI	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50287861003	GWP-1D	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50287861004	GWP-2S	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50287861005	GWP-2I	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50287861006	GWP-2D	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50287861007	GWP-3AS	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50287861008	GWP-3AI	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50287861009	GWP-3D	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50287861010	GWP-4S	EPA 6010	JPK	1

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IPL Petersburg

Pace Project No.: 50287861

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50287861011	GWP-4I	EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
50287861012	GWP-4D	EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
50287861013	GWP-5AS	EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
50287861014	GWP-5AI	EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
50287861015	GWP-5D	EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
50287861016	GWP-6S	EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
50287861017	GWP-6I	EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
50287861018	GWP-6D	EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
50287861019	GWP-7AS	EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IPL Petersburg

Pace Project No.: 50287861

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50287861020	GWP-7AI	EPA 6020	RAM	1
		EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
50287861021	GWP-7D	EPA 6020	RAM	1
		EPA 6010	JPK	1
		EPA 6010	JDG	1
		EPA 6020	RAM	1
		EPA 6020	CAW	1

PASI-I = Pace Analytical Services - Indianapolis

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IPL Petersburg

Pace Project No.: 50287861

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287861001	GWP-1AS					
EPA 6020	Molybdenum	1.4	ug/L	1.0	05/21/21 13:30	
EPA 6020	Molybdenum, Dissolved	1.1	ug/L	1.0	05/21/21 02:43	
50287861002	GWP-1AI					
EPA 6020	Molybdenum	1.4	ug/L	1.0	05/23/21 20:16	
50287861003	GWP-1D					
EPA 6020	Molybdenum	2.5	ug/L	1.0	05/23/21 20:21	
EPA 6020	Molybdenum, Dissolved	1.6	ug/L	1.0	05/21/21 03:17	
50287861004	GWP-2S					
EPA 6020	Molybdenum	1.4	ug/L	1.0	05/23/21 20:25	
50287861005	GWP-2I					
EPA 6020	Molybdenum	103	ug/L	1.0	05/23/21 20:29	
EPA 6020	Molybdenum, Dissolved	103	ug/L	1.0	05/21/21 03:26	
50287861006	GWP-2D					
EPA 6020	Molybdenum	54.9	ug/L	1.0	05/23/21 20:34	
EPA 6020	Molybdenum, Dissolved	54.2	ug/L	1.0	05/21/21 03:30	
50287861007	GWP-3AS					
EPA 6020	Molybdenum	2.1	ug/L	1.0	05/23/21 20:38	
50287861008	GWP-3AI					
EPA 6020	Molybdenum	49.4	ug/L	1.0	05/23/21 20:51	
EPA 6020	Molybdenum, Dissolved	46.5	ug/L	1.0	05/21/21 03:39	
50287861009	GWP-3D					
EPA 6020	Molybdenum	1560	ug/L	10.0	05/23/21 20:55	
EPA 6020	Molybdenum, Dissolved	1580	ug/L	10.0	05/21/21 12:11	
50287861010	GWP-4S					
EPA 6020	Molybdenum	1.6	ug/L	1.0	05/23/21 21:00	
EPA 6020	Molybdenum, Dissolved	1.8	ug/L	1.0	05/21/21 12:15	
50287861011	GWP-4I					
EPA 6020	Molybdenum	37.2	ug/L	1.0	05/23/21 21:04	
EPA 6020	Molybdenum, Dissolved	34.4	ug/L	1.0	05/21/21 12:20	
50287861012	GWP-4D					
EPA 6020	Molybdenum	94.1	ug/L	1.0	05/23/21 21:08	
EPA 6020	Molybdenum, Dissolved	95.4	ug/L	1.0	05/21/21 12:24	
50287861013	GWP-5AS					
EPA 6020	Molybdenum	1.3	ug/L	1.0	05/23/21 21:13	
50287861014	GWP-5AI					
EPA 6020	Molybdenum	16.2	ug/L	1.0	05/23/21 21:26	
EPA 6020	Molybdenum, Dissolved	27.9	ug/L	1.0	05/21/21 12:33	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IPL Petersburg

Pace Project No.: 50287861

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287861015	GWP-5D					
EPA 6020	Molybdenum	273	ug/L	2.0	05/23/21 21:30	
EPA 6020	Molybdenum, Dissolved	278	ug/L	2.0	05/21/21 12:46	
50287861016	GWP-6S					
EPA 6020	Molybdenum	2.5	ug/L	1.0	05/23/21 21:35	
EPA 6020	Molybdenum, Dissolved	1.2	ug/L	1.0	05/21/21 12:50	
50287861017	GWP-6I					
EPA 6020	Molybdenum	44.1	ug/L	1.0	05/23/21 21:39	
EPA 6020	Molybdenum, Dissolved	44.6	ug/L	1.0	05/21/21 12:55	
50287861018	GWP-6D					
EPA 6020	Molybdenum	300	ug/L	2.0	05/23/21 21:43	
EPA 6020	Molybdenum, Dissolved	299	ug/L	2.0	05/21/21 12:59	
50287861019	GWP-7AS					
EPA 6020	Molybdenum	3.6	ug/L	1.0	05/23/21 21:48	
50287861020	GWP-7AI					
EPA 6020	Molybdenum	38.9	ug/L	1.0	05/23/21 21:52	
EPA 6020	Molybdenum, Dissolved	52.2	ug/L	1.0	05/21/21 13:08	
50287861021	GWP-7D					
EPA 6020	Molybdenum	882	ug/L	10.0	05/25/21 13:36	
EPA 6020	Molybdenum, Dissolved	851	ug/L	10.0	05/24/21 14:53	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-1AS		Lab ID: 50287861001	Collected: 05/15/21 10:31	Received: 05/19/21 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 01:28	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 03:22	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	1.4	ug/L	1.0	1	05/20/21 17:45	05/21/21 13:30	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	1.1	ug/L	1.0	1	05/20/21 08:23	05/21/21 02:43	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-1AI	Lab ID: 50287861002	Collected: 05/15/21 11:57	Received: 05/19/21 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 01:31	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 03:29	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Molybdenum	1.4	ug/L	1.0	1	05/20/21 17:45	05/23/21 20:16	7439-98-7	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Molybdenum, Dissolved	ND	ug/L	1.0	1	05/20/21 08:23	05/21/21 03:13	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-1D	Lab ID: 50287861003	Collected: 05/14/21 17:00		Received: 05/19/21 09:50		Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 01:33	7439-93-2	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 03:31	7439-93-2	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum	2.5	ug/L	1.0	1	05/20/21 17:45	05/23/21 20:21	7439-98-7	
6020 MET ICPMS, Dissolved								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	1.6	ug/L	1.0	1	05/20/21 08:23	05/21/21 03:17	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-2S		Lab ID: 50287861004		Collected: 05/17/21 17:58	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 01:48	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 03:42	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	1.4	ug/L	1.0	1	05/20/21 17:45	05/23/21 20:25	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	ND	ug/L	1.0	1	05/20/21 08:23	05/21/21 03:22	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-2I		Lab ID: 50287861005		Collected: 05/18/21 10:05	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 01:50	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 03:44	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	103	ug/L	1.0	1	05/20/21 17:45	05/23/21 20:29	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	103	ug/L	1.0	1	05/20/21 08:23	05/21/21 03:26	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-2D	Lab ID: 50287861006	Collected: 05/18/21 13:02	Received: 05/19/21 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 01:52	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 03:46	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Molybdenum	54.9	ug/L	1.0	1	05/20/21 17:45	05/23/21 20:34	7439-98-7	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Molybdenum, Dissolved	54.2	ug/L	1.0	1	05/20/21 08:23	05/21/21 03:30	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-3AS		Lab ID: 50287861007		Collected: 05/14/21 10:29	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 01:55	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 03:49	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	2.1	ug/L	1.0	1	05/20/21 17:45	05/23/21 20:38	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	ND	ug/L	1.0	1	05/20/21 08:23	05/21/21 03:35	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-3AI		Lab ID: 50287861008		Collected: 05/14/21 12:31	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 01:57	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:02	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	49.4	ug/L	1.0	1	05/20/21 17:45	05/23/21 20:51	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	46.5	ug/L	1.0	1	05/20/21 08:23	05/21/21 03:39	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-3D	Lab ID: 50287861009	Collected: 05/13/21 17:04		Received: 05/19/21 09:50		Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 01:59	7439-93-2	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 03:57	7439-93-2	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Molybdenum	1560	ug/L	10.0	10	05/20/21 17:45	05/23/21 20:55	7439-98-7	
6020 MET ICPMS, Dissolved								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	1580	ug/L	10.0	10	05/20/21 08:23	05/21/21 12:11	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-4S		Lab ID: 50287861010		Collected: 05/17/21 10:04	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 02:01	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 03:59	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	1.6	ug/L	1.0	1	05/20/21 17:45	05/23/21 21:00	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	1.8	ug/L	1.0	1	05/20/21 08:23	05/21/21 12:15	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-4I		Lab ID: 50287861011		Collected: 05/17/21 11:45	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 03:18	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:04	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	37.2	ug/L	1.0	1	05/20/21 17:45	05/23/21 21:04	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	34.4	ug/L	1.0	1	05/20/21 08:23	05/21/21 12:20	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-4D	Lab ID: 50287861012	Collected: 05/17/21 14:57	Received: 05/19/21 09:50	Matrix: Water					
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 02:10	7439-93-2		
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:06	7439-93-2		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum	94.1	ug/L	1.0	1	05/20/21 17:45	05/23/21 21:08	7439-98-7		
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	95.4	ug/L	1.0	1	05/20/21 08:23	05/21/21 12:24	7439-98-7		

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-5AS		Lab ID: 50287861013		Collected: 05/13/21 10:40	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 02:12	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:08	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	1.3	ug/L	1.0	1	05/20/21 17:45	05/23/21 21:13	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	ND	ug/L	1.0	1	05/20/21 08:23	05/21/21 12:28	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-5AI		Lab ID: 50287861014		Collected: 05/13/21 12:00	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 02:14	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:11	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	16.2	ug/L	1.0	1	05/20/21 17:45	05/23/21 21:26	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	27.9	ug/L	1.0	1	05/20/21 08:23	05/21/21 12:33	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-5D		Lab ID: 50287861015		Collected: 05/12/21 17:02	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 02:17	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:13	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	273	ug/L	2.0	2	05/20/21 17:45	05/23/21 21:30	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	278	ug/L	2.0	2	05/20/21 08:23	05/21/21 12:46	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: GWP-6S Lab ID: 50287861016 Collected: 05/16/21 09:47 Received: 05/19/21 09:50 Matrix: Water								
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 02:19	7439-93-2	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:15	7439-93-2	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum	2.5	ug/L	1.0	1	05/20/21 17:45	05/23/21 21:35	7439-98-7	
6020 MET ICPMS, Dissolved								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	1.2	ug/L	1.0	1	05/20/21 08:23	05/21/21 12:50	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-6I	Lab ID: 50287861017	Collected: 05/16/21 11:14	Received: 05/19/21 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 02:21	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:22	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Molybdenum	44.1	ug/L	1.0	1	05/20/21 17:45	05/23/21 21:39	7439-98-7	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Molybdenum, Dissolved	44.6	ug/L	1.0	1	05/20/21 08:23	05/21/21 12:55	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-6D		Lab ID: 50287861018		Collected: 05/16/21 13:08	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 02:23	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:24	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	300	ug/L	2.0	2	05/20/21 17:45	05/23/21 21:43	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	299	ug/L	2.0	2	05/20/21 08:23	05/21/21 12:59	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-7AS		Lab ID: 50287861019		Collected: 05/12/21 10:38	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 02:25	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:26	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	3.6	ug/L	1.0	1	05/20/21 17:45	05/23/21 21:48	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	ND	ug/L	1.0	1	05/20/21 08:23	05/21/21 13:03	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Sample: GWP-7AI		Lab ID: 50287861020		Collected: 05/12/21 12:55	Received: 05/19/21 09:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	05/21/21 07:05	05/23/21 03:20	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	05/21/21 06:55	05/23/21 04:28	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	38.9	ug/L	1.0	1	05/20/21 17:45	05/23/21 21:52	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	52.2	ug/L	1.0	1	05/20/21 08:23	05/21/21 13:08	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50287861

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: GWP-7D								
Lab ID: 50287861021								
Collected: 05/11/21 17:06								
Received: 05/19/21 09:50								
Matrix: Water								
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Lithium	ND	ug/L	20.0	1	05/22/21 06:42	05/23/21 04:35	7439-93-2	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Lithium, Dissolved	ND	ug/L	20.0	1	05/23/21 13:18	05/24/21 10:02	7439-93-2	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Molybdenum	882	ug/L	10.0	10	05/20/21 17:45	05/25/21 13:36	7439-98-7	
6020 MET ICPMS, Dissolved								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	851	ug/L	10.0	10	05/21/21 15:15	05/24/21 14:53	7439-98-7	

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QUALITY CONTROL DATA

Project: IPL Petersburg

Pace Project No.: 50287861

QC Batch:	621760	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50287861001, 50287861002, 50287861003, 50287861004, 50287861005, 50287861006, 50287861007, 50287861008, 50287861009, 50287861010, 50287861011, 50287861012, 50287861013, 50287861014, 50287861015, 50287861016, 50287861017, 50287861018, 50287861019, 50287861020		

METHOD BLANK:	2865245	Matrix:	Water
Associated Lab Samples:	50287861001, 50287861002, 50287861003, 50287861004, 50287861005, 50287861006, 50287861007, 50287861008, 50287861009, 50287861010, 50287861011, 50287861012, 50287861013, 50287861014, 50287861015, 50287861016, 50287861017, 50287861018, 50287861019, 50287861020		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	ug/L	ND	20.0	05/23/21 01:24	

LABORATORY CONTROL SAMPLE:	2865246					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	1000	949	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2865247			2865248								
Parameter	Units	50287861003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	ug/L	ND	1000	1000	1060	1090	106	109	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg
Pace Project No.: 50287861

QC Batch: 621882	Analysis Method: EPA 6010
QC Batch Method: EPA 3010	Analysis Description: 6010 MET
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287861021

METHOD BLANK: 2865818 Matrix: Water

Associated Lab Samples: 50287861021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	ug/L	ND	20.0	05/23/21 04:33	

LABORATORY CONTROL SAMPLE: 2865819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	1000	986	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2865820 2865821

Parameter	Units	50287875003		2865821		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Lithium	ug/L	ND	1000	1000	997	1010	99	100	75-125	1	20

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QUALITY CONTROL DATA

Project: IPL Petersburg

Pace Project No.: 50287861

QC Batch: 622029

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET Dissolved

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287861021

METHOD BLANK: 2866703

Matrix: Water

Associated Lab Samples: 50287861021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	ug/L	ND	20.0	05/24/21 09:03	

LABORATORY CONTROL SAMPLE: 2866704

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	ug/L	1000	942	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2866705 2866706

Parameter	Units	2866705		2866706		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50287875003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Lithium, Dissolved	ug/L	ND	1000	1000	1040	992	104	99	75-125	5	20

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QUALITY CONTROL DATA

Project: IPL Petersburg
Pace Project No.: 50287861

QC Batch: 621687 Analysis Method: EPA 6020
QC Batch Method: EPA 200.2 Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50287861001, 50287861002, 50287861003, 50287861004, 50287861005, 50287861006, 50287861007, 50287861008, 50287861009, 50287861010, 50287861011, 50287861012, 50287861013, 50287861014, 50287861015, 50287861016, 50287861017, 50287861018, 50287861019, 50287861020

METHOD BLANK: 2865023 Matrix: Water
Associated Lab Samples: 50287861001, 50287861002, 50287861003, 50287861004, 50287861005, 50287861006, 50287861007, 50287861008, 50287861009, 50287861010, 50287861011, 50287861012, 50287861013, 50287861014, 50287861015, 50287861016, 50287861017, 50287861018, 50287861019, 50287861020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum	ug/L	ND	1.0	05/21/21 13:21	

LABORATORY CONTROL SAMPLE: 2865024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	40	38.2	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2865025 2865026

Parameter	Units	50287861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	1.4	40	40	39.2	38.9	94	94	75-125	1	20	

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QUALITY CONTROL DATA

Project: IPL Petersburg

Pace Project No.: 50287861

QC Batch: 621688

Analysis Method: EPA 6020

QC Batch Method: EPA 200.2

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287861021

METHOD BLANK: 2865027

Matrix: Water

Associated Lab Samples: 50287861021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum	ug/L	ND	1.0	05/21/21 18:09	

LABORATORY CONTROL SAMPLE: 2865028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	40	38.8	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2865029 2865030

Parameter	Units	50286556011		2865030		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	% Rec	% Rec					
Molybdenum	ug/L	0.12 mg/L	40	40	162	161	106	102	75-125	1	20		

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QUALITY CONTROL DATA

Project: IPL Petersburg

Pace Project No.: 50287861

QC Batch:	621686	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50287861001, 50287861002, 50287861003, 50287861004, 50287861005, 50287861006, 50287861007, 50287861008, 50287861009, 50287861010, 50287861011, 50287861012, 50287861013, 50287861014, 50287861015, 50287861016, 50287861017, 50287861018, 50287861019, 50287861020		

METHOD BLANK:	2865018	Matrix:	Water
Associated Lab Samples:	50287861001, 50287861002, 50287861003, 50287861004, 50287861005, 50287861006, 50287861007, 50287861008, 50287861009, 50287861010, 50287861011, 50287861012, 50287861013, 50287861014, 50287861015, 50287861016, 50287861017, 50287861018, 50287861019, 50287861020		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum, Dissolved	ug/L	ND	1.0	05/21/21 02:34	

LABORATORY CONTROL SAMPLE:	2865019					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum, Dissolved	ug/L	40	39.2	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2865020			2865021								
Parameter	Units	50287861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum, Dissolved	ug/L	1.1	40	40	41.0	40.6	100	99	75-125	1	20	

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QUALITY CONTROL DATA

Project: IPL Petersburg
Pace Project No.: 50287861

QC Batch: 621950	Analysis Method: EPA 6020
QC Batch Method: EPA 200.2	Analysis Description: 6020 MET Dissolved
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287861021

METHOD BLANK: 2866281 Matrix: Water

Associated Lab Samples: 50287861021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum, Dissolved	ug/L	ND	1.0	05/22/21 11:59	

LABORATORY CONTROL SAMPLE: 2866282

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum, Dissolved	ug/L	40	40.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2866283 2866284

Parameter	Units	50286692001		2866283		2866284		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MS Spike Conc.	MSD Result	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Molybdenum, Dissolved	ug/L	0.0015 mg/L	40	40	42.9	45.3	104	110	75-125	5	20	

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QUALIFIERS

Project: IPL Petersburg

Pace Project No.: 50287861

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IPL Petersburg
Pace Project No.: 50287861

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287861001	GWP-1AS	EPA 3010	621760	EPA 6010	622256
50287861002	GWP-1AI	EPA 3010	621760	EPA 6010	622256
50287861003	GWP-1D	EPA 3010	621760	EPA 6010	622256
50287861004	GWP-2S	EPA 3010	621760	EPA 6010	622256
50287861005	GWP-2I	EPA 3010	621760	EPA 6010	622256
50287861006	GWP-2D	EPA 3010	621760	EPA 6010	622256
50287861007	GWP-3AS	EPA 3010	621760	EPA 6010	622256
50287861008	GWP-3AI	EPA 3010	621760	EPA 6010	622256
50287861009	GWP-3D	EPA 3010	621760	EPA 6010	622256
50287861010	GWP-4S	EPA 3010	621760	EPA 6010	622256
50287861011	GWP-4I	EPA 3010	621760	EPA 6010	622256
50287861012	GWP-4D	EPA 3010	621760	EPA 6010	622256
50287861013	GWP-5AS	EPA 3010	621760	EPA 6010	622256
50287861014	GWP-5AI	EPA 3010	621760	EPA 6010	622256
50287861015	GWP-5D	EPA 3010	621760	EPA 6010	622256
50287861016	GWP-6S	EPA 3010	621760	EPA 6010	622256
50287861017	GWP-6I	EPA 3010	621760	EPA 6010	622256
50287861018	GWP-6D	EPA 3010	621760	EPA 6010	622256
50287861019	GWP-7AS	EPA 3010	621760	EPA 6010	622256
50287861020	GWP-7AI	EPA 3010	621760	EPA 6010	622256
50287861021	GWP-7D	EPA 3010	621882	EPA 6010	622258
50287861001	GWP-1AS	EPA 3010	621753	EPA 6010	622257
50287861002	GWP-1AI	EPA 3010	621753	EPA 6010	622257
50287861003	GWP-1D	EPA 3010	621753	EPA 6010	622257
50287861004	GWP-2S	EPA 3010	621753	EPA 6010	622257
50287861005	GWP-2I	EPA 3010	621753	EPA 6010	622257
50287861006	GWP-2D	EPA 3010	621753	EPA 6010	622257
50287861007	GWP-3AS	EPA 3010	621753	EPA 6010	622257
50287861008	GWP-3AI	EPA 3010	621753	EPA 6010	622257
50287861009	GWP-3D	EPA 3010	621753	EPA 6010	622257
50287861010	GWP-4S	EPA 3010	621753	EPA 6010	622257
50287861011	GWP-4I	EPA 3010	621753	EPA 6010	622257
50287861012	GWP-4D	EPA 3010	621753	EPA 6010	622257
50287861013	GWP-5AS	EPA 3010	621753	EPA 6010	622257
50287861014	GWP-5AI	EPA 3010	621753	EPA 6010	622257
50287861015	GWP-5D	EPA 3010	621753	EPA 6010	622257
50287861016	GWP-6S	EPA 3010	621753	EPA 6010	622257
50287861017	GWP-6I	EPA 3010	621753	EPA 6010	622257
50287861018	GWP-6D	EPA 3010	621753	EPA 6010	622257
50287861019	GWP-7AS	EPA 3010	621753	EPA 6010	622257
50287861020	GWP-7AI	EPA 3010	621753	EPA 6010	622257
50287861021	GWP-7D	EPA 3010	622029	EPA 6010	622362
50287861001	GWP-1AS	EPA 200.2	621687	EPA 6020	621977
50287861002	GWP-1AI	EPA 200.2	621687	EPA 6020	621977
50287861003	GWP-1D	EPA 200.2	621687	EPA 6020	621977
50287861004	GWP-2S	EPA 200.2	621687	EPA 6020	621977
50287861005	GWP-2I	EPA 200.2	621687	EPA 6020	621977

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IPL Petersburg

Pace Project No.: 50287861

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287861006	GWP-2D	EPA 200.2	621687	EPA 6020	621977
50287861007	GWP-3AS	EPA 200.2	621687	EPA 6020	621977
50287861008	GWP-3AI	EPA 200.2	621687	EPA 6020	621977
50287861009	GWP-3D	EPA 200.2	621687	EPA 6020	621977
50287861010	GWP-4S	EPA 200.2	621687	EPA 6020	621977
50287861011	GWP-4I	EPA 200.2	621687	EPA 6020	621977
50287861012	GWP-4D	EPA 200.2	621687	EPA 6020	621977
50287861013	GWP-5AS	EPA 200.2	621687	EPA 6020	621977
50287861014	GWP-5AI	EPA 200.2	621687	EPA 6020	621977
50287861015	GWP-5D	EPA 200.2	621687	EPA 6020	621977
50287861016	GWP-6S	EPA 200.2	621687	EPA 6020	621977
50287861017	GWP-6I	EPA 200.2	621687	EPA 6020	621977
50287861018	GWP-6D	EPA 200.2	621687	EPA 6020	621977
50287861019	GWP-7AS	EPA 200.2	621687	EPA 6020	621977
50287861020	GWP-7AI	EPA 200.2	621687	EPA 6020	621977
50287861021	GWP-7D	EPA 200.2	621688	EPA 6020	621978
50287861001	GWP-1AS	EPA 200.2	621686	EPA 6020	621850
50287861002	GWP-1AI	EPA 200.2	621686	EPA 6020	621850
50287861003	GWP-1D	EPA 200.2	621686	EPA 6020	621850
50287861004	GWP-2S	EPA 200.2	621686	EPA 6020	621850
50287861005	GWP-2I	EPA 200.2	621686	EPA 6020	621850
50287861006	GWP-2D	EPA 200.2	621686	EPA 6020	621850
50287861007	GWP-3AS	EPA 200.2	621686	EPA 6020	621850
50287861008	GWP-3AI	EPA 200.2	621686	EPA 6020	621850
50287861009	GWP-3D	EPA 200.2	621686	EPA 6020	621850
50287861010	GWP-4S	EPA 200.2	621686	EPA 6020	621850
50287861011	GWP-4I	EPA 200.2	621686	EPA 6020	621850
50287861012	GWP-4D	EPA 200.2	621686	EPA 6020	621850
50287861013	GWP-5AS	EPA 200.2	621686	EPA 6020	621850
50287861014	GWP-5AI	EPA 200.2	621686	EPA 6020	621850
50287861015	GWP-5D	EPA 200.2	621686	EPA 6020	621850
50287861016	GWP-6S	EPA 200.2	621686	EPA 6020	621850
50287861017	GWP-6I	EPA 200.2	621686	EPA 6020	621850
50287861018	GWP-6D	EPA 200.2	621686	EPA 6020	621850
50287861019	GWP-7AS	EPA 200.2	621686	EPA 6020	621850
50287861020	GWP-7AI	EPA 200.2	621686	EPA 6020	621850
50287861021	GWP-7D	EPA 200.2	621950	EPA 6020	622169

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: WS 5-19-21 1315

- 1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____
- 2. Custody Seal on Cooler/Box Present: Yes No
 (If yes) Seals Intact: Yes No (leave blank if no seals were present)
- 3. Thermometer: 1 2 3 4 5 6 A B C D E F
- 4. Cooler Temperature: 4.0 / 3.4
 Temp should be above freezing to 6°C (Initial/Corrected)

- 5. Packing Material: Bubble Wrap Bubble Bags
 None Other Ziploc
- 6. Ice Type: Wet Blue None
- 7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		<input checked="" type="checkbox"/>	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis:		<input checked="" type="checkbox"/>	Circle: <u>HNO3 (<2)</u> H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form	<input checked="" type="checkbox"/>		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>Present</u>	<u>Absent</u>	<u>N/A</u>
Rush TAT Requested (4 days or less):		<input checked="" type="checkbox"/>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			<input checked="" type="checkbox"/>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<input checked="" type="checkbox"/>
Containers Intact?:	<input checked="" type="checkbox"/>		Headspace in VOA Vials (>6mm): See Containter Count form for details	<u>Present</u>	<u>Absent</u>	<u>No VOA Vials Sent</u>
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<input checked="" type="checkbox"/>		Trip Blank Present?		<input checked="" type="checkbox"/>	
Extra labels on Terracore Vials? (soils only)		<input checked="" type="checkbox"/>	Trip Blank Custody Seals?:		<input checked="" type="checkbox"/>	

COMMENTS:

Sample Container Count

Sample Line Item	WGUFU	SBS DI BK Kit	R	DG9H	VG9H	VOA VIAL HS (>9mm)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Matrix	pH <2	pH >9	pH >10	
				1																				/	/				WT
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac		
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic		
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic		
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic		
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic		
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic		
WGUFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic		
JGUFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)		
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass				

AF	Air Filter
C	Air Cassettes
R	Terra core kit
SP5T	120mL Coliform Na Thiosulfate
U	Summa Can
ZPLC	Ziploc Bag

WT	Water
SL	Solid
NAL	Non-aqueous liquid
WP	Wipe

Sample Container Count

Sample Line Item	WGFU	R	SBS DI BK Kit	DG9H VG9H	VOA VIAL HS ($\leq 6mm$)	VG9U	DG9U	DG9T	AG0U	AG1H	AG1U	AG3S	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H							Matrix	pH <2	pH >9	pH >10		
1																																WT	✓		
2																																			
3																																			
4																																			
5																																			
6																																			
7																																			
8																																			
9																																			
10																																			
11																																			
12																																			

Container Codes

Glass				Plastic / Misc.			
DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpres amber glass	BG3U	250mL Unpres Clear Glass	BP3U	250mL unpreserved plastic
DG9H	40mL HCl amber voa vial	AG1H	1L HCl amber glass	BP1A	1L NaOH, Asc Acid plastic	BP3S	250mL H2SO4 plastic
DG9M	40mL MeOH clear vial	AG1S	1L H2SO4 amber glass	BP1N	1L HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
DG9P	40mL TSP amber vial	AG1T	1L Na Thiosulfate amber glass	BP1S	1L H2SO4 plastic		
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic		
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic	C	Air Cassettes
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic	R	Terra core kit
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic	SP5T	120mL Coliform Na Thiosulfate
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic	U	Summa Can
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic	ZPLC	Ziploc Bag
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac		
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic	WT	Water
WGFU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic	SL	Solid
JGFU	4oz unpreserved amber wide	BG1U	1L unpreserved glass	BP3F	250mL HNO3 plastic (field filtered)	NAL	Non-aqueous liquid
CG3H	250mL clear glass HCl	BG3H	250mL HCl Clear Glass			WP	Wipe

August 2021

August 27, 2021

Mr. Rob Duncan
ATC Group Services, LLC
7988 Centerpoint Drive
Indianapolis, IN 46256

RE: Project: IPL Petersburg
Pace Project No.: 50295161

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on August 16, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IPL Petersburg

Pace Project No.: 50295161

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IPL Petersburg

Pace Project No.: 50295161

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50295161001	GWP-8D	Water	08/12/21 12:05	08/16/21 14:45
50295161002	GWP-8AI	Water	08/12/21 16:55	08/16/21 14:45
50295161003	GWP-8AS	Water	08/12/21 15:30	08/16/21 14:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IPL Petersburg

Pace Project No.: 50295161

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50295161001	GWP-8D	EPA 6010	KJE	1
		EPA 6010	JPK	1
		EPA 6020	DMT	1
		EPA 6020	CAW	1
50295161002	GWP-8AI	EPA 6010	KJE	1
		EPA 6010	JPK	1
		EPA 6020	DMT	1
		EPA 6020	CAW	1
50295161003	GWP-8AS	EPA 6010	KJE	1
		EPA 6010	JPK	1
		EPA 6020	DMT	1
		EPA 6020	CAW	1

PASI-I = Pace Analytical Services - Indianapolis

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IPL Petersburg

Pace Project No.: 50295161

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50295161001	GWP-8D					
EPA 6020	Molybdenum	330	ug/L	2.0	08/25/21 02:21	
EPA 6020	Molybdenum, Dissolved	366	ug/L	5.0	08/25/21 22:02	
50295161002	GWP-8AI					
EPA 6020	Molybdenum	1.3	ug/L	1.0	08/25/21 02:13	
EPA 6020	Molybdenum, Dissolved	1.2	ug/L	1.0	08/25/21 03:47	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50295161

Sample: GWP-8D		Lab ID: 50295161001		Collected: 08/12/21 12:05	Received: 08/16/21 14:45	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	08/20/21 06:50	08/22/21 11:48	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	08/18/21 13:49	08/19/21 01:14	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	330	ug/L	2.0	2	08/23/21 09:20	08/25/21 02:21	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	366	ug/L	5.0	5	08/23/21 09:14	08/25/21 22:02	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50295161

Sample: GWP-8AI		Lab ID: 50295161002		Collected: 08/12/21 16:55	Received: 08/16/21 14:45	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	08/20/21 06:50	08/22/21 11:50	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	08/18/21 13:49	08/19/21 01:16	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	1.3	ug/L	1.0	1	08/23/21 09:20	08/25/21 02:13	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	1.2	ug/L	1.0	1	08/23/21 09:14	08/25/21 03:47	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50295161

Sample: GWP-8AS		Lab ID: 50295161003		Collected: 08/12/21 15:30	Received: 08/16/21 14:45	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	08/20/21 06:50	08/22/21 11:52	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	08/18/21 13:49	08/19/21 01:22	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	ND	ug/L	1.0	1	08/23/21 09:20	08/25/21 02:16	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	ND	ug/L	1.0	1	08/23/21 09:14	08/25/21 03:52	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg
Pace Project No.: 50295161

QC Batch: 635762 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50295161001, 50295161002, 50295161003

METHOD BLANK: 2928035 Matrix: Water

Associated Lab Samples: 50295161001, 50295161002, 50295161003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	ug/L	ND	20.0	08/22/21 10:44	

LABORATORY CONTROL SAMPLE: 2928036

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	1000	1050	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2928037 2928038

Parameter	Units	2928037		2928038		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		50295017003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Lithium	ug/L	ND	1000	1000	1050	1070	105	107	75-125	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg
Pace Project No.: 50295161

QC Batch: 635702 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50295161001, 50295161002, 50295161003

METHOD BLANK: 2927737 Matrix: Water

Associated Lab Samples: 50295161001, 50295161002, 50295161003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	ug/L	ND	20.0	08/19/21 00:27	

LABORATORY CONTROL SAMPLE: 2927738

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	ug/L	1000	983	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2927739 2927740

Parameter	Units	50294986017		2927740		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Lithium, Dissolved	ug/L	30.5	1000	1000	1060	1070	103	104	75-125	0	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg

Pace Project No.: 50295161

QC Batch: 636162

Analysis Method: EPA 6020

QC Batch Method: EPA 200.2

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50295161001, 50295161002, 50295161003

METHOD BLANK: 2929858

Matrix: Water

Associated Lab Samples: 50295161001, 50295161002, 50295161003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum	ug/L	ND	1.0	08/25/21 00:21	

LABORATORY CONTROL SAMPLE: 2929859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	40	37.6	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2929860 2929861

Parameter	Units	50295169004		2929861		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Molybdenum	ug/L	<1.0	40	40	39.2	38.9	97	96	75-125	1	20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg
Pace Project No.: 50295161

QC Batch: 636216 Analysis Method: EPA 6020
QC Batch Method: EPA 200.2 Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50295161001, 50295161002, 50295161003

METHOD BLANK: 2930126 Matrix: Water

Associated Lab Samples: 50295161001, 50295161002, 50295161003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum, Dissolved	ug/L	ND	1.0	08/25/21 02:38	

LABORATORY CONTROL SAMPLE: 2930127

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum, Dissolved	ug/L	40	38.8	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2930128 2930129

Parameter	Units	50295163006		2930128		2930129		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Molybdenum, Dissolved	ug/L	3.1	3.1	40	40	42.0	42.1	97	98	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2930130 2930131

Parameter	Units	50295163013		2930130		2930131		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Molybdenum, Dissolved	ug/L	1.1	1.1	40	40	40.2	40.0	98	97	75-125	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: IPL Petersburg

Pace Project No.: 50295161

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IPL Petersburg

Pace Project No.: 50295161

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50295161001	GWP-8D	EPA 3010	635762	EPA 6010	636568
50295161002	GWP-8AI	EPA 3010	635762	EPA 6010	636568
50295161003	GWP-8AS	EPA 3010	635762	EPA 6010	636568
50295161001	GWP-8D	EPA 3010	635702	EPA 6010	636087
50295161002	GWP-8AI	EPA 3010	635702	EPA 6010	636087
50295161003	GWP-8AS	EPA 3010	635702	EPA 6010	636087
50295161001	GWP-8D	EPA 200.2	636162	EPA 6020	636801
50295161002	GWP-8AI	EPA 200.2	636162	EPA 6020	636801
50295161003	GWP-8AS	EPA 200.2	636162	EPA 6020	636801
50295161001	GWP-8D	EPA 200.2	636216	EPA 6020	636790
50295161002	GWP-8AI	EPA 200.2	636216	EPA 6020	636790
50295161003	GWP-8AS	EPA 200.2	636216	EPA 6020	636790

REPORT OF LABORATORY ANALYSIS

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WO#: 50295161



50295161

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Subject Information: Company: ATC Group Services Address: 7988 Centerpoint Drive Indianapolis, IN 46256 Email: robert.duncan@atcgs.com Phone: 317-649-2936 Requested Due Date:		Invoice Information: Report To: Rob Duncan Copy To: Purchase Order #: Project Name: IPL Petersburg Project #: 170LF01106		Section C Attention: Company Name: ATC Group Services Address: Pace Quote: Pace Project Manager: hayden.putt@pacelabs.com, Pace Profile #: 8427/1		Regulatory Agency State / Location IN	
---	--	--	--	--	--	---	--

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Y/N	Analyses Test	Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)
						START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other			Total Mo & Li	Field Filtered Mo & Li	
						DATE	TIME	DATE	TIME															
1	GWP-8D							8-12-21	12:05											X	X			
2	GWP-8AI							8-12-21	16:55											X	X			
3	GWP-8AS							8-12-21	15:30											X	X			
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
	Andy Jaykowski	8-13-21	18:10	Zach Tompac	8/16/21	13:35					
	Zach Tompac	8/16/21	14:45	R. Clemons	8-16-21	14:45	0.2	y	N	y	

SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Andy Jaykowski SIGNATURE of SAMPLER: <i>[Signature]</i>		DATE Signed: 8-13-21	TEMP in C Received on Ice (Y/N) Custody Sealed (Y/N) Cooler (Y/N) Samples Intact (Y/N)
--	--	----------------------	--



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: RC 8-16-21 16:44

- 1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____
- 2. Custody Seal on Cooler/Box Present: Yes No
(If yes)Seals Intact: Yes No (leave blank if no seals were present)
- 3. Thermometer: 1 2 3 4 5 6 A B C D E F
- 4. Cooler Temperature: 0.1 / 0.2
Temp should be above freezing to 6°C (Initial/Corrected)

- 5. Packing Material: Bubble Wrap Bubble Bags
 None Other _____
- 6. Ice Type: Wet Blue None
- 7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		<input checked="" type="checkbox"/>	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.	<input checked="" type="checkbox"/>		
Short Hold Time Analysis (48 hours or less)? Analysis:		<input checked="" type="checkbox"/>	Circle: <u>HNO3 (<2)</u> H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form	<input checked="" type="checkbox"/>		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			<u>Present</u>	<u>Absent</u>	<u>N/A</u>
		<input checked="" type="checkbox"/>	Residual Chlorine Check (SVOC 625 Pest/PCB 608)			<input checked="" type="checkbox"/>
Rush TAT Requested (4 days or less):		<input checked="" type="checkbox"/>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			<input checked="" type="checkbox"/>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<input checked="" type="checkbox"/>
Containers Intact?:	<input checked="" type="checkbox"/>		Headspace in VOA Vials (>6mm): See Container Count form for details	<u>Present</u>	<u>Absent</u>	No VOA Vials Sent <input checked="" type="checkbox"/>
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<input checked="" type="checkbox"/>		Trip Blank Present?		<input checked="" type="checkbox"/>	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			<input checked="" type="checkbox"/>

COMMENTS:

Sample Container Count

SBS
DI
MeOH
(only)
BK
Kit

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGUFU	R	DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit	Matrix	HNO3/H2SO4 pH <2	NaOH/ZnAc pH >9	NaOH pH >10	
1																					-	-					WT	✓			
2																					-	-							✓		
3																					-	-							✓		
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass				Plastic / Misc.			
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic		
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	Syringe Kit	LL Cr+6 sampling kit
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air Filter
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	C	Air Cassettes
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terracore kit
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120mL Coliform Na Thiosulfate
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	U	Summa Can
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC	Ziploc Bag
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered		
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT	Water
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic	SL	Solid
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	NAL	OL Non-aqueous liquid Oil
						WP	Wipe

September 08, 2021

Mr. Rob Duncan
ATC Group Services, LLC
7988 Centerpoint Drive
Indianapolis, IN 46256

RE: Project: IPL Petersburg
Pace Project No.: 50295782

Dear Mr. Duncan:


Enclosed are the analytical results for sample(s) received by the laboratory on August 24, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IPL Petersburg

Pace Project No.: 50295782

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IPL Petersburg

Pace Project No.: 50295782

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50295782001	GWP-10D	Water	08/18/21 08:05	08/24/21 13:15
50295782002	GWP-10AI	Water	08/18/21 13:20	08/24/21 13:15
50295782003	GWP-10AS	Water	08/18/21 11:20	08/24/21 13:15
50295782004	GWP-9D	Water	08/16/21 15:35	08/24/21 13:15
50295782005	GWP-9AS	Water	08/17/21 10:00	08/24/21 13:15
50295782006	GWP-9AI	Water	08/17/21 11:40	08/24/21 13:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IPL Petersburg

Pace Project No.: 50295782

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50295782001	GWP-10D	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50295782002	GWP-10AI	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50295782003	GWP-10AS	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50295782004	GWP-9D	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50295782005	GWP-9AS	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1
50295782006	GWP-9AI	EPA 6010	JPK	1
		EPA 6010	JPK	1
		EPA 6020	RAM	1
		EPA 6020	RAM	1

PASI-I = Pace Analytical Services - Indianapolis

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IPL Petersburg

Pace Project No.: 50295782

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50295782001	GWP-10D					
EPA 6020	Molybdenum	286	ug/L	5.0	09/01/21 11:47	
EPA 6020	Molybdenum, Dissolved	370	ug/L	2.0	09/03/21 21:44	
50295782002	GWP-10AI					
EPA 6020	Molybdenum	13.9	ug/L	1.0	09/01/21 11:52	
EPA 6020	Molybdenum, Dissolved	16.1	ug/L	1.0	09/03/21 21:48	
50295782003	GWP-10AS					
EPA 6020	Molybdenum	1.9	ug/L	1.0	09/01/21 11:56	
50295782004	GWP-9D					
EPA 6020	Molybdenum	286	ug/L	2.0	09/01/21 12:00	
EPA 6020	Molybdenum, Dissolved	284	ug/L	2.0	09/03/21 21:57	
50295782006	GWP-9AI					
EPA 6020	Molybdenum	4.8	ug/L	1.0	09/01/21 12:09	
EPA 6020	Molybdenum, Dissolved	4.9	ug/L	1.0	09/03/21 22:06	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50295782

Sample: GWP-10D		Lab ID: 50295782001		Collected: 08/18/21 08:05	Received: 08/24/21 13:15	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	08/29/21 14:40	09/01/21 01:53	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	09/01/21 06:42	09/04/21 01:59	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	286	ug/L	5.0	5	08/31/21 08:35	09/01/21 11:47	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	370	ug/L	2.0	2	09/01/21 22:02	09/03/21 21:44	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50295782

Sample: GWP-10AI		Lab ID: 50295782002		Collected: 08/18/21 13:20	Received: 08/24/21 13:15	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	08/29/21 14:40	09/01/21 01:55	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	09/01/21 06:42	09/04/21 02:01	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	13.9	ug/L	1.0	1	08/31/21 08:35	09/01/21 11:52	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	16.1	ug/L	1.0	1	09/01/21 22:02	09/03/21 21:48	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50295782

Sample: GWP-10AS		Lab ID: 50295782003		Collected: 08/18/21 11:20	Received: 08/24/21 13:15	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	08/29/21 14:40	09/01/21 01:57	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	09/01/21 06:42	09/04/21 02:03	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	1.9	ug/L	1.0	1	08/31/21 08:35	09/01/21 11:56	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	ND	ug/L	1.0	1	09/01/21 22:02	09/03/21 21:53	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50295782

Sample: GWP-9D		Lab ID: 50295782004		Collected: 08/16/21 15:35	Received: 08/24/21 13:15	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	08/29/21 14:40	09/01/21 01:59	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	09/01/21 06:42	09/04/21 02:05	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	286	ug/L	2.0	2	08/31/21 08:35	09/01/21 12:00	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	284	ug/L	2.0	2	09/01/21 22:02	09/03/21 21:57	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50295782

Sample: GWP-9AS		Lab ID: 50295782005		Collected: 08/17/21 10:00	Received: 08/24/21 13:15	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	08/29/21 14:40	09/01/21 02:01	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	09/01/21 06:42	09/04/21 02:07	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	ND	ug/L	1.0	1	08/31/21 08:35	09/01/21 12:05	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	ND	ug/L	1.0	1	09/01/21 22:02	09/03/21 22:01	7439-98-7	

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ANALYTICAL RESULTS

Project: IPL Petersburg

Pace Project No.: 50295782

Sample: GWP-9AI		Lab ID: 50295782006		Collected: 08/17/21 11:40	Received: 08/24/21 13:15	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium	ND	ug/L	20.0	1	08/29/21 14:40	09/01/21 02:03	7439-93-2	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Lithium, Dissolved	ND	ug/L	20.0	1	09/01/21 06:42	09/04/21 02:09	7439-93-2	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum	4.8	ug/L	1.0	1	08/31/21 08:35	09/01/21 12:09	7439-98-7	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Molybdenum, Dissolved	4.9	ug/L	1.0	1	09/01/21 22:02	09/03/21 22:06	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg
Pace Project No.: 50295782

QC Batch: 637490 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50295782001, 50295782002, 50295782003, 50295782004, 50295782005, 50295782006

METHOD BLANK: 2935787 Matrix: Water
Associated Lab Samples: 50295782001, 50295782002, 50295782003, 50295782004, 50295782005, 50295782006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	ug/L	ND	20.0	09/01/21 01:15	

LABORATORY CONTROL SAMPLE: 2935788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2935789 2935790

Parameter	Units	50295705003		2935790		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Lithium	ug/L	<8.0	1000	1000	1020	979	102	98	75-125	4	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg
Pace Project No.: 50295782

QC Batch: 637978 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50295782001, 50295782002, 50295782003, 50295782004, 50295782005, 50295782006

METHOD BLANK: 2937976 Matrix: Water
Associated Lab Samples: 50295782001, 50295782002, 50295782003, 50295782004, 50295782005, 50295782006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	ug/L	ND	20.0	09/04/21 01:55	

LABORATORY CONTROL SAMPLE: 2937977

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	ug/L	1000	986	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2937978 2937979

Parameter	Units	50296139006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	ug/L	18.9	1000	1000	1030	1020	101	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: IPL Petersburg

Pace Project No.: 50295782

QC Batch: 637899

Analysis Method: EPA 6020

QC Batch Method: EPA 200.2

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50295782001, 50295782002, 50295782003, 50295782004, 50295782005, 50295782006

METHOD BLANK: 2937744

Matrix: Water

Associated Lab Samples: 50295782001, 50295782002, 50295782003, 50295782004, 50295782005, 50295782006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum	ug/L	ND	1.0	08/31/21 20:27	

LABORATORY CONTROL SAMPLE: 2937745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	40	39.4	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2937746 2937747

Parameter	Units	50295675001		50295675002		50295675003		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Molybdenum	ug/L	<1.0	40	40	40.7	40.4	99	99	75-125	1	20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: IPL Petersburg

Pace Project No.: 50295782

QC Batch:	638145	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50295782001, 50295782002, 50295782003, 50295782004, 50295782005, 50295782006

METHOD BLANK: 2938512 Matrix: Water

Associated Lab Samples: 50295782001, 50295782002, 50295782003, 50295782004, 50295782005, 50295782006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum, Dissolved	ug/L	ND	1.0	09/02/21 15:07	

LABORATORY CONTROL SAMPLE: 2938513

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum, Dissolved	ug/L	40	38.7	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2938514 2938515

Parameter	Units	50296012005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum, Dissolved	ug/L	0.0055 mg/L	40	40	46.2	45.7	102	100	75-125	1	20	CL,IC

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: IPL Petersburg

Pace Project No.: 50295782

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

IC The initial calibration for this compound was outside of method control limits. The result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IPL Petersburg

Pace Project No.: 50295782

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50295782001	GWP-10D	EPA 3010	637490	EPA 6010	638126
50295782002	GWP-10AI	EPA 3010	637490	EPA 6010	638126
50295782003	GWP-10AS	EPA 3010	637490	EPA 6010	638126
50295782004	GWP-9D	EPA 3010	637490	EPA 6010	638126
50295782005	GWP-9AS	EPA 3010	637490	EPA 6010	638126
50295782006	GWP-9AI	EPA 3010	637490	EPA 6010	638126
50295782001	GWP-10D	EPA 3010	637978	EPA 6010	638776
50295782002	GWP-10AI	EPA 3010	637978	EPA 6010	638776
50295782003	GWP-10AS	EPA 3010	637978	EPA 6010	638776
50295782004	GWP-9D	EPA 3010	637978	EPA 6010	638776
50295782005	GWP-9AS	EPA 3010	637978	EPA 6010	638776
50295782006	GWP-9AI	EPA 3010	637978	EPA 6010	638776
50295782001	GWP-10D	EPA 200.2	637899	EPA 6020	638000
50295782002	GWP-10AI	EPA 200.2	637899	EPA 6020	638000
50295782003	GWP-10AS	EPA 200.2	637899	EPA 6020	638000
50295782004	GWP-9D	EPA 200.2	637899	EPA 6020	638000
50295782005	GWP-9AS	EPA 200.2	637899	EPA 6020	638000
50295782006	GWP-9AI	EPA 200.2	637899	EPA 6020	638000
50295782001	GWP-10D	EPA 200.2	638145	EPA 6020	638375
50295782002	GWP-10AI	EPA 200.2	638145	EPA 6020	638375
50295782003	GWP-10AS	EPA 200.2	638145	EPA 6020	638375
50295782004	GWP-9D	EPA 200.2	638145	EPA 6020	638375
50295782005	GWP-9AS	EPA 200.2	638145	EPA 6020	638375
50295782006	GWP-9AI	EPA 200.2	638145	EPA 6020	638375

REPORT OF LABORATORY ANALYSIS

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Sample Container Count

SBS
DI
MeOH
(only)
BK
Kit

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	R	DG9H	VG9H	MOA MIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit	Matrix	HNO3/H2SO4 pH <2	NaOH/ZnAc pH >9	NaOH pH >10
1																				1	1						Matrix			
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

Container Codes

Glass				Plastic / Misc.			
DG9H	40mL HCl amber vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	Syringe Kit	LL Cr+6 sampling kit
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	C	Air Cassettes
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	R	Terracore kit
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	SP5T	120mL Coliform Na Thiosulfate
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	U	Summa Can
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	ZPLC	Ziploc Bag
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	WT	Water
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered	NAL	Non-aqueous liquid
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WP	Wipe
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic		Oil
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		

September 2021

October 08, 2021

Mr. Rob Duncan
ATC Group Services, LLC
7988 Centerpoint Drive
Indianapolis, IN 46256

RE: Project: Sept AES/IPL+Geochemical
Pace Project No.: 50297445

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather Patterson for
Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50297445001	MW-25B	Water	09/15/21 13:55	09/16/21 08:45
50297445002	MW-25I	Water	09/15/21 15:35	09/16/21 08:45
50297445003	MW-25A	Water	09/15/21 17:10	09/16/21 08:45
50297445004	MW-29B	Water	09/15/21 16:08	09/16/21 08:45
50297445005	MW-29A	Water	09/15/21 13:45	09/16/21 08:45
50297445006	Duplicate 1	Water	09/15/21 08:00	09/16/21 08:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50297445001	MW-25B	EPA 9056	RMR	3	PASI-I		
		EPA 6010	KJE	14	PASI-I		
		EPA 6010	JPK	4	PASI-I		
		EPA 6020	CAW	6	PASI-I		
		EPA 903.1	MK1	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	JAL	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	OAS	1	PASI-I		
		SM 4500-H+B	SWJ	1	PASI-I		
		SM 4500-S2-D	ZM	1	PASI-I		
		EPA 353.2	MMS	2	PASI-I		
		EPA 365.1	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50297445002	MW-25I	EPA 9056	RMR	3	PASI-I
				EPA 6010	KJE	14	PASI-I
EPA 6010	JPK			4	PASI-I		
EPA 6020	CAW			6	PASI-I		
EPA 903.1	MK1			1	PASI-PA		
EPA 904.0	JC2			1	PASI-PA		
Total Radium Calculation	JAL			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	OAS			1	PASI-I		
SM 4500-H+B	SWJ			1	PASI-I		
SM 4500-S2-D	ZM			1	PASI-I		
EPA 353.2	MMS			2	PASI-I		
EPA 365.1	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50297445003	MW-25A			EPA 9056	RMR	3	PASI-I
				EPA 6010	KJE	14	PASI-I
		EPA 6010	JPK	4	PASI-I		
		EPA 6020	CAW	6	PASI-I		
		EPA 903.1	MK1	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	JAL	1	PASI-PA		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	HCF	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50297445004	MW-29B	EPA 9056	RMR	3	PASI-I
		EPA 6010	KJE	14	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50297445005	MW-29A	EPA 9056	RMR	3	PASI-I
		EPA 6010	KJE	14	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50297445006	Duplicate 1	SM 5310C	GWA	1	PASI-I
		EPA 9056	RMR	3	PASI-I
		EPA 6010	KJE	14	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297445001	MW-25B					
EPA 9056	Chloride	17.0	mg/L	2.5	09/21/21 02:39	
EPA 9056	Sulfate	318	mg/L	25.0	09/21/21 02:57	
EPA 6010	Barium	55.6	ug/L	10.0	09/23/21 13:17	
EPA 6010	Boron	3350	ug/L	100	09/23/21 13:17	
EPA 6010	Calcium	224000	ug/L	5000	09/23/21 13:47	
EPA 6010	Iron	752	ug/L	100	09/23/21 13:17	
EPA 6010	Magnesium	36400	ug/L	1000	09/23/21 13:17	
EPA 6010	Manganese	1160	ug/L	10.0	09/23/21 13:17	
EPA 6010	Potassium	1200	ug/L	1000	09/23/21 13:17	
EPA 6010	Silica	15200	ug/L	450	09/23/21 13:17	N2
EPA 6010	Sodium	10200	ug/L	1000	09/23/21 13:17	
EPA 6010	Boron, Dissolved	3160	ug/L	100	09/21/21 22:37	
EPA 6010	Manganese, Dissolved	1030	ug/L	10.0	09/21/21 22:37	
EPA 6020	Cobalt	1.7	ug/L	1.0	09/23/21 01:10	
EPA 6020	Selenium	1.3	ug/L	1.0	09/23/21 01:10	
EPA 903.1	Radium-226	0.128 ± 0.356 (0.692) C:NA T:100%	pCi/L		10/06/21 12:24	
EPA 904.0	Radium-228	0.0570 ± 0.451 (1.04) C:62% T:80%	pCi/L		10/05/21 14:35	
Total Radium Calculation	Total Radium	0.185 ± 0.807 (1.73)	pCi/L		10/07/21 15:35	
SM 2320B	Alkalinity, Total as CaCO3	331	mg/L	2.0	09/27/21 13:43	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	331	mg/L	2.0	09/27/21 13:43	
SM 2540C	Total Dissolved Solids	896	mg/L	10.0	09/17/21 08:28	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/18/21 09:53	H3
EPA 353.2	Nitrogen, Nitrate	3.2	mg/L	0.20	09/16/21 11:52	B0
SM 5310C	Dissolved Organic Carbon	1.2	mg/L	1.0	09/27/21 19:16	
50297445002	MW-25I					
EPA 9056	Chloride	59.7	mg/L	2.5	09/21/21 03:34	
EPA 9056	Sulfate	1480	mg/L	25.0	09/21/21 03:52	
EPA 6010	Aluminum	410	ug/L	200	09/23/21 13:19	
EPA 6010	Barium	43.9	ug/L	10.0	09/23/21 13:19	
EPA 6010	Boron	18600	ug/L	100	09/23/21 13:19	
EPA 6010	Calcium	570000	ug/L	5000	09/23/21 13:49	
EPA 6010	Iron	16900	ug/L	100	09/23/21 13:19	
EPA 6010	Magnesium	73000	ug/L	1000	09/23/21 13:19	
EPA 6010	Manganese	1740	ug/L	10.0	09/23/21 13:19	
EPA 6010	Molybdenum	16.0	ug/L	10.0	09/23/21 13:19	
EPA 6010	Potassium	3440	ug/L	1000	09/23/21 13:19	
EPA 6010	Silica	13900	ug/L	450	09/23/21 13:19	N2
EPA 6010	Sodium	24100	ug/L	1000	09/23/21 13:19	
EPA 6010	Boron, Dissolved	18500	ug/L	100	09/21/21 22:43	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297445002	MW-25I					
EPA 6010	Manganese, Dissolved	1600	ug/L	10.0	09/21/21 22:43	
EPA 6010	Molybdenum, Dissolved	14.9	ug/L	10.0	09/21/21 22:43	
EPA 6020	Arsenic	1.1	ug/L	1.0	09/23/21 01:15	
EPA 6020	Cobalt	1.2	ug/L	1.0	09/23/21 01:15	
EPA 903.1	Radium-226	0.143 ± 0.443 (0.857)	pCi/L		10/06/21 12:24	
EPA 904.0	Radium-228	C:NA T:90% 0.677 ± 0.412 (0.762)	pCi/L		10/05/21 14:35	
		C:68% T:88%				
Total Radium Calculation	Total Radium	0.820 ± 0.855 (1.62)	pCi/L		10/07/21 15:35	
SM 2320B	Alkalinity, Total as CaCO3	168	mg/L	2.0	09/27/21 13:43	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	168	mg/L	2.0	09/27/21 13:43	
SM 2540C	Total Dissolved Solids	2490	mg/L	20.0	09/17/21 08:28	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/18/21 09:55	H3
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	09/21/21 15:00	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	09/27/21 19:35	
50297445003	MW-25A					
EPA 9056	Chloride	43.4	mg/L	2.5	09/23/21 01:32	
EPA 9056	Fluoride	0.12	mg/L	0.10	09/23/21 01:15	
EPA 9056	Sulfate	1430	mg/L	25.0	09/23/21 01:50	
EPA 6010	Barium	51.5	ug/L	10.0	09/23/21 13:22	
EPA 6010	Boron	13900	ug/L	100	09/23/21 13:22	
EPA 6010	Calcium	554000	ug/L	5000	09/23/21 13:51	
EPA 6010	Iron	22300	ug/L	100	09/23/21 13:22	
EPA 6010	Magnesium	73200	ug/L	1000	09/23/21 13:22	
EPA 6010	Manganese	2300	ug/L	10.0	09/23/21 13:22	
EPA 6010	Molybdenum	13.0	ug/L	10.0	09/23/21 13:22	
EPA 6010	Potassium	3970	ug/L	1000	09/23/21 13:22	
EPA 6010	Silica	15400	ug/L	450	09/23/21 13:22	N2
EPA 6010	Sodium	22900	ug/L	1000	09/23/21 13:22	
EPA 6010	Boron, Dissolved	14300	ug/L	100	09/21/21 22:45	
EPA 6010	Manganese, Dissolved	2140	ug/L	10.0	09/21/21 22:45	
EPA 6010	Molybdenum, Dissolved	12.8	ug/L	10.0	09/21/21 22:45	
EPA 6020	Arsenic	1.2	ug/L	1.0	09/23/21 00:33	
EPA 6020	Cobalt	2.1	ug/L	1.0	09/23/21 00:33	
EPA 903.1	Radium-226	-0.211 ± 0.366 (0.922)	pCi/L		10/06/21 12:38	
EPA 904.0	Radium-228	C:NA T:99% 0.597 ± 0.389 (0.735)	pCi/L		10/05/21 14:36	
		C:73% T:88%				

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297445003	MW-25A					
Total Radium Calculation	Total Radium	0.597 ± 0.755 (1.66)	pCi/L		10/07/21 15:35	
SM 2320B	Alkalinity, Total as CaCO3	135	mg/L	2.0	09/27/21 13:43	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	135	mg/L	2.0	09/27/21 13:43	
SM 2540C	Total Dissolved Solids	2400	mg/L	20.0	09/17/21 08:28	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/18/21 09:56	H3
SM 5310C	Total Organic Carbon	6.5	mg/L	1.0	09/21/21 15:26	
SM 5310C	Dissolved Organic Carbon	6.6	mg/L	1.0	09/27/21 20:01	
50297445004	MW-29B					
EPA 9056	Chloride	10.1	mg/L	0.25	09/23/21 02:07	
EPA 9056	Fluoride	0.10	mg/L	0.10	09/23/21 02:07	
EPA 9056	Sulfate	40.8	mg/L	2.5	09/23/21 02:24	
EPA 6010	Aluminum	303	ug/L	200	09/23/21 13:24	
EPA 6010	Barium	71.9	ug/L	10.0	09/23/21 13:24	
EPA 6010	Boron	274	ug/L	100	09/23/21 13:24	
EPA 6010	Calcium	119000	ug/L	1000	09/23/21 13:24	
EPA 6010	Iron	785	ug/L	100	09/23/21 13:24	
EPA 6010	Magnesium	23200	ug/L	1000	09/23/21 13:24	
EPA 6010	Manganese	1910	ug/L	10.0	09/23/21 13:24	
EPA 6010	Silica	12700	ug/L	450	09/23/21 13:24	N2
EPA 6010	Sodium	5560	ug/L	1000	09/23/21 13:24	
EPA 6010	Boron, Dissolved	293	ug/L	100	09/21/21 22:48	
EPA 6010	Manganese, Dissolved	1810	ug/L	10.0	09/21/21 22:48	
EPA 6020	Cobalt	2.2	ug/L	1.0	09/23/21 01:19	
EPA 903.1	Radium-226	0.311 ± 0.432 (0.721)	pCi/L		10/06/21 12:38	
EPA 904.0	Radium-228	C:NA T:91% 1.27 ± 0.501 (0.761) C:66% T:88%	pCi/L		10/05/21 14:36	
Total Radium Calculation	Total Radium	1.58 ± 0.933 (1.48)	pCi/L		10/07/21 15:35	
SM 2320B	Alkalinity, Total as CaCO3	323	mg/L	2.0	09/27/21 13:43	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	323	mg/L	2.0	09/27/21 13:43	
SM 2540C	Total Dissolved Solids	419	mg/L	10.0	09/17/21 08:29	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/18/21 09:56	H3
EPA 353.2	Nitrogen, Nitrate	1.8	mg/L	0.10	09/16/21 11:46	B0
50297445005	MW-29A					
EPA 9056	Chloride	4.1	mg/L	2.5	09/29/21 15:06	
EPA 9056	Sulfate	61.9	mg/L	2.5	09/29/21 15:06	
EPA 6010	Barium	48.6	ug/L	10.0	09/23/21 13:38	
EPA 6010	Boron	7840	ug/L	100	09/23/21 13:38	
EPA 6010	Calcium	294000	ug/L	5000	09/23/21 13:54	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297445005	MW-29A					
EPA 6010	Iron	8480	ug/L	100	09/23/21 13:38	
EPA 6010	Magnesium	42300	ug/L	1000	09/23/21 13:38	
EPA 6010	Manganese	1420	ug/L	10.0	09/23/21 13:38	
EPA 6010	Molybdenum	89.1	ug/L	10.0	09/23/21 13:38	
EPA 6010	Potassium	2580	ug/L	1000	09/23/21 13:38	
EPA 6010	Silica	12200	ug/L	450	09/23/21 13:38	N2
EPA 6010	Sodium	20700	ug/L	1000	09/23/21 13:38	
EPA 6010	Boron, Dissolved	7980	ug/L	100	09/21/21 22:50	
EPA 6010	Manganese, Dissolved	1400	ug/L	10.0	09/21/21 22:50	
EPA 6010	Molybdenum, Dissolved	91.1	ug/L	10.0	09/21/21 22:50	
EPA 903.1	Radium-226	1.13 ± 0.750 (0.988) C:NA T:90%	pCi/L		10/06/21 12:24	
EPA 904.0	Radium-228	0.195 ± 0.346 (0.757) C:71% T:89%	pCi/L		10/05/21 14:35	
Total Radium Calculation	Total Radium	1.33 ± 1.10 (1.75)	pCi/L		10/07/21 15:35	
SM 2320B	Alkalinity, Total as CaCO3	244	mg/L	2.0	09/27/21 13:43	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	244	mg/L	2.0	09/27/21 13:43	
SM 2540C	Total Dissolved Solids	1260	mg/L	20.0	09/17/21 08:29	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	09/18/21 09:57	H3
EPA 365.1	Phosphate as P04	0.28	mg/L	0.15	09/29/21 12:01	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	09/21/21 16:04	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	09/27/21 20:39	
50297445006	Duplicate 1					
EPA 9056	Chloride	42.7	mg/L	2.5	09/23/21 02:59	
EPA 9056	Sulfate	622	mg/L	25.0	09/23/21 03:16	
EPA 6010	Barium	49.2	ug/L	10.0	09/23/21 13:40	
EPA 6010	Boron	8050	ug/L	100	09/23/21 13:40	
EPA 6010	Calcium	297000	ug/L	5000	09/23/21 13:56	
EPA 6010	Iron	8670	ug/L	100	09/23/21 13:40	
EPA 6010	Magnesium	43200	ug/L	1000	09/23/21 13:40	
EPA 6010	Manganese	1450	ug/L	10.0	09/23/21 13:40	
EPA 6010	Molybdenum	90.6	ug/L	10.0	09/23/21 13:40	
EPA 6010	Potassium	2610	ug/L	1000	09/23/21 13:40	
EPA 6010	Silica	12500	ug/L	450	09/23/21 13:40	N2
EPA 6010	Sodium	21200	ug/L	1000	09/23/21 13:40	
EPA 6010	Boron, Dissolved	7970	ug/L	100	09/21/21 22:52	
EPA 6010	Manganese, Dissolved	1390	ug/L	10.0	09/21/21 22:52	
EPA 6010	Molybdenum, Dissolved	91.1	ug/L	10.0	09/21/21 22:52	
EPA 903.1	Radium-226	0.278 ± 0.473 (0.834) C:NA T:97%	pCi/L		10/06/21 12:24	

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SUMMARY OF DETECTION

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50297445006	Duplicate 1					
EPA 904.0	Radium-228	0.621 ± 0.430 (0.829) C:67% T:92%	pCi/L		10/05/21 14:35	
Total Radium Calculation	Total Radium	0.899 ± 0.903 (1.66)	pCi/L		10/07/21 15:35	
SM 2320B	Alkalinity, Total as CaCO ₃	239	mg/L	2.0	09/27/21 13:43	
SM 2320B	Alkalinity, Bicarbonate (CaCO ₃)	239	mg/L	2.0	09/27/21 13:43	
SM 2540C	Total Dissolved Solids	1220	mg/L	20.0	09/17/21 08:29	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	09/18/21 09:59	H3
EPA 365.1	Phosphate as P ₀₄	0.25	mg/L	0.15	09/29/21 12:01	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	09/21/21 17:02	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	09/27/21 20:58	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-25B	Lab ID: 50297445001	Collected: 09/15/21 13:55	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	17.0	mg/L	2.5	10		09/21/21 02:39	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/21/21 02:21	16984-48-8	
Sulfate	318	mg/L	25.0	100		09/21/21 02:57	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/21/21 12:57	09/23/21 13:17	7429-90-5	
Barium	55.6	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:17	7440-39-3	
Boron	3350	ug/L	100	1	09/21/21 12:57	09/23/21 13:17	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/21/21 12:57	09/23/21 13:17	7440-43-9	
Calcium	224000	ug/L	5000	5	09/21/21 12:57	09/23/21 13:47	7440-70-2	
Iron	752	ug/L	100	1	09/21/21 12:57	09/23/21 13:17	7439-89-6	
Lead	ND	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:17	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/21/21 12:57	09/23/21 13:17	7439-93-2	
Magnesium	36400	ug/L	1000	1	09/21/21 12:57	09/23/21 13:17	7439-95-4	
Manganese	1160	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:17	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:17	7439-98-7	
Potassium	1200	ug/L	1000	1	09/21/21 12:57	09/23/21 13:17	7440-09-7	
Silica	15200	ug/L	450	1	09/21/21 12:57	09/23/21 13:17	7631-86-9	N2
Sodium	10200	ug/L	1000	1	09/21/21 12:57	09/23/21 13:17	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	3160	ug/L	100	1	09/20/21 06:43	09/21/21 22:37	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/20/21 06:43	09/21/21 22:37	7439-93-2	
Manganese, Dissolved	1030	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:37	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:37	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:10	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:10	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/21/21 22:01	09/23/21 01:10	7440-41-7	
Cobalt	1.7	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:10	7440-48-4	
Selenium	1.3	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:10	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:10	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	331	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Bicarbonate (CaCO3)	331	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/27/21 13:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-25B	Lab ID: 50297445001	Collected: 09/15/21 13:55	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	896	mg/L	10.0	1		09/17/21 08:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		09/18/21 09:53		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/16/21 14:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	3.2	mg/L	0.20	2		09/16/21 11:52	14797-55-8	B0
Nitrogen, Nitrite	ND	mg/L	0.20	2		09/16/21 11:52	14797-65-0	B0
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/24/21 11:35	09/29/21 11:59		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		09/21/21 14:35	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.2	mg/L	1.0	1		09/27/21 19:16		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-25I	Lab ID: 50297445002	Collected: 09/15/21 15:35	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	59.7	mg/L	2.5	10		09/21/21 03:34	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/21/21 03:15	16984-48-8	
Sulfate	1480	mg/L	25.0	100		09/21/21 03:52	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	410	ug/L	200	1	09/21/21 12:57	09/23/21 13:19	7429-90-5	
Barium	43.9	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:19	7440-39-3	
Boron	18600	ug/L	100	1	09/21/21 12:57	09/23/21 13:19	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/21/21 12:57	09/23/21 13:19	7440-43-9	
Calcium	570000	ug/L	5000	5	09/21/21 12:57	09/23/21 13:49	7440-70-2	
Iron	16900	ug/L	100	1	09/21/21 12:57	09/23/21 13:19	7439-89-6	
Lead	ND	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:19	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/21/21 12:57	09/23/21 13:19	7439-93-2	
Magnesium	73000	ug/L	1000	1	09/21/21 12:57	09/23/21 13:19	7439-95-4	
Manganese	1740	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:19	7439-96-5	
Molybdenum	16.0	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:19	7439-98-7	
Potassium	3440	ug/L	1000	1	09/21/21 12:57	09/23/21 13:19	7440-09-7	
Silica	13900	ug/L	450	1	09/21/21 12:57	09/23/21 13:19	7631-86-9	N2
Sodium	24100	ug/L	1000	1	09/21/21 12:57	09/23/21 13:19	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	18500	ug/L	100	1	09/20/21 06:43	09/21/21 22:43	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/20/21 06:43	09/21/21 22:43	7439-93-2	
Manganese, Dissolved	1600	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:43	7439-96-5	
Molybdenum, Dissolved	14.9	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:43	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:15	7440-36-0	
Arsenic	1.1	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:15	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/21/21 22:01	09/23/21 01:15	7440-41-7	
Cobalt	1.2	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:15	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:15	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:15	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	168	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Bicarbonate (CaCO3)	168	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/27/21 13:43		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-25I	Lab ID: 50297445002	Collected: 09/15/21 15:35	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2490	mg/L	20.0	1		09/17/21 08:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		09/18/21 09:55		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/16/21 14:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.50	5		09/16/21 11:56	14797-55-8	B0
Nitrogen, Nitrite	ND	mg/L	0.50	5		09/16/21 11:56	14797-65-0	B0,D3
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/24/21 11:35	09/29/21 11:59		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.4	mg/L	1.0	1		09/21/21 15:00	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.4	mg/L	1.0	1		09/27/21 19:35		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-25A	Lab ID: 50297445003	Collected: 09/15/21 17:10	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	43.4	mg/L	2.5	10		09/23/21 01:32	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		09/23/21 01:15	16984-48-8	
Sulfate	1430	mg/L	25.0	100		09/23/21 01:50	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/21/21 12:57	09/23/21 13:22	7429-90-5	
Barium	51.5	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:22	7440-39-3	
Boron	13900	ug/L	100	1	09/21/21 12:57	09/23/21 13:22	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/21/21 12:57	09/23/21 13:22	7440-43-9	
Calcium	554000	ug/L	5000	5	09/21/21 12:57	09/23/21 13:51	7440-70-2	
Iron	22300	ug/L	100	1	09/21/21 12:57	09/23/21 13:22	7439-89-6	
Lead	ND	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:22	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/21/21 12:57	09/23/21 13:22	7439-93-2	
Magnesium	73200	ug/L	1000	1	09/21/21 12:57	09/23/21 13:22	7439-95-4	
Manganese	2300	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:22	7439-96-5	
Molybdenum	13.0	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:22	7439-98-7	
Potassium	3970	ug/L	1000	1	09/21/21 12:57	09/23/21 13:22	7440-09-7	
Silica	15400	ug/L	450	1	09/21/21 12:57	09/23/21 13:22	7631-86-9	N2
Sodium	22900	ug/L	1000	1	09/21/21 12:57	09/23/21 13:22	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	14300	ug/L	100	1	09/20/21 06:43	09/21/21 22:45	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/20/21 06:43	09/21/21 22:45	7439-93-2	
Manganese, Dissolved	2140	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:45	7439-96-5	
Molybdenum, Dissolved	12.8	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:45	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 00:33	7440-36-0	
Arsenic	1.2	ug/L	1.0	1	09/21/21 22:01	09/23/21 00:33	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/21/21 22:01	09/23/21 00:33	7440-41-7	
Cobalt	2.1	ug/L	1.0	1	09/21/21 22:01	09/23/21 00:33	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 00:33	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 00:33	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	135	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Bicarbonate (CaCO3)	135	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/27/21 13:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-25A	Lab ID: 50297445003	Collected: 09/15/21 17:10	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2400	mg/L	20.0	1		09/17/21 08:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		09/18/21 09:56		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/16/21 14:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/16/21 11:44	14797-55-8	B0
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/16/21 11:44	14797-65-0	B0
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/24/21 11:35	09/29/21 12:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	6.5	mg/L	1.0	1		09/21/21 15:26	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	6.6	mg/L	1.0	1		09/27/21 20:01		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-29B	Lab ID: 50297445004	Collected: 09/15/21 16:08	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	10.1	mg/L	0.25	1		09/23/21 02:07	16887-00-6	
Fluoride	0.10	mg/L	0.10	1		09/23/21 02:07	16984-48-8	
Sulfate	40.8	mg/L	2.5	10		09/23/21 02:24	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	303	ug/L	200	1	09/21/21 12:57	09/23/21 13:24	7429-90-5	
Barium	71.9	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:24	7440-39-3	
Boron	274	ug/L	100	1	09/21/21 12:57	09/23/21 13:24	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/21/21 12:57	09/23/21 13:24	7440-43-9	
Calcium	119000	ug/L	1000	1	09/21/21 12:57	09/23/21 13:24	7440-70-2	
Iron	785	ug/L	100	1	09/21/21 12:57	09/23/21 13:24	7439-89-6	
Lead	ND	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:24	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/21/21 12:57	09/23/21 13:24	7439-93-2	
Magnesium	23200	ug/L	1000	1	09/21/21 12:57	09/23/21 13:24	7439-95-4	
Manganese	1910	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:24	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:24	7439-98-7	
Potassium	ND	ug/L	1000	1	09/21/21 12:57	09/23/21 13:24	7440-09-7	
Silica	12700	ug/L	450	1	09/21/21 12:57	09/23/21 13:24	7631-86-9	N2
Sodium	5560	ug/L	1000	1	09/21/21 12:57	09/23/21 13:24	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	293	ug/L	100	1	09/20/21 06:43	09/21/21 22:48	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/20/21 06:43	09/21/21 22:48	7439-93-2	
Manganese, Dissolved	1810	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:48	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:48	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:19	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:19	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/21/21 22:01	09/23/21 01:19	7440-41-7	
Cobalt	2.2	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:19	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:19	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:19	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	323	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Bicarbonate (CaCO3)	323	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/27/21 13:43		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-29B	Lab ID: 50297445004	Collected: 09/15/21 16:08	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	419	mg/L	10.0	1		09/17/21 08:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		09/18/21 09:56		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/16/21 14:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	1.8	mg/L	0.10	1		09/16/21 11:46	14797-55-8	B0
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/16/21 11:46	14797-65-0	B0
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/24/21 11:35	09/29/21 12:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		09/21/21 15:45	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		09/27/21 20:20		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-29A	Lab ID: 50297445005	Collected: 09/15/21 13:45	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	4.1	mg/L	2.5	10		09/29/21 15:06	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/23/21 02:42	16984-48-8	
Sulfate	61.9	mg/L	2.5	10		09/29/21 15:06	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/21/21 12:57	09/23/21 13:38	7429-90-5	
Barium	48.6	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:38	7440-39-3	
Boron	7840	ug/L	100	1	09/21/21 12:57	09/23/21 13:38	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/21/21 12:57	09/23/21 13:38	7440-43-9	
Calcium	294000	ug/L	5000	5	09/21/21 12:57	09/23/21 13:54	7440-70-2	
Iron	8480	ug/L	100	1	09/21/21 12:57	09/23/21 13:38	7439-89-6	
Lead	ND	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:38	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/21/21 12:57	09/23/21 13:38	7439-93-2	
Magnesium	42300	ug/L	1000	1	09/21/21 12:57	09/23/21 13:38	7439-95-4	
Manganese	1420	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:38	7439-96-5	
Molybdenum	89.1	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:38	7439-98-7	
Potassium	2580	ug/L	1000	1	09/21/21 12:57	09/23/21 13:38	7440-09-7	
Silica	12200	ug/L	450	1	09/21/21 12:57	09/23/21 13:38	7631-86-9	N2
Sodium	20700	ug/L	1000	1	09/21/21 12:57	09/23/21 13:38	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	7980	ug/L	100	1	09/20/21 06:43	09/21/21 22:50	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/20/21 06:43	09/21/21 22:50	7439-93-2	
Manganese, Dissolved	1400	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:50	7439-96-5	
Molybdenum, Dissolved	91.1	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:50	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:24	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:24	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/21/21 22:01	09/23/21 01:24	7440-41-7	
Cobalt	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:24	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:24	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:24	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	244	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Bicarbonate (CaCO3)	244	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/27/21 13:43		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-29A	Lab ID: 50297445005	Collected: 09/15/21 13:45	Received: 09/16/21 08:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	1260	mg/L	20.0	1		09/17/21 08:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		09/18/21 09:57		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/16/21 14:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/16/21 11:48	14797-55-8	B0
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/16/21 11:48	14797-65-0	B0
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.28	mg/L	0.15	1	09/24/21 11:35	09/29/21 12:01		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.5	mg/L	1.0	1		09/21/21 16:04	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.5	mg/L	1.0	1		09/27/21 20:39		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: Duplicate 1		Lab ID: 50297445006	Collected: 09/15/21 08:00	Received: 09/16/21 08:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions		Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis						
Chloride	42.7	mg/L	2.5	10		09/23/21 02:59	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/23/21 04:08	16984-48-8	
Sulfate	622	mg/L	25.0	100		09/23/21 03:16	14808-79-8	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Aluminum	ND	ug/L	200	1	09/21/21 12:57	09/23/21 13:40	7429-90-5	
Barium	49.2	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:40	7440-39-3	
Boron	8050	ug/L	100	1	09/21/21 12:57	09/23/21 13:40	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/21/21 12:57	09/23/21 13:40	7440-43-9	
Calcium	297000	ug/L	5000	5	09/21/21 12:57	09/23/21 13:56	7440-70-2	
Iron	8670	ug/L	100	1	09/21/21 12:57	09/23/21 13:40	7439-89-6	
Lead	ND	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:40	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/21/21 12:57	09/23/21 13:40	7439-93-2	
Magnesium	43200	ug/L	1000	1	09/21/21 12:57	09/23/21 13:40	7439-95-4	
Manganese	1450	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:40	7439-96-5	
Molybdenum	90.6	ug/L	10.0	1	09/21/21 12:57	09/23/21 13:40	7439-98-7	
Potassium	2610	ug/L	1000	1	09/21/21 12:57	09/23/21 13:40	7440-09-7	
Silica	12500	ug/L	450	1	09/21/21 12:57	09/23/21 13:40	7631-86-9	N2
Sodium	21200	ug/L	1000	1	09/21/21 12:57	09/23/21 13:40	7440-23-5	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Boron, Dissolved	7970	ug/L	100	1	09/20/21 06:43	09/21/21 22:52	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/20/21 06:43	09/21/21 22:52	7439-93-2	
Manganese, Dissolved	1390	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:52	7439-96-5	
Molybdenum, Dissolved	91.1	ug/L	10.0	1	09/20/21 06:43	09/21/21 22:52	7439-98-7	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis						
Antimony	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:28	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:28	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/21/21 22:01	09/23/21 01:28	7440-41-7	
Cobalt	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:28	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:28	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/21/21 22:01	09/23/21 01:28	7440-28-0	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Indianapolis						
Alkalinity, Total as CaCO3	239	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Bicarbonate (CaCO3)	239	mg/L	2.0	1		09/27/21 13:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/27/21 13:43		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: Duplicate 1		Lab ID: 50297445006		Collected: 09/15/21 08:00	Received: 09/16/21 08:45	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	1220	mg/L	20.0	1		09/17/21 08:29		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.1	Std. Units	0.10	1		09/18/21 09:59		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		09/16/21 14:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis						
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/16/21 11:50	14797-55-8	B0
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/16/21 11:50	14797-65-0	B0
365.1 Total Phosphorus		Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis						
Phosphate as P04	0.25	mg/L	0.15	1	09/24/21 11:35	09/29/21 12:01		
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	1.4	mg/L	1.0	1		09/21/21 17:02	7440-44-0	
5310C Dissolved Organic Carbon		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Dissolved Organic Carbon	1.5	mg/L	1.0	1		09/27/21 20:58		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch: 640865 Analysis Method: EPA 9056
 QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2951589 Matrix: Water
 Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/20/21 19:56	
Fluoride	mg/L	ND	0.10	09/20/21 19:56	
Sulfate	mg/L	ND	0.25	09/20/21 19:56	

LABORATORY CONTROL SAMPLE: 2951590

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	99	80-120	
Fluoride	mg/L	0.5	0.50	99	80-120	
Sulfate	mg/L	2.5	2.7	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951591 2951592

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50297309002 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	10.3	1.2	1.2	11.8	11.8	119	118	80-120	0	15		
Fluoride	mg/L	0.12	0.5	0.5	0.60	0.61	96	98	80-120	1	15		
Sulfate	mg/L	31.8	25	25	56.8	56.9	100	100	80-120	0	15		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch: 640354

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2948558

Matrix: Water

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/23/21 11:23	
Barium	ug/L	ND	10.0	09/23/21 11:23	
Boron	ug/L	ND	100	09/23/21 11:23	
Cadmium	ug/L	ND	2.0	09/23/21 11:23	
Calcium	ug/L	ND	1000	09/23/21 11:23	
Iron	ug/L	ND	100	09/23/21 11:23	
Lead	ug/L	ND	10.0	09/23/21 11:23	
Lithium	ug/L	ND	20.0	09/23/21 11:23	
Magnesium	ug/L	ND	1000	09/23/21 11:23	
Manganese	ug/L	ND	10.0	09/23/21 11:23	
Molybdenum	ug/L	ND	10.0	09/23/21 11:23	
Potassium	ug/L	ND	1000	09/23/21 11:23	
Silica	ug/L	ND	450	09/23/21 11:23	N2
Sodium	ug/L	ND	1000	09/23/21 11:23	

LABORATORY CONTROL SAMPLE: 2948559

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4780	96	80-120	
Barium	ug/L	1000	972	97	80-120	
Boron	ug/L	1000	924	92	80-120	
Cadmium	ug/L	1000	936	94	80-120	
Calcium	ug/L	5000	4960	99	80-120	
Iron	ug/L	2500	2490	100	80-120	
Lead	ug/L	1000	990	99	80-120	
Lithium	ug/L	1000	986	99	80-120	
Magnesium	ug/L	5000	4840	97	80-120	
Manganese	ug/L	1000	920	92	80-120	
Molybdenum	ug/L	1000	979	98	80-120	
Potassium	ug/L	5000	5270	105	80-120	
Silica	ug/L	10700	5060	47		N2
Sodium	ug/L	5000	5220	104	80-120	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2948560		2948561		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50297346001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Aluminum	ug/L		5000	5000	5590	5610	104	104	75-125	0	20		
Barium	ug/L	361	1000	1000	1310	1270	95	91	75-125	3	20		
Boron	ug/L		1000	1000	1140	1130	96	94	75-125	1	20		
Cadmium	ug/L	ND	1000	1000	963	962	96	96	75-125	0	20		
Calcium	ug/L		5000	5000	174000	179000	-38	64	75-125	3	20	P6	
Iron	ug/L		2500	2500	15600	15900	77	89	75-125	2	20		
Lead	ug/L	ND	1000	1000	961	929	96	93	75-125	3	20		
Lithium	ug/L		1000	1000	1020	1010	100	100	75-125	0	20		
Magnesium	ug/L		5000	5000	44000	45300	66	91	75-125	3	20	P6	
Manganese	ug/L		1000	1000	1640	1650	88	90	75-125	1	20		
Molybdenum	ug/L		1000	1000	1010	1000	100	99	75-125	1	20		
Potassium	ug/L		5000	5000	14100	14200	89	91	75-125	1	20		
Silica	ug/L		10700	10700	26600	23700	48	21		11		N2	
Sodium	ug/L		5000	5000	35100	35600	63	73	75-125	1	20	P6	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	640565	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2950027 Matrix: Water
Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron, Dissolved	ug/L	ND	100	09/21/21 21:54	
Lithium, Dissolved	ug/L	ND	20.0	09/21/21 21:54	
Manganese, Dissolved	ug/L	ND	10.0	09/21/21 21:54	
Molybdenum, Dissolved	ug/L	ND	10.0	09/21/21 21:54	

LABORATORY CONTROL SAMPLE: 2950028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron, Dissolved	ug/L	1000	976	98	80-120	
Lithium, Dissolved	ug/L	1000	1030	103	80-120	
Manganese, Dissolved	ug/L	1000	939	94	80-120	
Molybdenum, Dissolved	ug/L	1000	976	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2950029 2950030

Parameter	Units	50297525005 Result	MS Spike Conc.	MSD Spike Conc.	2950029		2950030		% Rec Limits	Max RPD	Qual
					MS Result	MSD Result	MS % Rec	MSD % Rec			
Boron, Dissolved	ug/L	3.1 mg/L	1000	1000	4020	3940	96	88	75-125	2	20
Lithium, Dissolved	ug/L	ND	1000	1000	1060	1060	105	105	75-125	0	20
Manganese, Dissolved	ug/L	0.10 mg/L	1000	1000	1040	1030	93	93	75-125	1	20
Molybdenum, Dissolved	ug/L	ND	1000	1000	1000	1000	100	100	75-125	0	20

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	640753	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2951234 Matrix: Water
Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/22/21 17:50	
Arsenic	ug/L	ND	1.0	09/22/21 17:50	
Beryllium	ug/L	ND	0.20	09/22/21 17:50	
Cobalt	ug/L	ND	1.0	09/22/21 17:50	
Selenium	ug/L	ND	1.0	09/22/21 17:50	
Thallium	ug/L	ND	1.0	09/22/21 17:50	

LABORATORY CONTROL SAMPLE: 2951235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	44.0	110	80-120	
Arsenic	ug/L	40	39.0	97	80-120	
Beryllium	ug/L	40	37.6	94	80-120	
Cobalt	ug/L	40	42.8	107	80-120	
Selenium	ug/L	40	39.9	100	80-120	
Thallium	ug/L	40	41.7	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951236 2951237

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50297445003 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	43.2	44.1	108	110	75-125	2	20
Arsenic	ug/L	1.2	40	40	39.9	40.0	97	97	75-125	0	20
Beryllium	ug/L	ND	40	40	36.5	36.3	91	91	75-125	1	20
Cobalt	ug/L	2.1	40	40	42.2	42.6	100	101	75-125	1	20
Selenium	ug/L	ND	40	40	42.8	43.2	107	108	75-125	1	20
Thallium	ug/L	ND	40	40	42.3	43.7	106	109	75-125	3	20

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	641824	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2956905 Matrix: Water

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	09/27/21 13:43	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	09/27/21 13:43	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	09/27/21 13:43	

LABORATORY CONTROL SAMPLE: 2956906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.3	99	90-110	

SAMPLE DUPLICATE: 2956907

Parameter	Units	50297743001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	334	335	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	334	335	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2956908

Parameter	Units	50297743002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	326	329	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	326	329	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	640471	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2949431 Matrix: Water

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/17/21 08:25	

LABORATORY CONTROL SAMPLE: 2949432

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	289	96	80-120	

SAMPLE DUPLICATE: 2949434

Parameter	Units	50297539028 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	335	321	4	10	

SAMPLE DUPLICATE: 2949593

Parameter	Units	50297456005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	254	257	1	10	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	640652	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

SAMPLE DUPLICATE: 2950684

Parameter	Units	50297445005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

SAMPLE DUPLICATE: 2950685

Parameter	Units	50297456005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	2	H3

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	640352	Analysis Method:	SM 4500-S2-D
QC Batch Method:	SM 4500-S2-D	Analysis Description:	4500S2D Sulfide Water
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2948550 Matrix: Water
Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/16/21 14:58	

LABORATORY CONTROL SAMPLE: 2948551

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2948552 2948553

Parameter	Units	50297445001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.47	0.47	92	92	90-110	0	20	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	640265	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2948195 Matrix: Water
Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/16/21 09:32	B0
Nitrogen, Nitrite	mg/L	ND	0.10	09/16/21 09:32	B0

LABORATORY CONTROL SAMPLE: 2948196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	90-110	B0
Nitrogen, Nitrite	mg/L	1	0.99	99	90-110	B0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2948197 2948198

Parameter	Units	50297400001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.0	1.0	100	100	90-110	0	20	B0
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.98	98	98	90-110	0	20	B0

MATRIX SPIKE SAMPLE: 2948358

Parameter	Units	50297445001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L		3.2	2	5.3	102	90-110 B0
Nitrogen, Nitrite	mg/L		ND	2	2.0	97	90-110 B0

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	641581	Analysis Method:	EPA 365.1
QC Batch Method:	EPA 365.1	Analysis Description:	365.1 Total Phosphorus
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2955224 Matrix: Water

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/29/21 11:54	

LABORATORY CONTROL SAMPLE: 2955225

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2955226 2955227

Parameter	Units	50297441001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	11.7			14.2	14.2				0		

MATRIX SPIKE SAMPLE: 2955228

Parameter	Units	50297460003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		ND	1.5			

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	640803	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2951397 Matrix: Water
Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/21/21 12:58	

LABORATORY CONTROL SAMPLE: 2951398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951399 2951400

Parameter	Units	50297505001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	6.8	10	10	16.9	16.7	101	99	80-120	1	20	

MATRIX SPIKE SAMPLE: 2951401

Parameter	Units	50297599007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	6.5	10	16.7	102	80-120	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch:	641936	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Dissolved Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2957393 Matrix: Water
Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/27/21 18:37	

LABORATORY CONTROL SAMPLE: 2957394

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2957395 2957396

Parameter	Units	50297657008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	10	10	10.5	10.5	95	96	80-120	0	20	

MATRIX SPIKE SAMPLE: 2957397

Parameter	Units	50297675001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.6	10	11.4	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-25B **Lab ID: 50297445001** Collected: 09/15/21 13:55 Received: 09/16/21 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.128 ± 0.356 (0.692) C:NA T:100%	pCi/L	10/06/21 12:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0570 ± 0.451 (1.04) C:62% T:80%	pCi/L	10/05/21 14:35	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.185 ± 0.807 (1.73)	pCi/L	10/07/21 15:35	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-25I **Lab ID: 50297445002** Collected: 09/15/21 15:35 Received: 09/16/21 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.143 ± 0.443 (0.857) C:NA T:90%	pCi/L	10/06/21 12:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.677 ± 0.412 (0.762) C:68% T:88%	pCi/L	10/05/21 14:35	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.820 ± 0.855 (1.62)	pCi/L	10/07/21 15:35	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-25A **Lab ID: 50297445003** Collected: 09/15/21 17:10 Received: 09/16/21 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.211 ± 0.366 (0.922) C:NA T:99%	pCi/L	10/06/21 12:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.597 ± 0.389 (0.735) C:73% T:88%	pCi/L	10/05/21 14:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.597 ± 0.755 (1.66)	pCi/L	10/07/21 15:35	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Sample: MW-29B **Lab ID: 50297445004** Collected: 09/15/21 16:08 Received: 09/16/21 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.311 ± 0.432 (0.721) C:NA T:91%	pCi/L	10/06/21 12:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.27 ± 0.501 (0.761) C:66% T:88%	pCi/L	10/05/21 14:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.58 ± 0.933 (1.48)	pCi/L	10/07/21 15:35	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-29A Lab ID: 50297445005 Collected: 09/15/21 13:45 Received: 09/16/21 08:45 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	1.13 ± 0.750 (0.988) C:NA T:90%	pCi/L	10/06/21 12:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.195 ± 0.346 (0.757) C:71% T:89%	pCi/L	10/05/21 14:35	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.33 ± 1.10 (1.75)	pCi/L	10/07/21 15:35	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: Duplicate 1						
Lab ID: 50297445006 Collected: 09/15/21 08:00 Received: 09/16/21 08:45 Matrix: Water						
PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.278 ± 0.473 (0.834) C:NA T:97%	pCi/L	10/06/21 12:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.621 ± 0.430 (0.829) C:67% T:92%	pCi/L	10/05/21 14:35	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.899 ± 0.903 (1.66)	pCi/L	10/07/21 15:35	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch: 465320

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2247029

Matrix: Water

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.347 ± 0.455 (0.758) C:NA T:92%	pCi/L	10/06/21 12:11	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

QC Batch: 465321

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

METHOD BLANK: 2247030

Matrix: Water

Associated Lab Samples: 50297445001, 50297445002, 50297445003, 50297445004, 50297445005, 50297445006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.675 ± 0.401 (0.732) C:69% T:81%	pCi/L	10/05/21 11:30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 640265

[B0] Analyte was detected in an associated blank at a concentration greater than the MDL.

ANALYTE QUALIFIERS

B0 Analyte was detected in an associated blank at a concentration greater than the MDL.

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

H3 Sample was received or analysis requested beyond the recognized method holding time.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sept AES/IPL+Geochemical

Pace Project No.: 50297445

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50297445001	MW-25B	EPA 9056	640865		
50297445002	MW-25I	EPA 9056	640865		
50297445003	MW-25A	EPA 9056	640865		
50297445004	MW-29B	EPA 9056	640865		
50297445005	MW-29A	EPA 9056	640865		
50297445006	Duplicate 1	EPA 9056	640865		
50297445001	MW-25B	EPA 3010	640354	EPA 6010	641358
50297445002	MW-25I	EPA 3010	640354	EPA 6010	641358
50297445003	MW-25A	EPA 3010	640354	EPA 6010	641358
50297445004	MW-29B	EPA 3010	640354	EPA 6010	641358
50297445005	MW-29A	EPA 3010	640354	EPA 6010	641358
50297445006	Duplicate 1	EPA 3010	640354	EPA 6010	641358
50297445001	MW-25B	EPA 3010	640565	EPA 6010	641066
50297445002	MW-25I	EPA 3010	640565	EPA 6010	641066
50297445003	MW-25A	EPA 3010	640565	EPA 6010	641066
50297445004	MW-29B	EPA 3010	640565	EPA 6010	641066
50297445005	MW-29A	EPA 3010	640565	EPA 6010	641066
50297445006	Duplicate 1	EPA 3010	640565	EPA 6010	641066
50297445001	MW-25B	EPA 200.2	640753	EPA 6020	641218
50297445002	MW-25I	EPA 200.2	640753	EPA 6020	641218
50297445003	MW-25A	EPA 200.2	640753	EPA 6020	641218
50297445004	MW-29B	EPA 200.2	640753	EPA 6020	641218
50297445005	MW-29A	EPA 200.2	640753	EPA 6020	641218
50297445006	Duplicate 1	EPA 200.2	640753	EPA 6020	641218
50297445001	MW-25B	EPA 903.1	465320		
50297445002	MW-25I	EPA 903.1	465320		
50297445003	MW-25A	EPA 903.1	465320		
50297445004	MW-29B	EPA 903.1	465320		
50297445005	MW-29A	EPA 903.1	465320		
50297445006	Duplicate 1	EPA 903.1	465320		
50297445001	MW-25B	EPA 904.0	465321		
50297445002	MW-25I	EPA 904.0	465321		
50297445003	MW-25A	EPA 904.0	465321		
50297445004	MW-29B	EPA 904.0	465321		
50297445005	MW-29A	EPA 904.0	465321		
50297445006	Duplicate 1	EPA 904.0	465321		
50297445001	MW-25B	Total Radium Calculation	467220		
50297445002	MW-25I	Total Radium Calculation	467220		
50297445003	MW-25A	Total Radium Calculation	467220		
50297445004	MW-29B	Total Radium Calculation	467220		
50297445005	MW-29A	Total Radium Calculation	467220		
50297445006	Duplicate 1	Total Radium Calculation	467220		
50297445001	MW-25B	SM 2320B	641824		
50297445002	MW-25I	SM 2320B	641824		
50297445003	MW-25A	SM 2320B	641824		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sept AES/IPL+Geochemical
Pace Project No.: 50297445

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50297445004	MW-29B	SM 2320B	641824		
50297445005	MW-29A	SM 2320B	641824		
50297445006	Duplicate 1	SM 2320B	641824		
50297445001	MW-25B	SM 2540C	640471		
50297445002	MW-25I	SM 2540C	640471		
50297445003	MW-25A	SM 2540C	640471		
50297445004	MW-29B	SM 2540C	640471		
50297445005	MW-29A	SM 2540C	640471		
50297445006	Duplicate 1	SM 2540C	640471		
50297445001	MW-25B	SM 4500-H+B	640652		
50297445002	MW-25I	SM 4500-H+B	640652		
50297445003	MW-25A	SM 4500-H+B	640652		
50297445004	MW-29B	SM 4500-H+B	640652		
50297445005	MW-29A	SM 4500-H+B	640652		
50297445006	Duplicate 1	SM 4500-H+B	640652		
50297445001	MW-25B	SM 4500-S2-D	640352		
50297445002	MW-25I	SM 4500-S2-D	640352		
50297445003	MW-25A	SM 4500-S2-D	640352		
50297445004	MW-29B	SM 4500-S2-D	640352		
50297445005	MW-29A	SM 4500-S2-D	640352		
50297445006	Duplicate 1	SM 4500-S2-D	640352		
50297445001	MW-25B	EPA 353.2	640265		
50297445002	MW-25I	EPA 353.2	640265		
50297445003	MW-25A	EPA 353.2	640265		
50297445004	MW-29B	EPA 353.2	640265		
50297445005	MW-29A	EPA 353.2	640265		
50297445006	Duplicate 1	EPA 353.2	640265		
50297445001	MW-25B	EPA 365.1	641581	EPA 365.1	642037
50297445002	MW-25I	EPA 365.1	641581	EPA 365.1	642037
50297445003	MW-25A	EPA 365.1	641581	EPA 365.1	642037
50297445004	MW-29B	EPA 365.1	641581	EPA 365.1	642037
50297445005	MW-29A	EPA 365.1	641581	EPA 365.1	642037
50297445006	Duplicate 1	EPA 365.1	641581	EPA 365.1	642037
50297445001	MW-25B	SM 5310C	640803		
50297445002	MW-25I	SM 5310C	640803		
50297445003	MW-25A	SM 5310C	640803		
50297445004	MW-29B	SM 5310C	640803		
50297445005	MW-29A	SM 5310C	640803		
50297445006	Duplicate 1	SM 5310C	640803		
50297445001	MW-25B	SM 5310C	641936		
50297445002	MW-25I	SM 5310C	641936		
50297445003	MW-25A	SM 5310C	641936		
50297445004	MW-29B	SM 5310C	641936		
50297445005	MW-29A	SM 5310C	641936		
50297445006	Duplicate 1	SM 5310C	641936		

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: WS 9-16-21 ⁴⁵⁰

1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____
2. Custody Seal on Cooler/Box Present: Yes No
 (If yes)Seals Intact: Yes No (leave blank if no seals were present)
3. Thermometer: **1 2 3 4 5 6 A B C D E F**
3.1/3.1, 2.8/2.8, 1.5/1.5
4. Cooler Temperature: _____
 Temp should be above freezing to 6°C (Initial/Corrected)

5. Packing Material: Bubble Wrap Bubble Bags
 None Other _____
6. Ice Type: Wet Blue None
7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		<input checked="" type="checkbox"/>	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis: <u>NO₃/NO₂</u>	<input checked="" type="checkbox"/>		Circle: <u>HNO₃ (<2)</u> <u>H₂SO₄ (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	<input checked="" type="checkbox"/>		
Time 5035A TC placed in Freezer or Short Holds To Lab Time: <u>1025</u>			Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>Present</u>	<u>Absent</u>	<u>N/A</u>
Rush TAT Requested (4 days or less):		<input checked="" type="checkbox"/>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			<input checked="" type="checkbox"/>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<input checked="" type="checkbox"/>
Containers Intact?:	<input checked="" type="checkbox"/>		Headspace in VOA Vials (>6mm): See Containter Count form for details	<u>Present</u>	<u>Absent</u>	<u>No VOA Vials Sent</u> <input checked="" type="checkbox"/>
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<input checked="" type="checkbox"/>		Trip Blank Present?		<input checked="" type="checkbox"/>	
Extra labels on Terracore Vials? (soils only)		<input checked="" type="checkbox"/>	Trip Blank Custody Seals?:		<input checked="" type="checkbox"/>	

COMMENTS:

Sample Container Count

SBS
DI
MeOH
(only)
BK
Kit

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGUFU	R	DG9H	VG9H	VOA VIAL HS (>8mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit	Matrix	HNO3/H2SO4 pH <2	NaOH/ZnAc pH >9	NaOH pH >10	
1																															
2																															
3																															
4													1	1			2		4	1	1	1	1	1				WT	✓	✓	
5													↓	↓			↓		↓	↓	↓	↓	↓	↓			↓	↓	↓		
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass				Plastic / Misc.			
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	Syringe Kit	LL Cr+6 sampling kit
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	C	Air Cassettes
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	R	Terracore kit
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	SP5T	120mL Coliform Na Thiosulfate
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	U	Summa Can
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	ZPLC	Ziploc Bag
WGUFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	WT	Water
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered	NAL OL	Non-aqueous liquid Oil
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WP	Wipe
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic		
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		

Sample Container Count

SBS
DI
MeOH
(only)
BK
Kit

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGUFU	R	DG9H	VG9H	VOA MIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit	Matrix	HNO3/H2SO4 pH <2	NaOH/ZnAc pH >9	NaOH pH >10
1																														
2													1	1			2		4	1	1	1		1			WT	✓	✓	
3																														
4													1	1			2		4	1	1	1		1			WT	✓	✓	
5													1	1			1		1	1	1	1		1			↓	↓	↓	
6																														
7																														
8																														
9																														
10																														
11																														
12																														

Container Codes

Glass				Plastic / Misc.			
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	Syringe Kit	LL Cr+6 sampling kit
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	C	Air Cassettes
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	R	Terracore kit
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	SP5T	120mL Coliform Na Thiosulfate
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	U	Summa Can
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	ZPLC	Ziploc Bag
WGUFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	WT	Water
JGUFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered	NAL	OL Non-aqueous liquid Oil
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WP	Wipe
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic		
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		

October 19, 2021

Mr. Rob Duncan
ATC Group Services, LLC
7988 Centerpoint Drive
Indianapolis, IN 46256

RE: Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on September 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50297657001	MW-20A	Water	09/16/21 11:51	09/17/21 12:50
50297657002	MW-20B	Water	09/16/21 13:40	09/17/21 12:50
50297657003	MW-20I	Water	09/16/21 15:50	09/17/21 12:50
50297657004	MW-26B	Water	09/16/21 14:08	09/17/21 12:50
50297657005	MW-26I	Water	09/16/21 13:02	09/17/21 12:50
50297657006	MW-26A	Water	09/16/21 16:00	09/17/21 12:50
50297657007	MW-27B	Water	09/17/21 08:20	09/17/21 12:50
50297657008	MW-29I	Water	09/16/21 08:43	09/17/21 12:50
50297657009	MW-29I RAD MS	Water	09/16/21 08:43	09/17/21 12:50
50297657010	MW-29I RAD MSD	Water	09/16/21 08:43	09/17/21 12:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50297657001	MW-20A	EPA 9056	RID	3	PASI-I		
		EPA 6010	JPK, KJE	14	PASI-I		
		EPA 6010	JPK	4	PASI-I		
		EPA 6020	DMT	6	PASI-I		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	JAL	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	BSW	1	PASI-I		
		SM 4500-H+B	SWJ	1	PASI-I		
		SM 4500-S2-D	ZM	1	PASI-I		
		EPA 353.2	MMS	2	PASI-I		
		EPA 365.1	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50297657002	MW-20B	EPA 9056	RID	3	PASI-I
				EPA 6010	JPK, KJE	14	PASI-I
EPA 6010	JPK			4	PASI-I		
EPA 6020	DMT			6	PASI-I		
EPA 903.1	SLC			1	PASI-PA		
EPA 904.0	JC2			1	PASI-PA		
Total Radium Calculation	JAL			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	BSW			1	PASI-I		
SM 4500-H+B	SWJ			1	PASI-I		
SM 4500-S2-D	ZM			1	PASI-I		
EPA 353.2	MMS			2	PASI-I		
EPA 365.1	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50297657003	MW-20I			EPA 9056	RID	3	PASI-I
				EPA 6010	JPK, KJE	14	PASI-I
		EPA 6010	JPK	4	PASI-I		
		EPA 6020	DMT	6	PASI-I		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	JAL	1	PASI-PA		

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SAMPLE ANALYTE COUNT

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50297657004	MW-26B	SM 2320B	HCF	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		EPA 9056	RID	3	PASI-I
		EPA 6010	JPK, KJE	14	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		50297657005	MW-26I	SM 2320B	HCF
SM 2540C	BSW			1	PASI-I
SM 4500-H+B	SWJ			1	PASI-I
SM 4500-S2-D	ZM			1	PASI-I
EPA 353.2	MMS			2	PASI-I
EPA 365.1	GWA			1	PASI-I
SM 5310C	GWA			1	PASI-I
SM 5310C	GWA			1	PASI-I
EPA 9056	RID			3	PASI-I
EPA 6010	JPK, KJE			14	PASI-I
EPA 6010	JPK			4	PASI-I
EPA 6020	DMT			6	PASI-I
EPA 903.1	SLC			1	PASI-PA
EPA 904.0	JC2			1	PASI-PA
Total Radium Calculation	JAL			1	PASI-PA
SM 2320B	HCF	3	PASI-I		
SM 2540C	BSW	1	PASI-I		
SM 4500-H+B	SWJ	1	PASI-I		
SM 4500-S2-D	ZM	1	PASI-I		
EPA 353.2	MMS	2	PASI-I		
EPA 365.1	GWA	1	PASI-I		
SM 5310C	GWA	1	PASI-I		
SM 5310C	GWA	1	PASI-I		

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SAMPLE ANALYTE COUNT

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50297657006	MW-26A	EPA 9056	RID	3	PASI-I		
		EPA 6010	JPK, KJE	14	PASI-I		
		EPA 6010	JPK	4	PASI-I		
		EPA 6020	DMT	6	PASI-I		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	JAL	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	BSW	1	PASI-I		
		SM 4500-H+B	SWJ	1	PASI-I		
		SM 4500-S2-D	ZM	1	PASI-I		
		EPA 353.2	MMS	2	PASI-I		
		EPA 365.1	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50297657007	MW-27B	EPA 9056	RID	3	PASI-I
				EPA 6010	JPK, KJE	14	PASI-I
EPA 6010	JPK			4	PASI-I		
EPA 6020	DMT			6	PASI-I		
EPA 903.1	SLC			1	PASI-PA		
EPA 904.0	JC2			1	PASI-PA		
Total Radium Calculation	JAL			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	BSW			1	PASI-I		
SM 4500-H+B	SWJ			1	PASI-I		
SM 4500-S2-D	ZM			1	PASI-I		
EPA 353.2	MMS			2	PASI-I		
EPA 365.1	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50297657008	MW-29I			EPA 9056	RID	3	PASI-I
				EPA 6010	JPK, KJE	14	PASI-I
		EPA 6010	JPK	4	PASI-I		
		EPA 6020	DMT	6	PASI-I		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	JAL	1	PASI-PA		

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SAMPLE ANALYTE COUNT

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	HCF	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
50297657009	MW-29I RAD MS	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
50297657010	MW-29I RAD MSD	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297657001	MW-20A					
EPA 9056	Chloride	82.0	mg/L	2.5	09/24/21 13:25	
EPA 9056	Sulfate	1080	mg/L	25.0	09/30/21 15:43	
EPA 6010	Aluminum	865	ug/L	200	09/23/21 01:46	
EPA 6010	Barium	45.1	ug/L	10.0	09/30/21 11:47	
EPA 6010	Boron	18300	ug/L	100	09/23/21 01:46	
EPA 6010	Calcium	492000	ug/L	5000	09/23/21 02:41	
EPA 6010	Iron	9940	ug/L	100	09/23/21 01:46	
EPA 6010	Magnesium	28400	ug/L	1000	09/23/21 01:46	
EPA 6010	Manganese	1540	ug/L	10.0	09/23/21 01:46	
EPA 6010	Molybdenum	656	ug/L	10.0	09/23/21 01:46	
EPA 6010	Potassium	7380	ug/L	1000	09/23/21 01:46	
EPA 6010	Silica	16400	ug/L	450	09/23/21 01:46	N2
EPA 6010	Sodium	34800	ug/L	1000	09/23/21 01:46	
EPA 6010	Boron, Dissolved	18100	ug/L	100	10/01/21 00:35	
EPA 6010	Manganese, Dissolved	1460	ug/L	10.0	10/01/21 00:35	
EPA 6010	Molybdenum, Dissolved	662	ug/L	10.0	10/01/21 00:35	
EPA 6020	Arsenic	2.7	ug/L	1.0	09/28/21 10:45	
EPA 6020	Cobalt	2.0	ug/L	1.0	09/28/21 10:45	
EPA 6020	Selenium	1.4	ug/L	1.0	09/28/21 10:45	
EPA 903.1	Radium-226	0.0588 ± 0.447 (0.883) C:NA T:98%	pCi/L		10/18/21 15:47	
EPA 904.0	Radium-228	1.22 ± 0.499 (0.813) C:74% T:91%	pCi/L		10/14/21 14:24	
Total Radium Calculation	Total Radium	1.28 ± 0.946 (1.70)	pCi/L		10/18/21 17:01	
SM 2320B	Alkalinity, Total as CaCO3	168	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	168	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	2020	mg/L	20.0	09/22/21 09:06	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/18/21 11:58	H3
EPA 365.1	Phosphate as P04	0.34	mg/L	0.15	09/29/21 12:17	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	09/21/21 18:16	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	09/27/21 21:17	
50297657002	MW-20B					
EPA 9056	Chloride	35.4	mg/L	2.5	09/24/21 13:52	
EPA 9056	Sulfate	180	mg/L	2.5	09/24/21 13:52	
EPA 6010	Aluminum	1680	ug/L	200	09/23/21 01:48	
EPA 6010	Barium	119	ug/L	10.0	09/30/21 11:49	
EPA 6010	Boron	1230	ug/L	100	09/23/21 01:48	
EPA 6010	Calcium	213000	ug/L	2000	09/23/21 02:43	
EPA 6010	Iron	2060	ug/L	100	09/23/21 01:48	
EPA 6010	Magnesium	33100	ug/L	1000	09/23/21 01:48	
EPA 6010	Manganese	301	ug/L	10.0	09/23/21 01:48	
EPA 6010	Potassium	1200	ug/L	1000	09/23/21 01:48	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50297657002	MW-20B					
EPA 6010	Silica	19700	ug/L	450	09/23/21 01:48	N2
EPA 6010	Sodium	21600	ug/L	1000	09/23/21 01:48	
EPA 6010	Boron, Dissolved	1190	ug/L	100	10/01/21 00:37	
EPA 6010	Manganese, Dissolved	36.1	ug/L	10.0	10/01/21 00:37	
EPA 6020	Arsenic	1.1	ug/L	1.0	09/28/21 10:49	
EPA 6020	Cobalt	2.0	ug/L	1.0	09/28/21 10:49	
EPA 6020	Selenium	1.1	ug/L	1.0	09/28/21 10:49	
EPA 903.1	Radium-226	-0.265 ± 0.412 (0.995)	pCi/L		10/18/21 15:47	
EPA 904.0	Radium-228	C:NA T:89% 0.286 ± 0.370 (0.790)	pCi/L		10/14/21 14:24	
		C:74% T:88%				
Total Radium Calculation	Total Radium	0.286 ± 0.782 (1.79)	pCi/L		10/18/21 17:01	
SM 2320B	Alkalinity, Total as CaCO3	446	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	446	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	788	mg/L	10.0	09/22/21 09:07	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/18/21 12:00	H3
EPA 353.2	Nitrogen, Nitrate	1.5	mg/L	0.10	09/17/21 17:36	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	09/21/21 18:25	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	09/27/21 21:43	
50297657003	MW-20I					
EPA 9056	Chloride	11.7	mg/L	0.25	09/24/21 14:06	
EPA 9056	Fluoride	0.13	mg/L	0.10	09/24/21 14:06	
EPA 9056	Sulfate	51.5	mg/L	2.5	09/24/21 14:20	
EPA 6010	Aluminum	207	ug/L	200	09/23/21 01:50	
EPA 6010	Barium	51.4	ug/L	10.0	09/30/21 11:56	
EPA 6010	Boron	470	ug/L	100	09/23/21 01:50	
EPA 6010	Calcium	133000	ug/L	1000	09/23/21 01:50	
EPA 6010	Iron	488	ug/L	100	09/23/21 01:50	
EPA 6010	Magnesium	27600	ug/L	1000	09/23/21 01:50	
EPA 6010	Manganese	2390	ug/L	10.0	09/23/21 01:50	
EPA 6010	Silica	12500	ug/L	450	09/23/21 01:50	N2
EPA 6010	Sodium	7330	ug/L	1000	09/23/21 01:50	
EPA 6010	Boron, Dissolved	443	ug/L	100	10/01/21 00:39	
EPA 6010	Manganese, Dissolved	2230	ug/L	10.0	10/01/21 00:39	
EPA 6020	Cobalt	2.2	ug/L	1.0	09/28/21 11:02	
EPA 6020	Selenium	1.4	ug/L	1.0	09/28/21 11:02	
EPA 903.1	Radium-226	0.561 ± 0.648 (1.05) C:NA T:91%	pCi/L		10/18/21 15:47	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297657003	MW-20I					
EPA 904.0	Radium-228	0.628 ± 0.376 (0.699) C:76% T:94%	pCi/L		10/14/21 14:25	
Total Radium Calculation	Total Radium	1.19 ± 1.02 (1.75)	pCi/L		10/18/21 17:01	
SM 2320B	Alkalinity, Total as CaCO3	375	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	375	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	482	mg/L	10.0	09/22/21 09:07	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/18/21 12:01	H3
EPA 353.2	Nitrogen, Nitrate	1.8	mg/L	0.10	09/17/21 17:50	
50297657004	MW-26B					
EPA 9056	Chloride	20.5	mg/L	2.5	09/24/21 15:16	
EPA 9056	Fluoride	0.13	mg/L	0.10	09/24/21 14:34	
EPA 9056	Sulfate	116	mg/L	2.5	09/24/21 15:16	
EPA 6010	Barium	56.8	ug/L	10.0	09/30/21 11:58	
EPA 6010	Boron	1330	ug/L	100	09/23/21 01:52	
EPA 6010	Calcium	162000	ug/L	1000	09/23/21 01:52	
EPA 6010	Iron	337	ug/L	100	09/23/21 01:52	
EPA 6010	Lithium	20.6	ug/L	20.0	09/23/21 01:52	
EPA 6010	Magnesium	35400	ug/L	1000	09/23/21 01:52	
EPA 6010	Manganese	1480	ug/L	10.0	09/23/21 01:52	
EPA 6010	Potassium	2780	ug/L	1000	09/23/21 01:52	
EPA 6010	Silica	13300	ug/L	450	09/23/21 01:52	N2
EPA 6010	Sodium	14900	ug/L	1000	09/23/21 01:52	
EPA 6010	Boron, Dissolved	1390	ug/L	100	10/01/21 00:45	
EPA 6010	Manganese, Dissolved	1560	ug/L	10.0	10/01/21 00:45	
EPA 6020	Cobalt	3.2	ug/L	1.0	09/28/21 11:06	
EPA 6020	Selenium	11.3	ug/L	1.0	09/28/21 11:06	
EPA 903.1	Radium-226	-0.0702 ± 0.533 (1.11) C:NA T:88%	pCi/L		10/18/21 15:47	
EPA 904.0	Radium-228	1.47 ± 0.566 (0.886) C:70% T:86%	pCi/L		10/14/21 14:25	
Total Radium Calculation	Total Radium	1.47 ± 1.10 (2.00)	pCi/L		10/18/21 17:01	
SM 2320B	Alkalinity, Total as CaCO3	450	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	450	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	665	mg/L	10.0	09/22/21 09:07	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/18/21 12:04	H3
EPA 353.2	Nitrogen, Nitrate	3.0	mg/L	0.10	09/17/21 17:39	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	09/21/21 18:35	
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	09/27/21 23:18	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297657005	MW-26I					
EPA 9056	Chloride	49.0	mg/L	2.5	09/24/21 15:57	
EPA 9056	Fluoride	0.12	mg/L	0.10	09/24/21 15:43	
EPA 9056	Sulfate	359	mg/L	25.0	09/24/21 16:11	
EPA 6010	Barium	106	ug/L	10.0	09/30/21 12:00	
EPA 6010	Boron	5660	ug/L	100	09/23/21 01:54	
EPA 6010	Calcium	241000	ug/L	2000	09/23/21 02:45	
EPA 6010	Iron	8740	ug/L	100	09/23/21 01:54	
EPA 6010	Lithium	49.7	ug/L	20.0	09/23/21 01:54	
EPA 6010	Magnesium	39100	ug/L	1000	09/23/21 01:54	
EPA 6010	Manganese	2080	ug/L	10.0	09/23/21 01:54	
EPA 6010	Molybdenum	52.2	ug/L	10.0	09/23/21 01:54	
EPA 6010	Potassium	9960	ug/L	1000	09/23/21 01:54	
EPA 6010	Silica	15600	ug/L	450	09/23/21 01:54	N2
EPA 6010	Sodium	29200	ug/L	1000	09/23/21 01:54	
EPA 6010	Boron, Dissolved	6040	ug/L	100	10/01/21 00:47	
EPA 6010	Lithium, Dissolved	47.0	ug/L	20.0	10/01/21 00:47	
EPA 6010	Manganese, Dissolved	2060	ug/L	10.0	10/01/21 00:47	
EPA 6010	Molybdenum, Dissolved	64.7	ug/L	10.0	10/01/21 00:47	
EPA 6020	Arsenic	1.5	ug/L	1.0	09/28/21 11:10	
EPA 6020	Cobalt	1.6	ug/L	1.0	09/28/21 11:10	
EPA 903.1	Radium-226	0.255 ± 0.614 (1.11) C:NA T:89%	pCi/L		10/18/21 15:47	
EPA 904.0	Radium-228	1.58 ± 0.558 (0.815) C:72% T:88%	pCi/L		10/14/21 14:25	
Total Radium Calculation	Total Radium	1.84 ± 1.17 (1.93)	pCi/L		10/18/21 17:01	
SM 2320B	Alkalinity, Total as CaCO3	379	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	379	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	994	mg/L	20.0	09/22/21 09:07	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	09/18/21 12:06	H3
SM 5310C	Total Organic Carbon	2.0	mg/L	1.0	09/21/21 18:45	
SM 5310C	Dissolved Organic Carbon	2.2	mg/L	1.0	09/27/21 23:37	
50297657006	MW-26A					
EPA 9056	Chloride	85.4	mg/L	2.5	09/24/21 16:39	
EPA 9056	Fluoride	0.10	mg/L	0.10	09/24/21 16:25	
EPA 9056	Sulfate	1100	mg/L	25.0	09/24/21 16:53	
EPA 6010	Barium	36.4	ug/L	10.0	09/30/21 12:02	
EPA 6010	Boron	19100	ug/L	100	09/23/21 01:56	
EPA 6010	Calcium	442000	ug/L	5000	09/23/21 02:47	
EPA 6010	Iron	8250	ug/L	100	09/23/21 01:56	
EPA 6010	Lithium	24.7	ug/L	20.0	09/23/21 01:56	
EPA 6010	Magnesium	25900	ug/L	1000	09/23/21 01:56	
EPA 6010	Manganese	1700	ug/L	10.0	09/23/21 01:56	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50297657006	MW-26A					
EPA 6010	Molybdenum	806	ug/L	10.0	09/23/21 01:56	
EPA 6010	Potassium	9540	ug/L	1000	09/23/21 01:56	
EPA 6010	Silica	11300	ug/L	450	09/23/21 01:56	N2
EPA 6010	Sodium	28600	ug/L	1000	09/23/21 01:56	
EPA 6010	Boron, Dissolved	18900	ug/L	100	10/01/21 00:49	
EPA 6010	Manganese, Dissolved	1690	ug/L	10.0	10/01/21 00:49	
EPA 6010	Molybdenum, Dissolved	812	ug/L	10.0	10/01/21 00:49	
EPA 6020	Cobalt	1.0	ug/L	1.0	09/28/21 11:15	
EPA 903.1	Radium-226	0.0666 ± 0.538 (1.06) C:NA T:91%	pCi/L		10/18/21 15:47	
EPA 904.0	Radium-228	1.25 ± 0.471 (0.714) C:73% T:96%	pCi/L		10/14/21 14:25	
Total Radium Calculation	Total Radium	1.32 ± 1.01 (1.77)	pCi/L		10/18/21 17:01	
SM 2320B	Alkalinity, Total as CaCO3	111	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	111	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	1860	mg/L	20.0	09/22/21 09:07	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/18/21 12:08	H3
SM 5310C	Total Organic Carbon	2.4	mg/L	1.0	09/21/21 18:56	
SM 5310C	Dissolved Organic Carbon	2.3	mg/L	1.0	09/27/21 23:57	
50297657007	MW-27B					
EPA 9056	Chloride	138	mg/L	25.0	09/25/21 01:53	
EPA 9056	Fluoride	0.15	mg/L	0.10	09/25/21 01:25	
EPA 9056	Sulfate	167	mg/L	2.5	09/25/21 01:39	
EPA 6010	Aluminum	266	ug/L	200	09/23/21 02:00	
EPA 6010	Barium	466	ug/L	10.0	09/30/21 12:05	
EPA 6010	Boron	7870	ug/L	100	09/23/21 02:00	
EPA 6010	Calcium	251000	ug/L	2000	09/23/21 02:49	
EPA 6010	Iron	32500	ug/L	100	09/23/21 02:00	
EPA 6010	Magnesium	71800	ug/L	1000	09/23/21 02:00	
EPA 6010	Manganese	1290	ug/L	10.0	09/23/21 02:00	
EPA 6010	Potassium	3880	ug/L	1000	09/23/21 02:00	
EPA 6010	Silica	29600	ug/L	450	09/23/21 02:00	N2
EPA 6010	Sodium	75500	ug/L	1000	09/23/21 02:00	
EPA 6010	Boron, Dissolved	7840	ug/L	100	10/01/21 00:51	
EPA 6010	Manganese, Dissolved	1310	ug/L	10.0	10/01/21 00:51	
EPA 6020	Arsenic	34.9	ug/L	1.0	09/28/21 11:19	
EPA 6020	Cobalt	1.0	ug/L	1.0	09/28/21 11:19	
EPA 903.1	Radium-226	1.69 ± 0.758 (0.823) C:NA T:97%	pCi/L		10/18/21 16:02	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297657007	MW-27B					
EPA 904.0	Radium-228	1.96 ± 0.681 (1.03) C:70% T:87%	pCi/L		10/14/21 14:25	
Total Radium Calculation	Total Radium	3.65 ± 1.44 (1.85)	pCi/L		10/18/21 17:01	
SM 2320B	Alkalinity, Total as CaCO3	708	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	708	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	1200	mg/L	20.0	09/22/21 09:23	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/18/21 12:09	H3
EPA 365.1	Phosphate as P04	5.9	mg/L	0.75	09/29/21 12:44	
SM 5310C	Total Organic Carbon	14.5	mg/L	1.0	09/21/21 19:08	
SM 5310C	Dissolved Organic Carbon	13.5	mg/L	1.0	09/28/21 00:17	
50297657008	MW-29I					
EPA 9056	Chloride	15.7	mg/L	2.5	09/25/21 02:21	
EPA 9056	Fluoride	0.12	mg/L	0.10	09/25/21 02:07	
EPA 9056	Sulfate	190	mg/L	2.5	09/25/21 02:21	
EPA 6010	Barium	85.7	ug/L	10.0	09/30/21 12:07	
EPA 6010	Boron	1750	ug/L	100	09/23/21 02:03	
EPA 6010	Calcium	140000	ug/L	1000	09/23/21 02:03	
EPA 6010	Iron	8310	ug/L	100	09/23/21 02:03	
EPA 6010	Magnesium	32300	ug/L	1000	09/23/21 02:03	
EPA 6010	Manganese	1230	ug/L	10.0	09/23/21 02:03	
EPA 6010	Potassium	1090	ug/L	1000	09/23/21 02:03	
EPA 6010	Silica	11500	ug/L	450	09/23/21 02:03	N2
EPA 6010	Sodium	7250	ug/L	1000	09/23/21 02:03	
EPA 6010	Boron, Dissolved	1710	ug/L	100	10/01/21 00:54	
EPA 6010	Manganese, Dissolved	1220	ug/L	10.0	10/01/21 00:54	
EPA 903.1	Radium-226	0.597 ± 0.437 (0.602) C:NA T:92%	pCi/L		10/18/21 16:02	
EPA 904.0	Radium-228	1.35 ± 0.525 (0.826) C:74% T:91%	pCi/L		10/14/21 14:25	
Total Radium Calculation	Total Radium	1.95 ± 0.962 (1.43)	pCi/L		10/18/21 17:01	
SM 2320B	Alkalinity, Total as CaCO3	285	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	285	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	582	mg/L	10.0	09/22/21 09:08	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/18/21 12:10	H3
EPA 365.1	Phosphate as P04	0.17	mg/L	0.15	09/29/21 12:23	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	09/21/21 19:17	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50297657009	MW-29I RAD MS					
EPA 903.1	Radium-226	83.69 %REC ± NA (NA) C:NA	pCi/L		10/18/21 16:02	
EPA 904.0	Radium-228	T:NA% 119.72 %REC ± NA (NA) C:NA T:NA	pCi/L		10/14/21 14:25	
50297657010	MW-29I RAD MSD					
EPA 903.1	Radium-226	105.34 %REC 22.91 RPD ± NA (NA) C:NA	pCi/L		10/18/21 16:02	
EPA 904.0	Radium-228	T:NA% 113.34 %REC 5.48 RPD ± NA (NA) C:NA T:NA	pCi/L		10/14/21 14:25	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-20A	Lab ID: 50297657001	Collected: 09/16/21 11:51	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	82.0	mg/L	2.5	10		09/24/21 13:25	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/24/21 13:11	16984-48-8	
Sulfate	1080	mg/L	25.0	100		09/30/21 15:43	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	865	ug/L	200	1	09/22/21 13:22	09/23/21 01:46	7429-90-5	
Barium	45.1	ug/L	10.0	1	09/28/21 14:25	09/30/21 11:47	7440-39-3	
Boron	18300	ug/L	100	1	09/22/21 13:22	09/23/21 01:46	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 01:46	7440-43-9	
Calcium	492000	ug/L	5000	5	09/22/21 13:22	09/23/21 02:41	7440-70-2	
Iron	9940	ug/L	100	1	09/22/21 13:22	09/23/21 01:46	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:46	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/22/21 13:22	09/23/21 01:46	7439-93-2	
Magnesium	28400	ug/L	1000	1	09/22/21 13:22	09/23/21 01:46	7439-95-4	
Manganese	1540	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:46	7439-96-5	
Molybdenum	656	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:46	7439-98-7	
Potassium	7380	ug/L	1000	1	09/22/21 13:22	09/23/21 01:46	7440-09-7	
Silica	16400	ug/L	450	1	09/22/21 13:22	09/23/21 01:46	7631-86-9	N2
Sodium	34800	ug/L	1000	1	09/22/21 13:22	09/23/21 01:46	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	18100	ug/L	100	1	09/28/21 14:25	10/01/21 00:35	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/28/21 14:25	10/01/21 00:35	7439-93-2	
Manganese, Dissolved	1460	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:35	7439-96-5	
Molybdenum, Dissolved	662	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:35	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:45	7440-36-0	
Arsenic	2.7	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:45	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 10:45	7440-41-7	
Cobalt	2.0	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:45	7440-48-4	
Selenium	1.4	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:45	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:45	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	168	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	168	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-20A	Lab ID: 50297657001	Collected: 09/16/21 11:51	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	2020	mg/L	20.0	1		09/22/21 09:06		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		09/18/21 11:58		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/20/21 16:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/17/21 17:28	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 17:28	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.34	mg/L	0.15	1	09/28/21 12:12	09/29/21 12:17		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.4	mg/L	1.0	1		09/21/21 18:16	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.6	mg/L	1.0	1		09/27/21 21:17		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-20B	Lab ID: 50297657002	Collected: 09/16/21 13:40	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	35.4	mg/L	2.5	10		09/24/21 13:52	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/24/21 13:39	16984-48-8	
Sulfate	180	mg/L	2.5	10		09/24/21 13:52	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	1680	ug/L	200	1	09/22/21 13:22	09/23/21 01:48	7429-90-5	
Barium	119	ug/L	10.0	1	09/28/21 14:25	09/30/21 11:49	7440-39-3	
Boron	1230	ug/L	100	1	09/22/21 13:22	09/23/21 01:48	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 01:48	7440-43-9	
Calcium	213000	ug/L	2000	2	09/22/21 13:22	09/23/21 02:43	7440-70-2	
Iron	2060	ug/L	100	1	09/22/21 13:22	09/23/21 01:48	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:48	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/22/21 13:22	09/23/21 01:48	7439-93-2	
Magnesium	33100	ug/L	1000	1	09/22/21 13:22	09/23/21 01:48	7439-95-4	
Manganese	301	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:48	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:48	7439-98-7	
Potassium	1200	ug/L	1000	1	09/22/21 13:22	09/23/21 01:48	7440-09-7	
Silica	19700	ug/L	450	1	09/22/21 13:22	09/23/21 01:48	7631-86-9	N2
Sodium	21600	ug/L	1000	1	09/22/21 13:22	09/23/21 01:48	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	1190	ug/L	100	1	09/28/21 14:25	10/01/21 00:37	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/28/21 14:25	10/01/21 00:37	7439-93-2	
Manganese, Dissolved	36.1	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:37	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:37	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:49	7440-36-0	
Arsenic	1.1	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:49	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 10:49	7440-41-7	
Cobalt	2.0	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:49	7440-48-4	
Selenium	1.1	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:49	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 10:49	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	446	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	446	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

Sample: MW-20B	Lab ID: 50297657002	Collected: 09/16/21 13:40	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	788	mg/L	10.0	1		09/22/21 09:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		09/18/21 12:00		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/20/21 16:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	1.5	mg/L	0.10	1		09/17/21 17:36	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 17:36	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/28/21 12:12	09/29/21 12:18		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.3	mg/L	1.0	1		09/21/21 18:25	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.6	mg/L	1.0	1		09/27/21 21:43		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-201	Lab ID: 50297657003	Collected: 09/16/21 15:50	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	11.7	mg/L	0.25	1		09/24/21 14:06	16887-00-6	
Fluoride	0.13	mg/L	0.10	1		09/24/21 14:06	16984-48-8	
Sulfate	51.5	mg/L	2.5	10		09/24/21 14:20	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	207	ug/L	200	1	09/22/21 13:22	09/23/21 01:50	7429-90-5	
Barium	51.4	ug/L	10.0	1	09/28/21 14:25	09/30/21 11:56	7440-39-3	
Boron	470	ug/L	100	1	09/22/21 13:22	09/23/21 01:50	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 01:50	7440-43-9	
Calcium	133000	ug/L	1000	1	09/22/21 13:22	09/23/21 01:50	7440-70-2	
Iron	488	ug/L	100	1	09/22/21 13:22	09/23/21 01:50	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:50	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/22/21 13:22	09/23/21 01:50	7439-93-2	
Magnesium	27600	ug/L	1000	1	09/22/21 13:22	09/23/21 01:50	7439-95-4	
Manganese	2390	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:50	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:50	7439-98-7	
Potassium	ND	ug/L	1000	1	09/22/21 13:22	09/23/21 01:50	7440-09-7	
Silica	12500	ug/L	450	1	09/22/21 13:22	09/23/21 01:50	7631-86-9	N2
Sodium	7330	ug/L	1000	1	09/22/21 13:22	09/23/21 01:50	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	443	ug/L	100	1	09/28/21 14:25	10/01/21 00:39	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/28/21 14:25	10/01/21 00:39	7439-93-2	
Manganese, Dissolved	2230	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:39	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:39	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:02	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:02	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 11:02	7440-41-7	
Cobalt	2.2	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:02	7440-48-4	
Selenium	1.4	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:02	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:02	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	375	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	375	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-20I		Lab ID: 50297657003		Collected: 09/16/21 15:50	Received: 09/17/21 12:50	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	482	mg/L	10.0	1		09/22/21 09:07		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.2	Std. Units	0.10	1		09/18/21 12:01		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		09/20/21 16:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis						
Nitrogen, Nitrate	1.8	mg/L	0.10	1		09/17/21 17:50	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 17:50	14797-65-0	
365.1 Total Phosphorus		Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis						
Phosphate as P04	ND	mg/L	0.15	1	09/28/21 12:12	09/29/21 12:18		
5310C Dissolved Organic Carbon		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Dissolved Organic Carbon	ND	mg/L	1.0	1		09/27/21 22:53		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-26B	Lab ID: 50297657004	Collected: 09/16/21 14:08	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	20.5	mg/L	2.5	10		09/24/21 15:16	16887-00-6	
Fluoride	0.13	mg/L	0.10	1		09/24/21 14:34	16984-48-8	
Sulfate	116	mg/L	2.5	10		09/24/21 15:16	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/22/21 13:22	09/23/21 01:52	7429-90-5	
Barium	56.8	ug/L	10.0	1	09/28/21 14:25	09/30/21 11:58	7440-39-3	
Boron	1330	ug/L	100	1	09/22/21 13:22	09/23/21 01:52	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 01:52	7440-43-9	
Calcium	162000	ug/L	1000	1	09/22/21 13:22	09/23/21 01:52	7440-70-2	
Iron	337	ug/L	100	1	09/22/21 13:22	09/23/21 01:52	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:52	7439-92-1	
Lithium	20.6	ug/L	20.0	1	09/22/21 13:22	09/23/21 01:52	7439-93-2	
Magnesium	35400	ug/L	1000	1	09/22/21 13:22	09/23/21 01:52	7439-95-4	
Manganese	1480	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:52	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:52	7439-98-7	
Potassium	2780	ug/L	1000	1	09/22/21 13:22	09/23/21 01:52	7440-09-7	
Silica	13300	ug/L	450	1	09/22/21 13:22	09/23/21 01:52	7631-86-9	N2
Sodium	14900	ug/L	1000	1	09/22/21 13:22	09/23/21 01:52	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	1390	ug/L	100	1	09/28/21 14:25	10/01/21 00:45	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/28/21 14:25	10/01/21 00:45	7439-93-2	
Manganese, Dissolved	1560	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:45	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:45	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:06	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:06	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 11:06	7440-41-7	
Cobalt	3.2	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:06	7440-48-4	
Selenium	11.3	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:06	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:06	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	450	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	450	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-26B	Lab ID: 50297657004	Collected: 09/16/21 14:08	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	665	mg/L	10.0	1		09/22/21 09:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		09/18/21 12:04		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/20/21 16:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	3.0	mg/L	0.10	1		09/17/21 17:39	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 17:39	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/28/21 12:12	09/29/21 12:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.1	mg/L	1.0	1		09/21/21 18:35	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	1.1	mg/L	1.0	1		09/27/21 23:18		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-26I	Lab ID: 50297657005	Collected: 09/16/21 13:02	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	49.0	mg/L	2.5	10		09/24/21 15:57	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		09/24/21 15:43	16984-48-8	
Sulfate	359	mg/L	25.0	100		09/24/21 16:11	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/22/21 13:22	09/23/21 01:54	7429-90-5	
Barium	106	ug/L	10.0	1	09/28/21 14:25	09/30/21 12:00	7440-39-3	
Boron	5660	ug/L	100	1	09/22/21 13:22	09/23/21 01:54	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 01:54	7440-43-9	
Calcium	241000	ug/L	2000	2	09/22/21 13:22	09/23/21 02:45	7440-70-2	
Iron	8740	ug/L	100	1	09/22/21 13:22	09/23/21 01:54	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:54	7439-92-1	
Lithium	49.7	ug/L	20.0	1	09/22/21 13:22	09/23/21 01:54	7439-93-2	
Magnesium	39100	ug/L	1000	1	09/22/21 13:22	09/23/21 01:54	7439-95-4	
Manganese	2080	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:54	7439-96-5	
Molybdenum	52.2	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:54	7439-98-7	
Potassium	9960	ug/L	1000	1	09/22/21 13:22	09/23/21 01:54	7440-09-7	
Silica	15600	ug/L	450	1	09/22/21 13:22	09/23/21 01:54	7631-86-9	N2
Sodium	29200	ug/L	1000	1	09/22/21 13:22	09/23/21 01:54	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	6040	ug/L	100	1	09/28/21 14:25	10/01/21 00:47	7440-42-8	
Lithium, Dissolved	47.0	ug/L	20.0	1	09/28/21 14:25	10/01/21 00:47	7439-93-2	
Manganese, Dissolved	2060	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:47	7439-96-5	
Molybdenum, Dissolved	64.7	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:47	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:10	7440-36-0	
Arsenic	1.5	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:10	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 11:10	7440-41-7	
Cobalt	1.6	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:10	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:10	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:10	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	379	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	379	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-26I	Lab ID: 50297657005	Collected: 09/16/21 13:02	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	994	mg/L	20.0	1		09/22/21 09:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		09/18/21 12:06		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/20/21 16:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/17/21 17:32	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 17:32	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/28/21 12:12	09/29/21 12:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	2.0	mg/L	1.0	1		09/21/21 18:45	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	2.2	mg/L	1.0	1		09/27/21 23:37		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-26A	Lab ID: 50297657006	Collected: 09/16/21 16:00	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	85.4	mg/L	2.5	10		09/24/21 16:39	16887-00-6	
Fluoride	0.10	mg/L	0.10	1		09/24/21 16:25	16984-48-8	
Sulfate	1100	mg/L	25.0	100		09/24/21 16:53	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/22/21 13:22	09/23/21 01:56	7429-90-5	
Barium	36.4	ug/L	10.0	1	09/28/21 14:25	09/30/21 12:02	7440-39-3	
Boron	19100	ug/L	100	1	09/22/21 13:22	09/23/21 01:56	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 01:56	7440-43-9	
Calcium	442000	ug/L	5000	5	09/22/21 13:22	09/23/21 02:47	7440-70-2	
Iron	8250	ug/L	100	1	09/22/21 13:22	09/23/21 01:56	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:56	7439-92-1	
Lithium	24.7	ug/L	20.0	1	09/22/21 13:22	09/23/21 01:56	7439-93-2	
Magnesium	25900	ug/L	1000	1	09/22/21 13:22	09/23/21 01:56	7439-95-4	
Manganese	1700	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:56	7439-96-5	
Molybdenum	806	ug/L	10.0	1	09/22/21 13:22	09/23/21 01:56	7439-98-7	
Potassium	9540	ug/L	1000	1	09/22/21 13:22	09/23/21 01:56	7440-09-7	
Silica	11300	ug/L	450	1	09/22/21 13:22	09/23/21 01:56	7631-86-9	N2
Sodium	28600	ug/L	1000	1	09/22/21 13:22	09/23/21 01:56	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	18900	ug/L	100	1	09/28/21 14:25	10/01/21 00:49	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/28/21 14:25	10/01/21 00:49	7439-93-2	
Manganese, Dissolved	1690	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:49	7439-96-5	
Molybdenum, Dissolved	812	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:49	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:15	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:15	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 11:15	7440-41-7	
Cobalt	1.0	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:15	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:15	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:15	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	111	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	111	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-26A	Lab ID: 50297657006	Collected: 09/16/21 16:00	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	1860	mg/L	20.0	1		09/22/21 09:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		09/18/21 12:08		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/20/21 16:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/17/21 17:52	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 17:52	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/28/21 12:12	09/29/21 12:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	2.4	mg/L	1.0	1		09/21/21 18:56	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	2.3	mg/L	1.0	1		09/27/21 23:57		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-27B	Lab ID: 50297657007	Collected: 09/17/21 08:20	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	138	mg/L	25.0	100		09/25/21 01:53	16887-00-6	
Fluoride	0.15	mg/L	0.10	1		09/25/21 01:25	16984-48-8	
Sulfate	167	mg/L	2.5	10		09/25/21 01:39	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	266	ug/L	200	1	09/22/21 13:22	09/23/21 02:00	7429-90-5	
Barium	466	ug/L	10.0	1	09/28/21 14:25	09/30/21 12:05	7440-39-3	
Boron	7870	ug/L	100	1	09/22/21 13:22	09/23/21 02:00	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 02:00	7440-43-9	
Calcium	251000	ug/L	2000	2	09/22/21 13:22	09/23/21 02:49	7440-70-2	
Iron	32500	ug/L	100	1	09/22/21 13:22	09/23/21 02:00	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:00	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/22/21 13:22	09/23/21 02:00	7439-93-2	
Magnesium	71800	ug/L	1000	1	09/22/21 13:22	09/23/21 02:00	7439-95-4	
Manganese	1290	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:00	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:00	7439-98-7	
Potassium	3880	ug/L	1000	1	09/22/21 13:22	09/23/21 02:00	7440-09-7	
Silica	29600	ug/L	450	1	09/22/21 13:22	09/23/21 02:00	7631-86-9	N2
Sodium	75500	ug/L	1000	1	09/22/21 13:22	09/23/21 02:00	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	7840	ug/L	100	1	09/28/21 14:25	10/01/21 00:51	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/28/21 14:25	10/01/21 00:51	7439-93-2	
Manganese, Dissolved	1310	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:51	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:51	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:19	7440-36-0	
Arsenic	34.9	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:19	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 11:19	7440-41-7	
Cobalt	1.0	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:19	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:19	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:19	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	708	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	708	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-27B	Lab ID: 50297657007	Collected: 09/17/21 08:20	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	1200	mg/L	20.0	1		09/22/21 09:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		09/18/21 12:09		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/20/21 16:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/17/21 18:00	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 18:00	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	5.9	mg/L	0.75	5	09/28/21 12:12	09/29/21 12:44		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	14.5	mg/L	1.0	1		09/21/21 19:08	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	13.5	mg/L	1.0	1		09/28/21 00:17		

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-291	Lab ID: 50297657008	Collected: 09/16/21 08:43	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	15.7	mg/L	2.5	10		09/25/21 02:21	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		09/25/21 02:07	16984-48-8	
Sulfate	190	mg/L	2.5	10		09/25/21 02:21	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/22/21 13:22	09/23/21 02:03	7429-90-5	
Barium	85.7	ug/L	10.0	1	09/28/21 14:25	09/30/21 12:07	7440-39-3	
Boron	1750	ug/L	100	1	09/22/21 13:22	09/23/21 02:03	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 02:03	7440-43-9	
Calcium	140000	ug/L	1000	1	09/22/21 13:22	09/23/21 02:03	7440-70-2	
Iron	8310	ug/L	100	1	09/22/21 13:22	09/23/21 02:03	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:03	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/22/21 13:22	09/23/21 02:03	7439-93-2	
Magnesium	32300	ug/L	1000	1	09/22/21 13:22	09/23/21 02:03	7439-95-4	
Manganese	1230	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:03	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:03	7439-98-7	
Potassium	1090	ug/L	1000	1	09/22/21 13:22	09/23/21 02:03	7440-09-7	
Silica	11500	ug/L	450	1	09/22/21 13:22	09/23/21 02:03	7631-86-9	N2
Sodium	7250	ug/L	1000	1	09/22/21 13:22	09/23/21 02:03	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	1710	ug/L	100	1	09/28/21 14:25	10/01/21 00:54	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/28/21 14:25	10/01/21 00:54	7439-93-2	
Manganese, Dissolved	1220	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:54	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	09/28/21 14:25	10/01/21 00:54	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:31	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:31	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 11:31	7440-41-7	
Cobalt	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:31	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:31	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 11:31	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	285	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	285	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-29I	Lab ID: 50297657008	Collected: 09/16/21 08:43	Received: 09/17/21 12:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	582	mg/L	10.0	1		09/22/21 09:08		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		09/18/21 12:10		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/20/21 16:58	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/17/21 17:08	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 17:08	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.17	mg/L	0.15	1	09/28/21 12:12	09/29/21 12:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	1.1	mg/L	1.0	1		09/21/21 19:17	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		09/28/21 00:42		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

QC Batch:	641158	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

METHOD BLANK: 2953020 Matrix: Water
Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/24/21 12:43	
Fluoride	mg/L	ND	0.10	09/24/21 12:43	
Sulfate	mg/L	ND	0.25	09/24/21 12:43	

LABORATORY CONTROL SAMPLE: 2953021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	97	80-120	
Fluoride	mg/L	0.5	0.51	101	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2953022 2953023

Parameter	Units	50297657008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	15.7	12.5	12.5	26.6	26.6	87	87	80-120	0	15	
Fluoride	mg/L	0.12	0.5	0.5	0.52	0.53	80	81	80-120	1	15	
Sulfate	mg/L	190	25	25	215	215	99	97	80-120	0	15	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch:	640923	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

METHOD BLANK:	2951927	Matrix:	Water
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Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/23/21 01:38	
Boron	ug/L	ND	100	09/23/21 01:38	
Cadmium	ug/L	ND	2.0	09/23/21 01:38	
Calcium	ug/L	ND	1000	09/23/21 01:38	
Iron	ug/L	ND	100	09/23/21 01:38	
Lead	ug/L	ND	10.0	09/23/21 01:38	
Lithium	ug/L	ND	20.0	09/23/21 01:38	
Magnesium	ug/L	ND	1000	09/23/21 01:38	
Manganese	ug/L	ND	10.0	09/23/21 01:38	
Molybdenum	ug/L	ND	10.0	09/23/21 01:38	
Potassium	ug/L	ND	1000	09/23/21 01:38	
Silica	ug/L	ND	450	09/23/21 01:38	N2
Sodium	ug/L	ND	1000	09/23/21 01:38	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4820	96	80-120	
Boron	ug/L	1000	982	98	80-120	
Cadmium	ug/L	1000	948	95	80-120	
Calcium	ug/L	5000	4870	97	80-120	
Iron	ug/L	2500	2460	99	80-120	
Lead	ug/L	1000	934	93	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	5000	4710	94	80-120	
Manganese	ug/L	1000	950	95	80-120	
Molybdenum	ug/L	1000	987	99	80-120	
Potassium	ug/L	5000	4850	97	80-120	
Silica	ug/L	10700	5250	49		N2
Sodium	ug/L	5000	5330	107	80-120	

Parameter	Units	2951929		2951930		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Aluminum	ug/L	ND	5000	5000	4770	4820	95	96	75-125	1	20

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Parameter	Units	2951929		2951930		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50297657008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Boron	ug/L	1750	1000	1000	2700	2680	95	93	75-125	1	20		
Cadmium	ug/L	ND	1000	1000	934	946	93	95	75-125	1	20		
Calcium	ug/L	140000	5000	5000	142000	140000	48	16	75-125	1	20	P6	
Iron	ug/L	8310	2500	2500	10600	10500	90	87	75-125	1	20		
Lead	ug/L	ND	1000	1000	884	893	88	89	75-125	1	20		
Lithium	ug/L	ND	1000	1000	996	1000	99	99	75-125	1	20		
Magnesium	ug/L	32300	5000	5000	36400	36000	83	75	75-125	1	20		
Manganese	ug/L	1230	1000	1000	2120	2110	89	88	75-125	0	20		
Molybdenum	ug/L	ND	1000	1000	972	986	97	98	75-125	1	20		
Potassium	ug/L	1090	5000	5000	5820	5880	95	96	75-125	1	20		
Silica	ug/L	11500	10700	10700	16600	16400	47	46		1		N2	
Sodium	ug/L	7250	5000	5000	11900	11800	93	91	75-125	1	20		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch: 641375

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

METHOD BLANK: 2954073

Matrix: Water

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	09/30/21 11:45	

LABORATORY CONTROL SAMPLE: 2954074

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	969	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2954075 2954076

Parameter	Units	50297657008		2954076		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Barium	ug/L	85.7	1000	1030	1040	95	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

QC Batch: 641520 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

METHOD BLANK: 2954962 Matrix: Water
Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron, Dissolved	ug/L	ND	100	10/01/21 00:33	
Lithium, Dissolved	ug/L	ND	20.0	10/01/21 00:33	
Manganese, Dissolved	ug/L	ND	10.0	10/01/21 00:33	
Molybdenum, Dissolved	ug/L	ND	10.0	10/01/21 00:33	

LABORATORY CONTROL SAMPLE: 2954963

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron, Dissolved	ug/L	1000	977	98	80-120	
Lithium, Dissolved	ug/L	1000	986	99	80-120	
Manganese, Dissolved	ug/L	1000	943	94	80-120	
Molybdenum, Dissolved	ug/L	1000	998	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2954964 2954965

Parameter	Units	50297657008		50297657005		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Boron, Dissolved	ug/L	1710	1000	1000	2670	2680	96	97	75-125	0	20
Lithium, Dissolved	ug/L	ND	1000	1000	1000	1000	100	99	75-125	0	20
Manganese, Dissolved	ug/L	1220	1000	1000	2130	2140	91	93	75-125	1	20
Molybdenum, Dissolved	ug/L	ND	1000	1000	1010	1020	101	102	75-125	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2954966 2954967

Parameter	Units	50298118001		50298118001		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Boron, Dissolved	ug/L	307	1000	1000	1300	1300	99	100	75-125	0	20
Lithium, Dissolved	ug/L	ND	1000	1000	1030	1050	100	102	75-125	2	20
Manganese, Dissolved	ug/L	45.0	1000	1000	974	975	93	93	75-125	0	20
Molybdenum, Dissolved	ug/L	ND	1000	1000	1020	1030	101	102	75-125	1	20

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch:	641706	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

METHOD BLANK:	2955758	Matrix:	Water
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Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/28/21 10:37	
Arsenic	ug/L	ND	1.0	09/28/21 10:37	
Beryllium	ug/L	ND	0.20	09/28/21 10:37	
Cobalt	ug/L	ND	1.0	09/28/21 10:37	
Selenium	ug/L	ND	1.0	09/28/21 10:37	
Thallium	ug/L	ND	1.0	09/28/21 10:37	

LABORATORY CONTROL SAMPLE: 2955759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.5	104	80-120	
Arsenic	ug/L	40	38.6	97	80-120	
Beryllium	ug/L	40	39.7	99	80-120	
Cobalt	ug/L	40	39.4	99	80-120	
Selenium	ug/L	40	39.0	97	80-120	
Thallium	ug/L	40	39.3	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2955760 2955761

Parameter	Units	50297657008		2955761		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Antimony	ug/L	ND	40	40	41.4	41.6	103	103	75-125	0	20	
Arsenic	ug/L	ND	40	40	38.5	39.1	95	96	75-125	1	20	
Beryllium	ug/L	ND	40	40	36.9	37.8	92	95	75-125	3	20	
Cobalt	ug/L	ND	40	40	36.5	36.2	90	89	75-125	1	20	
Selenium	ug/L	ND	40	40	37.7	38.1	94	95	75-125	1	20	
Thallium	ug/L	ND	40	40	38.9	39.2	97	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch:	642317	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008		

METHOD BLANK:	2958763	Matrix:	Water
Associated Lab Samples:	50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	09/29/21 13:56	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	09/29/21 13:56	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	09/29/21 13:56	

LABORATORY CONTROL SAMPLE: 2958764						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.9	98	90-110	

SAMPLE DUPLICATE: 2958765						
Parameter	Units	50297657008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	285	290	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	285	290	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2958766						
Parameter	Units	50297675001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	44.1	44.7	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	44.1	44.7	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch: 641101

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657008

METHOD BLANK: 2952855

Matrix: Water

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/22/21 09:04	

LABORATORY CONTROL SAMPLE: 2952856

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	278	93	80-120	

SAMPLE DUPLICATE: 2952857

Parameter	Units	50297657008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	582	595	2	10	

SAMPLE DUPLICATE: 2952920

Parameter	Units	50297657001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2020	1980	2	10	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch: 641102

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657007

METHOD BLANK: 2952858

Matrix: Water

Associated Lab Samples: 50297657007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/22/21 09:21	

LABORATORY CONTROL SAMPLE: 2952859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	278	93	80-120	

SAMPLE DUPLICATE: 2952948

Parameter	Units	50297745001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	6580	7180	9	10	

SAMPLE DUPLICATE: 2952949

Parameter	Units	50297657007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1200	1180	2	10	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch:	640658	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

SAMPLE DUPLICATE: 2950693

Parameter	Units	50297648001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.6	1	2	H3

SAMPLE DUPLICATE: 2950695

Parameter	Units	50297657008 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

QC Batch:	640873	Analysis Method:	SM 4500-S2-D
QC Batch Method:	SM 4500-S2-D	Analysis Description:	4500S2D Sulfide Water
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

METHOD BLANK: 2951649 Matrix: Water
Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/20/21 16:58	

LABORATORY CONTROL SAMPLE: 2951650

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.54	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951651 2951652

Parameter	Units	50297657008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.63	0.62	119	118	90-110	1	20	M3

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch:	640627	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657008

METHOD BLANK: 2950389 Matrix: Water
Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/17/21 17:02	
Nitrogen, Nitrite	mg/L	ND	0.10	09/17/21 17:02	

LABORATORY CONTROL SAMPLE: 2950390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	90-110	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2950391 2950392

Parameter	Units	50297657008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.80	0.81	80	81	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.84	0.84	84	84	90-110	0	20 M3	

MATRIX SPIKE SAMPLE: 2950393

Parameter	Units	50297585003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.50	50	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.74	73	90-110 M0	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

QC Batch: 640628	Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2	Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657007

METHOD BLANK: 2950396 Matrix: Water

Associated Lab Samples: 50297657007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/17/21 17:56	
Nitrogen, Nitrite	mg/L	ND	0.10	09/17/21 17:56	

LABORATORY CONTROL SAMPLE: 2950397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	90-110	
Nitrogen, Nitrite	mg/L	1	0.99	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2950398 2950399

Parameter	Units	50297657007		2950399		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Nitrogen, Nitrate	mg/L	ND	1	1	.03J	.052J	3	5	90-110	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.68	0.69	64	66	90-110	2	20 M3

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

QC Batch:	642124	Analysis Method:	EPA 365.1
QC Batch Method:	EPA 365.1	Analysis Description:	365.1 Total Phosphorus
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

METHOD BLANK: 2957960 Matrix: Water
Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/29/21 12:13	

LABORATORY CONTROL SAMPLE: 2957961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2957962 2957963

Parameter	Units	50297657008		2957963		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Phosphate as P04	mg/L	0.17		1.7	1.7				1		

MATRIX SPIKE SAMPLE: 2957964

Parameter	Units	50297623001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		28.7	28.6			

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297657

QC Batch:	640806	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

METHOD BLANK: 2951412 Matrix: Water
Associated Lab Samples: 50297657001, 50297657002, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/21/21 16:52	

LABORATORY CONTROL SAMPLE: 2951413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.5	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951414 2951415

Parameter	Units	2951414		2951415		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.							
Total Organic Carbon	mg/L	1.1	10	11.3	11.0	102	99	80-120	2	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951416 2951417

Parameter	Units	2951416		2951417		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.							
Total Organic Carbon	mg/L	ND	10	12.2	12.1	97	96	80-120	1	20		

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch:	641936	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Dissolved Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

METHOD BLANK: 2957393 Matrix: Water

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/27/21 18:37	

LABORATORY CONTROL SAMPLE: 2957394

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2957395 2957396

Parameter	Units	50297657008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	10	10	10.5	10.5	95	96	80-120	0	20	

MATRIX SPIKE SAMPLE: 2957397

Parameter	Units	50297675001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L		1.6	10	11.4	97	80-120

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-20A **Lab ID: 50297657001** Collected: 09/16/21 11:51 Received: 09/17/21 12:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0588 ± 0.447 (0.883) C:NA T:98%	pCi/L	10/18/21 15:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.22 ± 0.499 (0.813) C:74% T:91%	pCi/L	10/14/21 14:24	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.28 ± 0.946 (1.70)	pCi/L	10/18/21 17:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-20B **Lab ID: 50297657002** Collected: 09/16/21 13:40 Received: 09/17/21 12:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.265 ± 0.412 (0.995) C:NA T:89%	pCi/L	10/18/21 15:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.286 ± 0.370 (0.790) C:74% T:88%	pCi/L	10/14/21 14:24	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.286 ± 0.782 (1.79)	pCi/L	10/18/21 17:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-201 **Lab ID: 50297657003** Collected: 09/16/21 15:50 Received: 09/17/21 12:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.561 ± 0.648 (1.05) C:NA T:91%	pCi/L	10/18/21 15:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.628 ± 0.376 (0.699) C:76% T:94%	pCi/L	10/14/21 14:25	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.19 ± 1.02 (1.75)	pCi/L	10/18/21 17:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-26B **Lab ID: 50297657004** Collected: 09/16/21 14:08 Received: 09/17/21 12:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.0702 ± 0.533 (1.11) C:NA T:88%	pCi/L	10/18/21 15:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.47 ± 0.566 (0.886) C:70% T:86%	pCi/L	10/14/21 14:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.47 ± 1.10 (2.00)	pCi/L	10/18/21 17:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-26I **Lab ID: 50297657005** Collected: 09/16/21 13:02 Received: 09/17/21 12:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.255 ± 0.614 (1.11) C:NA T:89%	pCi/L	10/18/21 15:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.58 ± 0.558 (0.815) C:72% T:88%	pCi/L	10/14/21 14:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.84 ± 1.17 (1.93)	pCi/L	10/18/21 17:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-26A **Lab ID: 50297657006** Collected: 09/16/21 16:00 Received: 09/17/21 12:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.0666 ± 0.538 (1.06) C:NA T:91%	pCi/L	10/18/21 15:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.25 ± 0.471 (0.714) C:73% T:96%	pCi/L	10/14/21 14:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.32 ± 1.01 (1.77)	pCi/L	10/18/21 17:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-27B **Lab ID: 50297657007** Collected: 09/17/21 08:20 Received: 09/17/21 12:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	1.69 ± 0.758 (0.823) C:NA T:97%	pCi/L	10/18/21 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.96 ± 0.681 (1.03) C:70% T:87%	pCi/L	10/14/21 14:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	3.65 ± 1.44 (1.85)	pCi/L	10/18/21 17:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Sample: MW-291 **Lab ID: 50297657008** Collected: 09/16/21 08:43 Received: 09/17/21 12:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.597 ± 0.437 (0.602) C:NA T:92%	pCi/L	10/18/21 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.35 ± 0.525 (0.826) C:74% T:91%	pCi/L	10/14/21 14:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.95 ± 0.962 (1.43)	pCi/L	10/18/21 17:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-29I RAD MS Lab ID: 50297657009 Collected: 09/16/21 08:43 Received: 09/17/21 12:50 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	83.69 %REC ± NA (NA) C:NA T:NA%	pCi/L	10/18/21 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	119.72 %REC ± NA (NA) C:NA T:NA	pCi/L	10/14/21 14:25	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	105.34 %REC 22.91 RPD ± NA (NA) C:NA T:NA%	pCi/L	10/18/21 16:02	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	113.34 %REC 5.48 RPD ± NA (NA) C:NA T:NA	pCi/L	10/14/21 14:25	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch:	466834	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008, 50297657009, 50297657010

METHOD BLANK: 2254320 Matrix: Water

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008, 50297657009, 50297657010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.309 ± 0.339 (0.706) C:64% T:95%	pCi/L	10/14/21 11:24	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

QC Batch: 466833

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008, 50297657009, 50297657010

METHOD BLANK: 2254319

Matrix: Water

Associated Lab Samples: 50297657001, 50297657002, 50297657003, 50297657004, 50297657005, 50297657006, 50297657007, 50297657008, 50297657009, 50297657010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.140 ± 0.275 (0.503) C:NA T:92%	pCi/L	10/18/21 15:47	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50297657001	MW-20A	EPA 9056	641158		
50297657002	MW-20B	EPA 9056	641158		
50297657003	MW-20I	EPA 9056	641158		
50297657004	MW-26B	EPA 9056	641158		
50297657005	MW-26I	EPA 9056	641158		
50297657006	MW-26A	EPA 9056	641158		
50297657007	MW-27B	EPA 9056	641158		
50297657008	MW-29I	EPA 9056	641158		
50297657001	MW-20A	EPA 3010	640923	EPA 6010	641324
50297657001	MW-20A	EPA 3010	641375	EPA 6010	642554
50297657002	MW-20B	EPA 3010	640923	EPA 6010	641324
50297657002	MW-20B	EPA 3010	641375	EPA 6010	642554
50297657003	MW-20I	EPA 3010	640923	EPA 6010	641324
50297657003	MW-20I	EPA 3010	641375	EPA 6010	642554
50297657004	MW-26B	EPA 3010	640923	EPA 6010	641324
50297657004	MW-26B	EPA 3010	641375	EPA 6010	642554
50297657005	MW-26I	EPA 3010	640923	EPA 6010	641324
50297657005	MW-26I	EPA 3010	641375	EPA 6010	642554
50297657006	MW-26A	EPA 3010	640923	EPA 6010	641324
50297657006	MW-26A	EPA 3010	641375	EPA 6010	642554
50297657007	MW-27B	EPA 3010	640923	EPA 6010	641324
50297657007	MW-27B	EPA 3010	641375	EPA 6010	642554
50297657008	MW-29I	EPA 3010	640923	EPA 6010	641324
50297657008	MW-29I	EPA 3010	641375	EPA 6010	642554
50297657001	MW-20A	EPA 3010	641520	EPA 6010	642717
50297657002	MW-20B	EPA 3010	641520	EPA 6010	642717
50297657003	MW-20I	EPA 3010	641520	EPA 6010	642717
50297657004	MW-26B	EPA 3010	641520	EPA 6010	642717
50297657005	MW-26I	EPA 3010	641520	EPA 6010	642717
50297657006	MW-26A	EPA 3010	641520	EPA 6010	642717
50297657007	MW-27B	EPA 3010	641520	EPA 6010	642717
50297657008	MW-29I	EPA 3010	641520	EPA 6010	642717
50297657001	MW-20A	EPA 200.2	641706	EPA 6020	642006
50297657002	MW-20B	EPA 200.2	641706	EPA 6020	642006
50297657003	MW-20I	EPA 200.2	641706	EPA 6020	642006
50297657004	MW-26B	EPA 200.2	641706	EPA 6020	642006
50297657005	MW-26I	EPA 200.2	641706	EPA 6020	642006
50297657006	MW-26A	EPA 200.2	641706	EPA 6020	642006
50297657007	MW-27B	EPA 200.2	641706	EPA 6020	642006
50297657008	MW-29I	EPA 200.2	641706	EPA 6020	642006

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50297657001	MW-20A	EPA 903.1	466833		
50297657002	MW-20B	EPA 903.1	466833		
50297657003	MW-20I	EPA 903.1	466833		
50297657004	MW-26B	EPA 903.1	466833		
50297657005	MW-26I	EPA 903.1	466833		
50297657006	MW-26A	EPA 903.1	466833		
50297657007	MW-27B	EPA 903.1	466833		
50297657008	MW-29I	EPA 903.1	466833		
50297657009	MW-29I RAD MS	EPA 903.1	466833		
50297657010	MW-29I RAD MSD	EPA 903.1	466833		
50297657001	MW-20A	EPA 904.0	466834		
50297657002	MW-20B	EPA 904.0	466834		
50297657003	MW-20I	EPA 904.0	466834		
50297657004	MW-26B	EPA 904.0	466834		
50297657005	MW-26I	EPA 904.0	466834		
50297657006	MW-26A	EPA 904.0	466834		
50297657007	MW-27B	EPA 904.0	466834		
50297657008	MW-29I	EPA 904.0	466834		
50297657009	MW-29I RAD MS	EPA 904.0	466834		
50297657010	MW-29I RAD MSD	EPA 904.0	466834		
50297657001	MW-20A	Total Radium Calculation	468691		
50297657002	MW-20B	Total Radium Calculation	468691		
50297657003	MW-20I	Total Radium Calculation	468691		
50297657004	MW-26B	Total Radium Calculation	468691		
50297657005	MW-26I	Total Radium Calculation	468691		
50297657006	MW-26A	Total Radium Calculation	468691		
50297657007	MW-27B	Total Radium Calculation	468691		
50297657008	MW-29I	Total Radium Calculation	468691		
50297657001	MW-20A	SM 2320B	642317		
50297657002	MW-20B	SM 2320B	642317		
50297657003	MW-20I	SM 2320B	642317		
50297657004	MW-26B	SM 2320B	642317		
50297657005	MW-26I	SM 2320B	642317		
50297657006	MW-26A	SM 2320B	642317		
50297657007	MW-27B	SM 2320B	642317		
50297657008	MW-29I	SM 2320B	642317		
50297657001	MW-20A	SM 2540C	641101		
50297657002	MW-20B	SM 2540C	641101		
50297657003	MW-20I	SM 2540C	641101		
50297657004	MW-26B	SM 2540C	641101		
50297657005	MW-26I	SM 2540C	641101		
50297657006	MW-26A	SM 2540C	641101		
50297657007	MW-27B	SM 2540C	641102		
50297657008	MW-29I	SM 2540C	641101		
50297657001	MW-20A	SM 4500-H+B	640658		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50297657002	MW-20B	SM 4500-H+B	640658		
50297657003	MW-20I	SM 4500-H+B	640658		
50297657004	MW-26B	SM 4500-H+B	640658		
50297657005	MW-26I	SM 4500-H+B	640658		
50297657006	MW-26A	SM 4500-H+B	640658		
50297657007	MW-27B	SM 4500-H+B	640658		
50297657008	MW-29I	SM 4500-H+B	640658		
50297657001	MW-20A	SM 4500-S2-D	640873		
50297657002	MW-20B	SM 4500-S2-D	640873		
50297657003	MW-20I	SM 4500-S2-D	640873		
50297657004	MW-26B	SM 4500-S2-D	640873		
50297657005	MW-26I	SM 4500-S2-D	640873		
50297657006	MW-26A	SM 4500-S2-D	640873		
50297657007	MW-27B	SM 4500-S2-D	640873		
50297657008	MW-29I	SM 4500-S2-D	640873		
50297657001	MW-20A	EPA 353.2	640627		
50297657002	MW-20B	EPA 353.2	640627		
50297657003	MW-20I	EPA 353.2	640627		
50297657004	MW-26B	EPA 353.2	640627		
50297657005	MW-26I	EPA 353.2	640627		
50297657006	MW-26A	EPA 353.2	640627		
50297657007	MW-27B	EPA 353.2	640628		
50297657008	MW-29I	EPA 353.2	640627		
50297657001	MW-20A	EPA 365.1	642124	EPA 365.1	642209
50297657002	MW-20B	EPA 365.1	642124	EPA 365.1	642209
50297657003	MW-20I	EPA 365.1	642124	EPA 365.1	642209
50297657004	MW-26B	EPA 365.1	642124	EPA 365.1	642209
50297657005	MW-26I	EPA 365.1	642124	EPA 365.1	642209
50297657006	MW-26A	EPA 365.1	642124	EPA 365.1	642209
50297657007	MW-27B	EPA 365.1	642124	EPA 365.1	642209
50297657008	MW-29I	EPA 365.1	642124	EPA 365.1	642209
50297657001	MW-20A	SM 5310C	640806		
50297657002	MW-20B	SM 5310C	640806		
50297657004	MW-26B	SM 5310C	640806		
50297657005	MW-26I	SM 5310C	640806		
50297657006	MW-26A	SM 5310C	640806		
50297657007	MW-27B	SM 5310C	640806		
50297657008	MW-29I	SM 5310C	640806		
50297657001	MW-20A	SM 5310C	641936		
50297657002	MW-20B	SM 5310C	641936		
50297657003	MW-20I	SM 5310C	641936		
50297657004	MW-26B	SM 5310C	641936		
50297657005	MW-26I	SM 5310C	641936		
50297657006	MW-26A	SM 5310C	641936		
50297657007	MW-27B	SM 5310C	641936		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297657

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50297657008	MW-29I	SM 5310C	641936		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DAP 9/17/21 1330

1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____
2. Custody Seal on Cooler/Box Present: Yes No
 (If yes) Seals Intact: Yes No (leave blank if no seals were present)
3. Thermometer: 1 2 3 4 5 6 A B C D E F (F circled)
4. Cooler Temperature: SEE COMMENTS
 Temp should be above freezing to 6°C (Initial/Corrected)

5. Packing Material: Bubble Wrap Bubble Bags
 None Other _____
6. Ice Type: Wet Blue None
7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.	/		
Short Hold Time Analysis (48 hours or less)? Analysis: <u>Nitrak</u>	/		Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form			
Time 5035A TC placed in Freezer or Short Holds To Lab Time: <u>1500</u>			Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		/	Residual Chlorine Check (Total/Amenable/Free Cyanide)			/
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			/
Containers Intact?:	/		Headspace in VOA Vials (>6mm): See Container Count form for details	Present	Absent	No VOA Vials Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Present?		/	
Extra labels on Terracore Vials? (soils only)		/	Trip Blank Custody Seals?:			/

COMMENTS: Temperatures (°C) = 0.8/0.7, 0.7/0.6, 0.8/0.7, 0.8/0.8, 0.7/0.6, 4.7/4.6

Sample Container Count

SBS
DI
MeOH
(only)
BK
Kit

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZnAc pH >9	NaOH pH >10
1												1	1			2		4	1	1	1		1			WT	✓	✓	
2												↓	↓			↓		↓	↓	↓	↓		↓			↓	↓	↓	
3												↓	↓			↓		↓	↓	↓	↓		↓			↓	↓	↓	
4																													
5																													
6																													
7												1	1			2		4	1	1	1		1			WT	✓	✓	
8												↓	↓			↓		↓	↓	↓	↓		↓			↓	↓	↓	
9												↓	↓			↓		↓	↓	↓	↓		↓			↓	↓	↓	
10												↓	↓			↓		↓	↓	↓	↓		↓			↓	↓	↓	
11																													
12																													

Container Codes

Glass				Plastic / Misc.			
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	Syringe Kit LL Cr+6 sampling kit	
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	C	Air Cassettes
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	R	Terracore kit
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	SP5T	120mL Coliform Na Thiosulfate
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	U	Summa Can
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	ZPLC	Ziploc Bag
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	WT	Water
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered	NAL OL	Non-aqueous liquid Oil
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WP	Wipe
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic		
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		

Sample Container Count

SBS
DI
MeOH
(only)
BK
Kit

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGJU	R	DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit	Matrix	HNO3/H2SO4 pH <2	NaOH/ZnAc pH >9	NaOH pH >10
13																														
14																														
15													3	3			6		12	3	3	3		3			WT	✓	✓	
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

Container Codes

Glass				Plastic / Misc.			
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	Syringe Kit	LL Cr+6 sampling kit
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	C	Air Cassettes
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	R	Terracore kit
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	SP5T	120mL Coliform Na Thiosulfate
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	U	Summa Can
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	ZPLC	Ziploc Bag
WGJU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	WT	Water
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
CG3H	250mL clear glass HCl	AG2U	500mL unpres amber glass	BP3S	250mL HNO3 plastic	NAL	Non-aqueous liquid
BG1H	1L HCl clear glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered	OL	Oil
BG1S	1L H2SO4 clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WP	Wipe
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic		
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		

October 12, 2021

Mr. Rob Duncan
ATC Group Services, LLC
7988 Centerpoint Drive
Indianapolis, IN 46256

RE: Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297675

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on September 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hayden Putt
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297675

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50297675001	MW-28A	Water	09/17/21 07:41	09/17/21 14:28
50297675002	MW-28B	Water	09/17/21 09:55	09/17/21 14:28
50297675003	MW-28I	Water	09/17/21 08:48	09/17/21 14:28

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50297675001	MW-28A	EPA 9056	RID	3	PASI-I		
		EPA 6010	JPK, KJE	14	PASI-I		
		EPA 6010	JPK	4	PASI-I		
		EPA 6020	DMT	6	PASI-I		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	RMK	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	BSW	1	PASI-I		
		SM 4500-H+B	SWJ	1	PASI-I		
		SM 4500-S2-D	ZM	1	PASI-I		
		EPA 353.2	MMS	2	PASI-I		
		EPA 365.1	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50297675002	MW-28B	EPA 9056	RID	3	PASI-I
				EPA 6010	JPK, KJE	14	PASI-I
EPA 6010	JPK			4	PASI-I		
EPA 6020	DMT			6	PASI-I		
EPA 903.1	SLC			1	PASI-PA		
EPA 904.0	JC2			1	PASI-PA		
Total Radium Calculation	RMK			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	BSW			1	PASI-I		
SM 4500-H+B	SWJ			1	PASI-I		
SM 4500-S2-D	ZM			1	PASI-I		
EPA 353.2	MMS			2	PASI-I		
EPA 365.1	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50297675003	MW-28I			EPA 9056	RID	3	PASI-I
				EPA 6010	JPK, KJE	14	PASI-I
		EPA 6010	JPK	4	PASI-I		
		EPA 6020	DMT	6	PASI-I		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	JC2	1	PASI-PA		
		Total Radium Calculation	RMK	1	PASI-PA		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	HCF	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297675001	MW-28A					
EPA 9056	Chloride	119	mg/L	2.5	09/25/21 17:08	
EPA 9056	Fluoride	0.12	mg/L	0.10	09/25/21 16:54	
EPA 9056	Sulfate	1490	mg/L	25.0	09/30/21 16:10	
EPA 6010	Barium	40.4	ug/L	10.0	09/30/21 12:22	
EPA 6010	Boron	26600	ug/L	100	09/23/21 02:18	
EPA 6010	Calcium	595000	ug/L	5000	09/23/21 02:51	
EPA 6010	Iron	8520	ug/L	100	09/23/21 02:18	
EPA 6010	Magnesium	9860	ug/L	1000	09/23/21 02:18	
EPA 6010	Manganese	1970	ug/L	10.0	09/23/21 02:18	
EPA 6010	Molybdenum	2990	ug/L	10.0	09/23/21 02:18	
EPA 6010	Potassium	39600	ug/L	1000	09/23/21 02:18	
EPA 6010	Silica	11600	ug/L	450	09/23/21 02:18	N2
EPA 6010	Sodium	32300	ug/L	1000	09/23/21 02:18	
EPA 6010	Boron, Dissolved	26100	ug/L	100	10/01/21 01:03	
EPA 6010	Manganese, Dissolved	1950	ug/L	10.0	10/01/21 01:03	
EPA 6010	Molybdenum, Dissolved	2990	ug/L	10.0	10/01/21 01:03	
EPA 6020	Arsenic	1.3	ug/L	1.0	09/28/21 12:00	
EPA 6020	Cobalt	1.2	ug/L	1.0	09/28/21 12:00	
EPA 903.1	Radium-226	-0.204 ± 0.471 (0.966)	pCi/L		10/11/21 17:01	
EPA 904.0	Radium-228	C:NA T:99% 1.01 ± 0.518 (0.915)	pCi/L		10/08/21 16:07	
		C:66% T:85%				
Total Radium Calculation	Total Radium	1.01 ± 0.989 (1.88)	pCi/L		10/12/21 16:05	
SM 2320B	Alkalinity, Total as CaCO3	44.1	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	44.1	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	2600	mg/L	40.0	09/22/21 09:23	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	09/18/21 11:35	H3
EPA 365.1	Phosphate as P04	0.17	mg/L	0.15	10/01/21 11:05	
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	09/21/21 21:25	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	09/28/21 01:41	
50297675002	MW-28B					
EPA 9056	Chloride	55.3	mg/L	2.5	09/25/21 17:36	
EPA 9056	Fluoride	0.18	mg/L	0.10	09/25/21 17:22	
EPA 9056	Sulfate	354	mg/L	25.0	09/30/21 16:23	
EPA 6010	Barium	59.4	ug/L	10.0	09/30/21 12:24	
EPA 6010	Boron	3930	ug/L	100	09/23/21 02:20	
EPA 6010	Calcium	268000	ug/L	2000	09/23/21 02:54	
EPA 6010	Iron	619	ug/L	100	09/23/21 02:20	
EPA 6010	Lithium	41.4	ug/L	20.0	09/23/21 02:20	
EPA 6010	Magnesium	27800	ug/L	1000	09/23/21 02:20	
EPA 6010	Manganese	1520	ug/L	10.0	09/23/21 02:20	
EPA 6010	Molybdenum	211	ug/L	10.0	09/23/21 02:20	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50297675002	MW-28B					
EPA 6010	Potassium	13000	ug/L	1000	09/23/21 02:20	
EPA 6010	Silica	13900	ug/L	450	09/23/21 02:20	N2
EPA 6010	Sodium	41300	ug/L	1000	09/23/21 02:20	
EPA 6010	Boron, Dissolved	4050	ug/L	100	10/01/21 01:11	
EPA 6010	Lithium, Dissolved	41.4	ug/L	20.0	10/01/21 01:11	
EPA 6010	Manganese, Dissolved	1560	ug/L	10.0	10/01/21 01:11	
EPA 6010	Molybdenum, Dissolved	224	ug/L	10.0	10/01/21 01:11	
EPA 6020	Cobalt	4.9	ug/L	1.0	09/28/21 12:05	
EPA 903.1	Radium-226	0.0808 ± 0.537 (0.987)	pCi/L		10/11/21 17:01	
EPA 904.0	Radium-228	C:NA T:91% 0.228 ± 0.469 (1.02)	pCi/L		10/08/21 16:07	
		C:65% T:84%				
Total Radium Calculation	Total Radium	0.309 ± 1.01 (2.01)	pCi/L		10/12/21 16:05	
SM 2320B	Alkalinity, Total as CaCO3	422	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	422	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	1090	mg/L	20.0	09/22/21 09:24	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	09/18/21 11:37	H3
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	09/21/21 21:35	
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	09/28/21 02:59	
50297675003	MW-28I					
EPA 9056	Chloride	117	mg/L	2.5	09/25/21 18:03	
EPA 9056	Fluoride	0.11	mg/L	0.10	09/25/21 17:50	
EPA 9056	Sulfate	1350	mg/L	25.0	09/30/21 17:04	
EPA 6010	Barium	68.5	ug/L	10.0	09/30/21 12:27	
EPA 6010	Boron	25500	ug/L	100	09/23/21 02:22	
EPA 6010	Calcium	604000	ug/L	5000	09/23/21 03:00	
EPA 6010	Iron	7690	ug/L	100	09/23/21 02:22	
EPA 6010	Magnesium	13900	ug/L	1000	09/23/21 02:22	
EPA 6010	Manganese	1900	ug/L	10.0	09/23/21 02:22	
EPA 6010	Molybdenum	1610	ug/L	10.0	09/23/21 02:22	
EPA 6010	Potassium	37100	ug/L	1000	09/23/21 02:22	
EPA 6010	Silica	11300	ug/L	450	09/23/21 02:22	N2
EPA 6010	Sodium	32700	ug/L	1000	09/23/21 02:22	
EPA 6010	Boron, Dissolved	25100	ug/L	100	10/01/21 01:13	
EPA 6010	Manganese, Dissolved	1880	ug/L	10.0	10/01/21 01:13	
EPA 6010	Molybdenum, Dissolved	1660	ug/L	10.0	10/01/21 01:13	
EPA 6020	Arsenic	1.1	ug/L	1.0	09/28/21 12:09	
EPA 6020	Cobalt	1.5	ug/L	1.0	09/28/21 12:09	
EPA 903.1	Radium-226	1.22 ± 0.767 (1.04) C:NA T:93%	pCi/L		10/11/21 17:01	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50297675003	MW-28I					
EPA 904.0	Radium-228	0.417 ± 0.434 (0.892) C:67% T:83%	pCi/L		10/08/21 16:05	
Total Radium Calculation	Total Radium	1.64 ± 1.20 (1.93)	pCi/L		10/12/21 16:05	
SM 2320B	Alkalinity, Total as CaCO ₃	47.0	mg/L	2.0	09/29/21 13:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO ₃)	47.0	mg/L	2.0	09/29/21 13:56	
SM 2540C	Total Dissolved Solids	2540	mg/L	40.0	09/22/21 09:24	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/18/21 11:40	H3
SM 5310C	Total Organic Carbon	3.4	mg/L	1.0	09/21/21 21:46	
SM 5310C	Dissolved Organic Carbon	4.2	mg/L	1.0	09/28/21 03:18	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Sample: MW-28A	Lab ID: 50297675001	Collected: 09/17/21 07:41	Received: 09/17/21 14:28	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	119	mg/L	2.5	10		09/25/21 17:08	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		09/25/21 16:54	16984-48-8	
Sulfate	1490	mg/L	25.0	100		09/30/21 16:10	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/22/21 13:22	09/23/21 02:18	7429-90-5	
Barium	40.4	ug/L	10.0	1	09/28/21 14:25	09/30/21 12:22	7440-39-3	
Boron	26600	ug/L	100	1	09/22/21 13:22	09/23/21 02:18	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 02:18	7440-43-9	
Calcium	595000	ug/L	5000	5	09/22/21 13:22	09/23/21 02:51	7440-70-2	
Iron	8520	ug/L	100	1	09/22/21 13:22	09/23/21 02:18	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:18	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/22/21 13:22	09/23/21 02:18	7439-93-2	
Magnesium	9860	ug/L	1000	1	09/22/21 13:22	09/23/21 02:18	7439-95-4	
Manganese	1970	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:18	7439-96-5	
Molybdenum	2990	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:18	7439-98-7	
Potassium	39600	ug/L	1000	1	09/22/21 13:22	09/23/21 02:18	7440-09-7	
Silica	11600	ug/L	450	1	09/22/21 13:22	09/23/21 02:18	7631-86-9	N2
Sodium	32300	ug/L	1000	1	09/22/21 13:22	09/23/21 02:18	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	26100	ug/L	100	1	09/28/21 14:25	10/01/21 01:03	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/28/21 14:25	10/01/21 01:03	7439-93-2	
Manganese, Dissolved	1950	ug/L	10.0	1	09/28/21 14:25	10/01/21 01:03	7439-96-5	
Molybdenum, Dissolved	2990	ug/L	10.0	1	09/28/21 14:25	10/01/21 01:03	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:00	7440-36-0	
Arsenic	1.3	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:00	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 12:00	7440-41-7	
Cobalt	1.2	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:00	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:00	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:00	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	44.1	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	44.1	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Sample: MW-28A		Lab ID: 50297675001		Collected: 09/17/21 07:41	Received: 09/17/21 14:28	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	2600	mg/L	40.0	1		09/22/21 09:23		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.1	Std. Units	0.10	1		09/18/21 11:35		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		09/20/21 16:50	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis						
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/17/21 17:54	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 17:54	14797-65-0	
365.1 Total Phosphorus		Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis						
Phosphate as P04	0.17	mg/L	0.15	1	10/01/21 07:30	10/01/21 11:05		
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	1.6	mg/L	1.0	1		09/21/21 21:25	7440-44-0	
5310C Dissolved Organic Carbon		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Dissolved Organic Carbon	1.6	mg/L	1.0	1		09/28/21 01:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Sample: MW-28B	Lab ID: 50297675002	Collected: 09/17/21 09:55	Received: 09/17/21 14:28	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	55.3	mg/L	2.5	10		09/25/21 17:36	16887-00-6	
Fluoride	0.18	mg/L	0.10	1		09/25/21 17:22	16984-48-8	
Sulfate	354	mg/L	25.0	100		09/30/21 16:23	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/22/21 13:22	09/23/21 02:20	7429-90-5	
Barium	59.4	ug/L	10.0	1	09/28/21 14:25	09/30/21 12:24	7440-39-3	
Boron	3930	ug/L	100	1	09/22/21 13:22	09/23/21 02:20	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 02:20	7440-43-9	
Calcium	268000	ug/L	2000	2	09/22/21 13:22	09/23/21 02:54	7440-70-2	
Iron	619	ug/L	100	1	09/22/21 13:22	09/23/21 02:20	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:20	7439-92-1	
Lithium	41.4	ug/L	20.0	1	09/22/21 13:22	09/23/21 02:20	7439-93-2	
Magnesium	27800	ug/L	1000	1	09/22/21 13:22	09/23/21 02:20	7439-95-4	
Manganese	1520	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:20	7439-96-5	
Molybdenum	211	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:20	7439-98-7	
Potassium	13000	ug/L	1000	1	09/22/21 13:22	09/23/21 02:20	7440-09-7	
Silica	13900	ug/L	450	1	09/22/21 13:22	09/23/21 02:20	7631-86-9	N2
Sodium	41300	ug/L	1000	1	09/22/21 13:22	09/23/21 02:20	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	4050	ug/L	100	1	09/28/21 14:25	10/01/21 01:11	7440-42-8	
Lithium, Dissolved	41.4	ug/L	20.0	1	09/28/21 14:25	10/01/21 01:11	7439-93-2	
Manganese, Dissolved	1560	ug/L	10.0	1	09/28/21 14:25	10/01/21 01:11	7439-96-5	
Molybdenum, Dissolved	224	ug/L	10.0	1	09/28/21 14:25	10/01/21 01:11	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:05	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:05	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 12:05	7440-41-7	
Cobalt	4.9	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:05	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:05	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:05	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	422	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	422	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Sample: MW-28B		Lab ID: 50297675002		Collected: 09/17/21 09:55	Received: 09/17/21 14:28	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Indianapolis						
Total Dissolved Solids	1090	mg/L	20.0	1		09/22/21 09:24		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis						
pH at 25 Degrees C	7.3	Std. Units	0.10	1		09/18/21 11:37		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		09/20/21 16:50	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis						
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/17/21 18:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 18:11	14797-65-0	
365.1 Total Phosphorus		Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis						
Phosphate as P04	ND	mg/L	0.15	1	10/01/21 07:30	10/01/21 11:06		
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	1.4	mg/L	1.0	1		09/21/21 21:35	7440-44-0	
5310C Dissolved Organic Carbon		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Dissolved Organic Carbon	2.1	mg/L	1.0	1		09/28/21 02:59		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Sample: MW-28I	Lab ID: 50297675003	Collected: 09/17/21 08:48	Received: 09/17/21 14:28	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions								
Analytical Method: EPA 9056								
Pace Analytical Services - Indianapolis								
Chloride	117	mg/L	2.5	10		09/25/21 18:03	16887-00-6	
Fluoride	0.11	mg/L	0.10	1		09/25/21 17:50	16984-48-8	
Sulfate	1350	mg/L	25.0	100		09/30/21 17:04	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	09/22/21 13:22	09/23/21 02:22	7429-90-5	
Barium	68.5	ug/L	10.0	1	09/28/21 14:25	09/30/21 12:27	7440-39-3	
Boron	25500	ug/L	100	1	09/22/21 13:22	09/23/21 02:22	7440-42-8	
Cadmium	ND	ug/L	2.0	1	09/22/21 13:22	09/23/21 02:22	7440-43-9	
Calcium	604000	ug/L	5000	5	09/22/21 13:22	09/23/21 03:00	7440-70-2	
Iron	7690	ug/L	100	1	09/22/21 13:22	09/23/21 02:22	7439-89-6	
Lead	ND	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:22	7439-92-1	
Lithium	ND	ug/L	20.0	1	09/22/21 13:22	09/23/21 02:22	7439-93-2	
Magnesium	13900	ug/L	1000	1	09/22/21 13:22	09/23/21 02:22	7439-95-4	
Manganese	1900	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:22	7439-96-5	
Molybdenum	1610	ug/L	10.0	1	09/22/21 13:22	09/23/21 02:22	7439-98-7	
Potassium	37100	ug/L	1000	1	09/22/21 13:22	09/23/21 02:22	7440-09-7	
Silica	11300	ug/L	450	1	09/22/21 13:22	09/23/21 02:22	7631-86-9	N2
Sodium	32700	ug/L	1000	1	09/22/21 13:22	09/23/21 02:22	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Boron, Dissolved	25100	ug/L	100	1	09/28/21 14:25	10/01/21 01:13	7440-42-8	
Lithium, Dissolved	ND	ug/L	20.0	1	09/28/21 14:25	10/01/21 01:13	7439-93-2	
Manganese, Dissolved	1880	ug/L	10.0	1	09/28/21 14:25	10/01/21 01:13	7439-96-5	
Molybdenum, Dissolved	1660	ug/L	10.0	1	09/28/21 14:25	10/01/21 01:13	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:09	7440-36-0	
Arsenic	1.1	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:09	7440-38-2	
Beryllium	ND	ug/L	0.20	1	09/27/21 10:50	09/28/21 12:09	7440-41-7	
Cobalt	1.5	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:09	7440-48-4	
Selenium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:09	7782-49-2	
Thallium	ND	ug/L	1.0	1	09/27/21 10:50	09/28/21 12:09	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	47.0	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Bicarbonate (CaCO3)	47.0	mg/L	2.0	1		09/29/21 13:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		09/29/21 13:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-28I Lab ID: 50297675003 Collected: 09/17/21 08:48 Received: 09/17/21 14:28 Matrix: Water								
2540C Total Dissolved Solids								
Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2540	mg/L	40.0	1		09/22/21 09:24		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.0	Std. Units	0.10	1		09/18/21 11:40		H3
4500S2D Sulfide Water								
Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	1		09/20/21 16:50	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres								
Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/17/21 18:09	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/21 18:09	14797-65-0	
365.1 Total Phosphorus								
Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	1	10/01/21 07:30	10/01/21 11:07		
5310C TOC								
Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	3.4	mg/L	1.0	1		09/21/21 21:46	7440-44-0	
5310C Dissolved Organic Carbon								
Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	4.2	mg/L	1.0	1		09/28/21 03:18		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch:	641161	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2953034 Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/25/21 14:08	
Fluoride	mg/L	ND	0.10	09/25/21 14:08	
Sulfate	mg/L	ND	0.25	09/25/21 14:08	

LABORATORY CONTROL SAMPLE: 2953035

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	97	80-120	
Fluoride	mg/L	0.5	0.49	98	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2953036 2953037

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50297658001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	4.4	1.2	1.2	5.5	5.5	87	89	80-120	0	15		
Fluoride	mg/L	0.27	0.5	0.5	0.72	0.72	91	91	80-120	0	15		
Sulfate	mg/L	41.0	25	25	66.2	66.0	101	100	80-120	0	15		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch:	640923	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2951927 Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/23/21 01:38	
Boron	ug/L	ND	100	09/23/21 01:38	
Cadmium	ug/L	ND	2.0	09/23/21 01:38	
Calcium	ug/L	ND	1000	09/23/21 01:38	
Iron	ug/L	ND	100	09/23/21 01:38	
Lead	ug/L	ND	10.0	09/23/21 01:38	
Lithium	ug/L	ND	20.0	09/23/21 01:38	
Magnesium	ug/L	ND	1000	09/23/21 01:38	
Manganese	ug/L	ND	10.0	09/23/21 01:38	
Molybdenum	ug/L	ND	10.0	09/23/21 01:38	
Potassium	ug/L	ND	1000	09/23/21 01:38	
Silica	ug/L	ND	450	09/23/21 01:38	N2
Sodium	ug/L	ND	1000	09/23/21 01:38	

LABORATORY CONTROL SAMPLE: 2951928

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4820	96	80-120	
Boron	ug/L	1000	982	98	80-120	
Cadmium	ug/L	1000	948	95	80-120	
Calcium	ug/L	5000	4870	97	80-120	
Iron	ug/L	2500	2460	99	80-120	
Lead	ug/L	1000	934	93	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	5000	4710	94	80-120	
Manganese	ug/L	1000	950	95	80-120	
Molybdenum	ug/L	1000	987	99	80-120	
Potassium	ug/L	5000	4850	97	80-120	
Silica	ug/L	10700	5250	49		N2
Sodium	ug/L	5000	5330	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951929 2951930

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50297657008	Result	Conc.	Conc.						
Aluminum	ug/L	ND	5000	5000	4770	4820	95	96	75-125	1	20
Boron	ug/L	1730			2700	2680				1	20

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Parameter	Units	2951929		2951930		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50297657008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Cadmium	ug/L	ND			934	946			1	20	
Calcium	ug/L	136000			142000	140000			1	20	P6
Iron	ug/L	8180			10600	10500			1	20	
Lead	ug/L	ND			884	893			1	20	
Lithium	ug/L	ND			996	1000			1	20	
Magnesium	ug/L	32600			36400	36000			1	20	
Manganese	ug/L	1210			2120	2110			0	20	
Molybdenum	ug/L	ND			972	986			1	20	
Potassium	ug/L	1040			5820	5880			1	20	
Silica	ug/L	11500	10700	10700	16600	16400	47	46	1		N2
Sodium	ug/L	7150			11900	11800			1	20	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch: 641375

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2954073

Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	09/30/21 11:45	

LABORATORY CONTROL SAMPLE: 2954074

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	969	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2954075 2954076

Parameter	Units	2954075		2954076		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		50297657008	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Barium	ug/L	85.7	1000	1000	1030	1040	95	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch: 641520 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
 Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2954962 Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron, Dissolved	ug/L	ND	100	10/01/21 00:33	
Lithium, Dissolved	ug/L	ND	20.0	10/01/21 00:33	
Manganese, Dissolved	ug/L	ND	10.0	10/01/21 00:33	
Molybdenum, Dissolved	ug/L	ND	10.0	10/01/21 00:33	

LABORATORY CONTROL SAMPLE: 2954963

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron, Dissolved	ug/L	1000	977	98	80-120	
Lithium, Dissolved	ug/L	1000	986	99	80-120	
Manganese, Dissolved	ug/L	1000	943	94	80-120	
Molybdenum, Dissolved	ug/L	1000	998	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2954964 2954965

Parameter	Units	50297657008		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Boron, Dissolved	ug/L	1710	1000	1000	2670	2680	96	97	75-125	0	20		
Lithium, Dissolved	ug/L	ND	1000	1000	1000	1000	100	99	75-125	0	20		
Manganese, Dissolved	ug/L	1220	1000	1000	2130	2140	91	93	75-125	1	20		
Molybdenum, Dissolved	ug/L	ND	1000	1000	1010	1020	101	102	75-125	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2954966 2954967

Parameter	Units	50298118001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Boron, Dissolved	ug/L	307	1000	1000	1300	1300	99	100	75-125	0	20		
Lithium, Dissolved	ug/L	ND	1000	1000	1030	1050	100	102	75-125	2	20		
Manganese, Dissolved	ug/L	45.0	1000	1000	974	975	93	93	75-125	0	20		
Molybdenum, Dissolved	ug/L	ND	1000	1000	1020	1030	101	102	75-125	1	20		

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch: 641706	Analysis Method: EPA 6020
QC Batch Method: EPA 200.2	Analysis Description: 6020 MET
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2955758 Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/28/21 10:37	
Arsenic	ug/L	ND	1.0	09/28/21 10:37	
Beryllium	ug/L	ND	0.20	09/28/21 10:37	
Cobalt	ug/L	ND	1.0	09/28/21 10:37	
Selenium	ug/L	ND	1.0	09/28/21 10:37	
Thallium	ug/L	ND	1.0	09/28/21 10:37	

LABORATORY CONTROL SAMPLE: 2955759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.5	104	80-120	
Arsenic	ug/L	40	38.6	97	80-120	
Beryllium	ug/L	40	39.7	99	80-120	
Cobalt	ug/L	40	39.4	99	80-120	
Selenium	ug/L	40	39.0	97	80-120	
Thallium	ug/L	40	39.3	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2955760 2955761

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50297657008 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	41.4	41.6	103	103	75-125	0	20
Arsenic	ug/L	ND	40	40	38.5	39.1	95	96	75-125	1	20
Beryllium	ug/L	ND	40	40	36.9	37.8	92	95	75-125	3	20
Cobalt	ug/L	ND	40	40	36.5	36.2	90	89	75-125	1	20
Selenium	ug/L	ND	40	40	37.7	38.1	94	95	75-125	1	20
Thallium	ug/L	ND	40	40	38.9	39.2	97	98	75-125	1	20

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch:	642317	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2958763 Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	09/29/21 13:56	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	09/29/21 13:56	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	09/29/21 13:56	

LABORATORY CONTROL SAMPLE: 2958764

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.9	98	90-110	

SAMPLE DUPLICATE: 2958765

Parameter	Units	50297657008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	285	290	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	285	290	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2958766

Parameter	Units	50297675001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	44.1	44.7	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	44.1	44.7	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch:	641102	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2952858 Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/22/21 09:21	

LABORATORY CONTROL SAMPLE: 2952859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	278	93	80-120	

SAMPLE DUPLICATE: 2952948

Parameter	Units	50297745001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	6580	7180	9	10	

SAMPLE DUPLICATE: 2952949

Parameter	Units	50297657007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1200	1180	2	10	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch:	640657	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

SAMPLE DUPLICATE: 2950691

Parameter	Units	50297526002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	0	2	H3

SAMPLE DUPLICATE: 2950692

Parameter	Units	50297587005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297675

QC Batch: 640872 Analysis Method: SM 4500-S2-D
QC Batch Method: SM 4500-S2-D Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2951634 Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/20/21 16:50	

LABORATORY CONTROL SAMPLE: 2951635

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.54	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951636 2951637

Parameter	Units	50297557005		2951637		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide	mg/L	ND	0.5	0.5	0.51	0.51	92	92	90-110	0	20

MATRIX SPIKE SAMPLE: 2951643

Parameter	Units	50297675001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.24	47	90-110	M0

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297675

QC Batch: 640627	Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2	Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001

METHOD BLANK: 2950389 Matrix: Water
Associated Lab Samples: 50297675001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/17/21 17:02	
Nitrogen, Nitrite	mg/L	ND	0.10	09/17/21 17:02	

LABORATORY CONTROL SAMPLE: 2950390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	90-110	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2950391 2950392

Parameter	Units	50297657008		2950391		2950392		% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Nitrogen, Nitrate	mg/L	ND	1	1	0.80	0.81	80	81	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.84	0.84	84	84	90-110	0	20 M3	

MATRIX SPIKE SAMPLE: 2950393

Parameter	Units	50297585003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.50	50	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.74	73	90-110 M0	

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch: 640628

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675002, 50297675003

METHOD BLANK: 2950396

Matrix: Water

Associated Lab Samples: 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/17/21 17:56	
Nitrogen, Nitrite	mg/L	ND	0.10	09/17/21 17:56	

LABORATORY CONTROL SAMPLE: 2950397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	90-110	
Nitrogen, Nitrite	mg/L	1	0.99	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2950398 2950399

Parameter	Units	50297657007		2950399		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Nitrogen, Nitrate	mg/L	ND	1	1	.03J	.052J	3	5	90-110	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.68	0.69	64	66	90-110	2	20 M3

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical
Pace Project No.: 50297675

QC Batch: 642627 Analysis Method: EPA 365.1
QC Batch Method: EPA 365.1 Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2960329 Matrix: Water
Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	10/01/21 11:03	

LABORATORY CONTROL SAMPLE: 2960330

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.5			

MATRIX SPIKE SAMPLE: 2960331

Parameter	Units	50297659001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	12.3		26.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2960332 2960333

Parameter	Units	50297720009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.6	1.6				0		

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch:	640806	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2951412 Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/21/21 16:52	

LABORATORY CONTROL SAMPLE: 2951413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.5	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951414 2951415

Parameter	Units	50297657008		2951414		2951415		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					
Total Organic Carbon	mg/L	1.1	10	10	10	11.3	11.0	102	99	80-120	2	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2951416 2951417

Parameter	Units	50297669001		2951416		2951417		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					
Total Organic Carbon	mg/L	ND	10	10	10	12.2	12.1	97	96	80-120	1	20

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QUALITY CONTROL DATA

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch: 641936

Analysis Method: SM 5310C

QC Batch Method: SM 5310C

Analysis Description: 5310C Dissolved Organic Carbon

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2957393

Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/27/21 18:37	

LABORATORY CONTROL SAMPLE: 2957394

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2957395 2957396

Parameter	Units	50297657008		2957395		2957396		% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Dissolved Organic Carbon	mg/L	ND	10	10	10.5	10.5	95	96	80-120	0	20	

MATRIX SPIKE SAMPLE: 2957397

Parameter	Units	50297675001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.6	10	11.4	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Sample: MW-28A **Lab ID: 50297675001** Collected: 09/17/21 07:41 Received: 09/17/21 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.204 ± 0.471 (0.966) C:NA T:99%	pCi/L	10/11/21 17:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.01 ± 0.518 (0.915) C:66% T:85%	pCi/L	10/08/21 16:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.01 ± 0.989 (1.88)	pCi/L	10/12/21 16:05	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Sample: MW-28B **Lab ID: 50297675002** Collected: 09/17/21 09:55 Received: 09/17/21 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.0808 ± 0.537 (0.987) C:NA T:91%	pCi/L	10/11/21 17:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.228 ± 0.469 (1.02) C:65% T:84%	pCi/L	10/08/21 16:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.309 ± 1.01 (2.01)	pCi/L	10/12/21 16:05	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Sample: MW-28I **Lab ID: 50297675003** Collected: 09/17/21 08:48 Received: 09/17/21 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	1.22 ± 0.767 (1.04) C:NA T:93%	pCi/L	10/11/21 17:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.417 ± 0.434 (0.892) C:67% T:83%	pCi/L	10/08/21 16:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.64 ± 1.20 (1.93)	pCi/L	10/12/21 16:05	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch: 466428

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2252297

Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.467 ± 0.460 (0.939) C:72% T:80%	pCi/L	10/08/21 16:06	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

QC Batch: 466427

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 50297675001, 50297675002, 50297675003

METHOD BLANK: 2252296

Matrix: Water

Associated Lab Samples: 50297675001, 50297675002, 50297675003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.229 ± 0.343 (0.567) C:NA T:86%	pCi/L	10/11/21 16:38	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50297675001	MW-28A	EPA 9056	641161		
50297675002	MW-28B	EPA 9056	641161		
50297675003	MW-28I	EPA 9056	641161		
50297675001	MW-28A	EPA 3010	640923	EPA 6010	641324
50297675001	MW-28A	EPA 3010	641375	EPA 6010	642554
50297675002	MW-28B	EPA 3010	640923	EPA 6010	641324
50297675002	MW-28B	EPA 3010	641375	EPA 6010	642554
50297675003	MW-28I	EPA 3010	640923	EPA 6010	641324
50297675003	MW-28I	EPA 3010	641375	EPA 6010	642554
50297675001	MW-28A	EPA 3010	641520	EPA 6010	642717
50297675002	MW-28B	EPA 3010	641520	EPA 6010	642717
50297675003	MW-28I	EPA 3010	641520	EPA 6010	642717
50297675001	MW-28A	EPA 200.2	641706	EPA 6020	642006
50297675002	MW-28B	EPA 200.2	641706	EPA 6020	642006
50297675003	MW-28I	EPA 200.2	641706	EPA 6020	642006
50297675001	MW-28A	EPA 903.1	466427		
50297675002	MW-28B	EPA 903.1	466427		
50297675003	MW-28I	EPA 903.1	466427		
50297675001	MW-28A	EPA 904.0	466428		
50297675002	MW-28B	EPA 904.0	466428		
50297675003	MW-28I	EPA 904.0	466428		
50297675001	MW-28A	Total Radium Calculation	467848		
50297675002	MW-28B	Total Radium Calculation	467848		
50297675003	MW-28I	Total Radium Calculation	467848		
50297675001	MW-28A	SM 2320B	642317		
50297675002	MW-28B	SM 2320B	642317		
50297675003	MW-28I	SM 2320B	642317		
50297675001	MW-28A	SM 2540C	641102		
50297675002	MW-28B	SM 2540C	641102		
50297675003	MW-28I	SM 2540C	641102		
50297675001	MW-28A	SM 4500-H+B	640657		
50297675002	MW-28B	SM 4500-H+B	640657		
50297675003	MW-28I	SM 4500-H+B	640657		
50297675001	MW-28A	SM 4500-S2-D	640872		
50297675002	MW-28B	SM 4500-S2-D	640872		
50297675003	MW-28I	SM 4500-S2-D	640872		
50297675001	MW-28A	EPA 353.2	640627		
50297675002	MW-28B	EPA 353.2	640628		
50297675003	MW-28I	EPA 353.2	640628		
50297675001	MW-28A	EPA 365.1	642627	EPA 365.1	642766

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sept AES/IPL+ Geochemical

Pace Project No.: 50297675

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50297675002	MW-28B	EPA 365.1	642627	EPA 365.1	642766
50297675003	MW-28I	EPA 365.1	642627	EPA 365.1	642766
50297675001	MW-28A	SM 5310C	640806		
50297675002	MW-28B	SM 5310C	640806		
50297675003	MW-28I	SM 5310C	640806		
50297675001	MW-28A	SM 5310C	641936		
50297675002	MW-28B	SM 5310C	641936		
50297675003	MW-28I	SM 5310C	641936		

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DAP 9/17/21 1535

1. Courier: FED EX UPS CLIENT PACE USPS OTHER _____
2. Custody Seal on Cooler/Box Present: Yes No
 (If yes)Seals Intact: Yes No (leave blank if no seals were present)
3. Thermometer: 1 2 3 4 5 6 A B C D E F
4. Cooler Temperature: 1.1/1.0, 0.5/0.4
 Temp should be above freezing to 6°C (Initial/Corrected)

5. Packing Material: Bubble Wrap Bubble Bags
 None Other _____
6. Ice Type: Wet Blue None
7. If temp. is over 6°C or under 0°C, was the PM notified?: Yes No

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.	/		
Short Hold Time Analysis (48 hours or less)? Analysis: <u>Nitrate</u>	/		Circle: <u>HNO3 (<2)</u> <u>H2SO4 (<2)</u> NaOH (>10) <u>NaOH/ZnAc (>9)</u> Any non-conformance to pH recommendations will be noted on the container count form	/		
Time 5035A TC placed in Freezer or Short Holds To Lab Time: <u>1600</u>			Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		/	Residual Chlorine Check (Total/Amenable/Free Cyanide)			/
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			/
Containers Intact?:	/		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Present?		/	
Extra labels on Terracore Vials? (soils only)		/	Trip Blank Custody Seals?:			/

COMMENTS:

Sample Container Count

SBS
DI
MeOH
(only)
BK
Kit

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	R	DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit	Matrix	HNO3/H2SO4 pH <2	NaOH/ZnAc pH >9	NaOH pH >10
1													1	1			2		4	1	1	1		1			WT	✓	✓	
2													1	1			1		1	1	1	1		1			↓	↓	↓	
3													1	1			1		1	1	1	1		1			↓	↓	↓	
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

Container Codes

Glass				Plastic / Misc.			
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	Syringe Kit LL Cr+6 sampling kit	
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	AF	Air Filter
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	C	Air Cassettes
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	R	Terracore kit
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	SP5T	120mL Coliform Na Thiosulfate
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	U	Summa Can
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	ZPLC	Ziploc Bag
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	WT	Water
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered	NAL OL	Non-aqueous liquid Oil
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WP	Wipe
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic		
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		

Attachment C: Statistical Analyses – Prediction Limits Documentation

November 2020

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	mg/L	MW-2R	09/28/2016	ND	0.0001	0.0060	**
Antimony, total	mg/L	MW-2R	10/19/2016	ND	0.0500	0.0060	**
Antimony, total	mg/L	MW-2R	11/09/2016	ND	0.0500	0.0060	**
Antimony, total	mg/L	MW-2R	12/12/2016	ND	0.0050	0.0060	**
Antimony, total	mg/L	MW-2R	03/16/2017	ND	0.0060		
Antimony, total	mg/L	MW-2R	03/17/2017	ND	0.0060		
Antimony, total	mg/L	MW-2R	03/24/2017	ND	0.0240	0.0060	**
Antimony, total	mg/L	MW-2R	04/20/2017	ND	0.0060		
Antimony, total	mg/L	MW-2R	04/24/2017	ND	0.0060		
Antimony, total	mg/L	MW-2R	05/16/2017	ND	0.0060		
Antimony, total	mg/L	MW-2R	06/20/2017	ND	0.0060		
Antimony, total	mg/L	MW-2R	08/08/2017	ND	0.0060		
Antimony, total	mg/L	MW-2R	05/09/2018	ND	0.0050	0.0060	**
Antimony, total	mg/L	MW-2R	09/12/2018	ND	0.0014	0.0060	**
Antimony, total	mg/L	MW-2R	05/16/2019	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-2R	11/06/2019	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-2R	05/13/2020	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-2R	11/03/2020	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-3	09/28/2016	ND	0.0001	0.0060	**
Antimony, total	mg/L	MW-3	10/19/2016	ND	0.0500	0.0060	**
Antimony, total	mg/L	MW-3	11/09/2016	ND	0.0500	0.0060	**
Antimony, total	mg/L	MW-3	12/12/2016	ND	0.0050	0.0060	**
Antimony, total	mg/L	MW-3	02/05/2017	ND	0.0060		
Antimony, total	mg/L	MW-3	03/24/2017	ND	0.0240	0.0060	**
Antimony, total	mg/L	MW-3	05/25/2017	ND	0.0060		
Antimony, total	mg/L	MW-3	06/20/2017	ND	0.0060		
Antimony, total	mg/L	MW-3	08/08/2017	ND	0.0060		
Antimony, total	mg/L	MW-3	05/09/2018	ND	0.0050	0.0060	**
Antimony, total	mg/L	MW-3	09/12/2018	ND	0.0014	0.0060	**
Antimony, total	mg/L	MW-3	05/16/2019	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-3	11/06/2019	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-3	05/13/2020	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-3	11/03/2020	ND	0.0010	0.0060	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	mg/L	MW-4C	09/28/2016		0.0002		
Antimony, total	mg/L	MW-4C	10/19/2016	ND	0.0500	0.0060	**
Antimony, total	mg/L	MW-4C	11/09/2016	ND	0.0500	0.0060	**
Antimony, total	mg/L	MW-4C	12/12/2016	ND	0.0050	0.0060	**
Antimony, total	mg/L	MW-4C	02/05/2017	ND	0.0060		
Antimony, total	mg/L	MW-4C	03/25/2017	ND	0.0240	0.0060	**
Antimony, total	mg/L	MW-4C	05/25/2017	ND	0.0060		
Antimony, total	mg/L	MW-4C	06/20/2017	ND	0.0060		
Antimony, total	mg/L	MW-4C	08/08/2017	ND	0.0060		
Antimony, total	mg/L	MW-4C	05/09/2018	ND	0.0050	0.0060	**
Antimony, total	mg/L	MW-4C	09/12/2018	ND	0.0014	0.0060	**
Antimony, total	mg/L	MW-4C	05/16/2019	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0060	**
Antimony, total	mg/L	MW-4C	11/03/2020	ND	0.0010	0.0060	**
Arsenic, total	mg/L	MW-2R	09/28/2016		0.0043		
Arsenic, total	mg/L	MW-2R	10/19/2016	ND	0.0100		
Arsenic, total	mg/L	MW-2R	11/09/2016		0.0064		
Arsenic, total	mg/L	MW-2R	12/12/2016	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-2R	03/16/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	03/17/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	03/24/2017	ND	0.0400		*
Arsenic, total	mg/L	MW-2R	04/20/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	04/24/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	05/16/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	06/20/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	08/08/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	05/09/2018		0.0310		*
Arsenic, total	mg/L	MW-2R	09/12/2018		0.0110		
Arsenic, total	mg/L	MW-2R	05/16/2019		0.0083		
Arsenic, total	mg/L	MW-2R	11/06/2019		0.0105		
Arsenic, total	mg/L	MW-2R	05/13/2020		0.0147		
Arsenic, total	mg/L	MW-2R	11/03/2020		0.0089		

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Arsenic, total	mg/L	MW-3	09/28/2016		0.0040		
Arsenic, total	mg/L	MW-3	10/19/2016	ND	0.0100		
Arsenic, total	mg/L	MW-3	11/09/2016		0.0074		
Arsenic, total	mg/L	MW-3	12/12/2016	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-3	02/05/2017	ND	0.0100		
Arsenic, total	mg/L	MW-3	03/24/2017	ND	0.0400	0.0100	**
Arsenic, total	mg/L	MW-3	05/25/2017	ND	0.0100		
Arsenic, total	mg/L	MW-3	06/20/2017	ND	0.0100		
Arsenic, total	mg/L	MW-3	08/08/2017	ND	0.0100		
Arsenic, total	mg/L	MW-3	05/09/2018	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-3	09/12/2018	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-3	05/16/2019		0.0129		
Arsenic, total	mg/L	MW-3	11/06/2019		0.0103		
Arsenic, total	mg/L	MW-3	05/13/2020		0.0162		
Arsenic, total	mg/L	MW-3	11/03/2020		0.0205		
Arsenic, total	mg/L	MW-4C	09/28/2016		0.0024		
Arsenic, total	mg/L	MW-4C	10/19/2016	ND	0.0100		
Arsenic, total	mg/L	MW-4C	11/09/2016		0.0049		
Arsenic, total	mg/L	MW-4C	12/12/2016	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-4C	02/05/2017	ND	0.0100		
Arsenic, total	mg/L	MW-4C	03/25/2017	ND	0.0400	0.0100	**
Arsenic, total	mg/L	MW-4C	05/25/2017	ND	0.0100		
Arsenic, total	mg/L	MW-4C	06/20/2017	ND	0.0100		
Arsenic, total	mg/L	MW-4C	08/08/2017	ND	0.0100		
Arsenic, total	mg/L	MW-4C	05/09/2018	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-4C	09/12/2018	ND	0.0012	0.0100	**
Arsenic, total	mg/L	MW-4C	05/16/2019	ND	0.0010	0.0100	**
Arsenic, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0100	**
Arsenic, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0100	**
Arsenic, total	mg/L	MW-4C	11/03/2020	ND	0.0010	0.0100	**
Barium, total	mg/L	MW-2R	09/28/2016		0.0430		
Barium, total	mg/L	MW-2R	10/19/2016		0.0370		
Barium, total	mg/L	MW-2R	11/09/2016		0.0370		

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date	Result	Adjusted
Barium, total	mg/L	MW-2R	12/12/2016	0.0290	
Barium, total	mg/L	MW-2R	03/16/2017	0.0530	
Barium, total	mg/L	MW-2R	03/17/2017	0.0660	
Barium, total	mg/L	MW-2R	03/24/2017	0.0540	
Barium, total	mg/L	MW-2R	04/20/2017	0.0460	
Barium, total	mg/L	MW-2R	04/24/2017	0.0560	
Barium, total	mg/L	MW-2R	05/16/2017	0.0460	
Barium, total	mg/L	MW-2R	06/20/2017	0.0450	
Barium, total	mg/L	MW-2R	08/08/2017	0.0420	
Barium, total	mg/L	MW-2R	05/09/2018	0.0730	
Barium, total	mg/L	MW-2R	09/12/2018	0.0440	
Barium, total	mg/L	MW-2R	05/16/2019	0.0355	
Barium, total	mg/L	MW-2R	11/06/2019	0.0390	
Barium, total	mg/L	MW-2R	05/13/2020	0.0425	
Barium, total	mg/L	MW-2R	11/03/2020	0.0450	
Barium, total	mg/L	MW-3	09/28/2016	0.0320	
Barium, total	mg/L	MW-3	10/19/2016	0.0310	
Barium, total	mg/L	MW-3	11/09/2016	0.0360	
Barium, total	mg/L	MW-3	12/12/2016	0.0290	
Barium, total	mg/L	MW-3	02/05/2017	0.0370	
Barium, total	mg/L	MW-3	03/24/2017	0.0320	
Barium, total	mg/L	MW-3	05/25/2017	0.0360	
Barium, total	mg/L	MW-3	06/20/2017	0.0360	
Barium, total	mg/L	MW-3	08/08/2017	0.0400	
Barium, total	mg/L	MW-3	05/09/2018	0.0380	
Barium, total	mg/L	MW-3	09/12/2018	0.0450	
Barium, total	mg/L	MW-3	05/16/2019	0.0286	
Barium, total	mg/L	MW-3	11/06/2019	0.0428	
Barium, total	mg/L	MW-3	05/13/2020	0.0437	
Barium, total	mg/L	MW-3	11/03/2020	0.0394	
Barium, total	mg/L	MW-4C	09/28/2016	0.0270	
Barium, total	mg/L	MW-4C	10/19/2016	0.0280	
Barium, total	mg/L	MW-4C	11/09/2016	0.0320	

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Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium, total	mg/L	MW-4C	12/12/2016		0.0260		
Barium, total	mg/L	MW-4C	02/05/2017		0.0300		
Barium, total	mg/L	MW-4C	03/25/2017		0.0250		
Barium, total	mg/L	MW-4C	05/25/2017		0.0280		
Barium, total	mg/L	MW-4C	06/20/2017		0.0270		
Barium, total	mg/L	MW-4C	08/08/2017		0.0270		
Barium, total	mg/L	MW-4C	05/09/2018		0.0140		
Barium, total	mg/L	MW-4C	09/12/2018		0.0290		
Barium, total	mg/L	MW-4C	05/16/2019		0.0262		
Barium, total	mg/L	MW-4C	11/06/2019		0.0291		
Barium, total	mg/L	MW-4C	05/13/2020		0.0283		
Barium, total	mg/L	MW-4C	11/03/2020		0.0307		
Beryllium, total	mg/L	MW-2R	09/28/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-2R	10/19/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-2R	11/09/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-2R	12/12/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-2R	03/16/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	03/17/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	03/24/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-2R	04/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	04/24/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	05/16/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	06/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	08/08/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	05/09/2018	ND	0.0050	0.0010	**
Beryllium, total	mg/L	MW-2R	09/12/2018	ND	0.0007	0.0010	**
Beryllium, total	mg/L	MW-2R	05/16/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-2R	11/06/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-2R	05/13/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-2R	11/03/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-3	09/28/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-3	10/19/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-3	11/09/2016	ND	0.0100	0.0010	**

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 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
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Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium, total	mg/L	MW-3	12/12/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-3	02/05/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-3	03/24/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-3	05/25/2017	ND	0.0010		
Beryllium, total	mg/L	MW-3	06/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-3	08/08/2017	ND	0.0010		
Beryllium, total	mg/L	MW-3	05/09/2018	ND	0.0050	0.0010	**
Beryllium, total	mg/L	MW-3	09/12/2018	ND	0.0007	0.0010	**
Beryllium, total	mg/L	MW-3	05/16/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-3	11/06/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-3	05/13/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-3	11/03/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-4C	09/28/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-4C	10/19/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-4C	11/09/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-4C	12/12/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-4C	02/05/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-4C	03/25/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-4C	05/25/2017	ND	0.0010		
Beryllium, total	mg/L	MW-4C	06/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-4C	08/08/2017	ND	0.0010		
Beryllium, total	mg/L	MW-4C	05/09/2018	ND	0.0050	0.0010	**
Beryllium, total	mg/L	MW-4C	09/12/2018	ND	0.0007	0.0010	**
Beryllium, total	mg/L	MW-4C	05/16/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-4C	11/06/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-4C	05/13/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-4C	11/03/2020	ND	0.0002	0.0010	**
Cadmium, total	mg/L	MW-2R	09/28/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-2R	10/19/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-2R	11/09/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-2R	12/12/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-2R	03/16/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	03/17/2017	ND	0.0010	0.0020	**

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Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium, total	mg/L	MW-2R	03/24/2017	ND	0.0040	0.0020	**
Cadmium, total	mg/L	MW-2R	04/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	04/24/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	05/16/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	06/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	08/08/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	05/09/2018	ND	0.0050	0.0020	**
Cadmium, total	mg/L	MW-2R	09/12/2018	ND	0.0006	0.0020	**
Cadmium, total	mg/L	MW-2R	05/16/2019	ND	0.0020		
Cadmium, total	mg/L	MW-2R	11/06/2019	ND	0.0020		
Cadmium, total	mg/L	MW-2R	05/13/2020	ND	0.0020		
Cadmium, total	mg/L	MW-2R	11/03/2020	ND	0.0020		
Cadmium, total	mg/L	MW-3	09/28/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-3	10/19/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-3	11/09/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-3	12/12/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-3	02/05/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-3	03/24/2017	ND	0.0040	0.0020	**
Cadmium, total	mg/L	MW-3	05/25/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-3	06/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-3	08/08/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-3	05/09/2018	ND	0.0050	0.0020	**
Cadmium, total	mg/L	MW-3	09/12/2018	ND	0.0006	0.0020	**
Cadmium, total	mg/L	MW-3	05/16/2019	ND	0.0020		
Cadmium, total	mg/L	MW-3	11/06/2019	ND	0.0020		
Cadmium, total	mg/L	MW-3	05/13/2020	ND	0.0020		
Cadmium, total	mg/L	MW-3	11/03/2020	ND	0.0020		
Cadmium, total	mg/L	MW-4C	09/28/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-4C	10/19/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-4C	11/09/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-4C	12/12/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-4C	02/05/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-4C	03/25/2017	ND	0.0040	0.0020	**

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Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium, total	mg/L	MW-4C	05/25/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-4C	06/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-4C	08/08/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-4C	05/09/2018	ND	0.0050	0.0020	**
Cadmium, total	mg/L	MW-4C	09/12/2018	ND	0.0006	0.0020	**
Cadmium, total	mg/L	MW-4C	05/16/2019	ND	0.0020		
Cadmium, total	mg/L	MW-4C	11/06/2019	ND	0.0020		
Cadmium, total	mg/L	MW-4C	05/13/2020	ND	0.0020		
Cadmium, total	mg/L	MW-4C	11/03/2020	ND	0.0020		
Chromium, total	mg/L	MW-2R	09/28/2016	ND	0.0100		
Chromium, total	mg/L	MW-2R	10/19/2016	ND	0.0100		
Chromium, total	mg/L	MW-2R	11/09/2016	ND	0.0100		
Chromium, total	mg/L	MW-2R	12/12/2016	ND	0.0100		
Chromium, total	mg/L	MW-2R	03/16/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	03/17/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	03/24/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	04/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	04/24/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	05/16/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	06/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	08/08/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	05/09/2018	ND	0.0100		
Chromium, total	mg/L	MW-2R	05/16/2019	ND	0.0100		
Chromium, total	mg/L	MW-2R	05/13/2020	ND	0.0100		
Chromium, total	mg/L	MW-3	09/28/2016	ND	0.0100		
Chromium, total	mg/L	MW-3	10/19/2016	ND	0.0100		
Chromium, total	mg/L	MW-3	11/09/2016	ND	0.0100		
Chromium, total	mg/L	MW-3	12/12/2016	ND	0.0100		
Chromium, total	mg/L	MW-3	02/05/2017	ND	0.0100		
Chromium, total	mg/L	MW-3	03/24/2017	ND	0.0100		
Chromium, total	mg/L	MW-3	05/25/2017	ND	0.0100		
Chromium, total	mg/L	MW-3	06/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-3	08/08/2017	ND	0.0100		

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 *** - ND value replaced with manual RL.
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Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Chromium, total	mg/L	MW-3	05/09/2018	ND	0.0100		
Chromium, total	mg/L	MW-3	05/16/2019	ND	0.0100		
Chromium, total	mg/L	MW-3	05/13/2020	ND	0.0100		
Chromium, total	mg/L	MW-4C	09/28/2016	ND	0.0100		
Chromium, total	mg/L	MW-4C	10/19/2016	ND	0.0100		
Chromium, total	mg/L	MW-4C	11/09/2016	ND	0.0100		
Chromium, total	mg/L	MW-4C	12/12/2016	ND	0.0100		
Chromium, total	mg/L	MW-4C	02/05/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	03/25/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	05/25/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	06/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	08/08/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	05/09/2018	ND	0.0100		
Chromium, total	mg/L	MW-4C	05/16/2019	ND	0.0100		
Chromium, total	mg/L	MW-4C	05/13/2020	ND	0.0100		
Cobalt, total	mg/L	MW-2R	09/28/2016	ND	0.0200		
Cobalt, total	mg/L	MW-2R	10/19/2016	ND	0.0200		
Cobalt, total	mg/L	MW-2R	11/09/2016	ND	0.0200		
Cobalt, total	mg/L	MW-2R	12/12/2016	ND	0.0200		
Cobalt, total	mg/L	MW-2R	03/16/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	03/17/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	03/24/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	04/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	04/24/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	05/16/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	06/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	08/08/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	05/09/2018	ND	0.0200		
Cobalt, total	mg/L	MW-2R	09/12/2018	ND	0.0036	0.0200	**
Cobalt, total	mg/L	MW-2R	05/16/2019		0.0033		
Cobalt, total	mg/L	MW-2R	11/06/2019		0.0031		
Cobalt, total	mg/L	MW-2R	05/13/2020		0.0028		
Cobalt, total	mg/L	MW-2R	11/03/2020		0.0031		

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Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cobalt, total	mg/L	MW-3	09/28/2016	ND	0.0200		
Cobalt, total	mg/L	MW-3	10/19/2016	ND	0.0200		
Cobalt, total	mg/L	MW-3	11/09/2016	ND	0.0200		
Cobalt, total	mg/L	MW-3	12/12/2016	ND	0.0200		
Cobalt, total	mg/L	MW-3	02/05/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	03/24/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	05/25/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	06/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	08/08/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	05/09/2018	ND	0.0200		
Cobalt, total	mg/L	MW-3	09/12/2018	ND	0.0036	0.0200	**
Cobalt, total	mg/L	MW-3	05/16/2019		0.0020		
Cobalt, total	mg/L	MW-3	11/06/2019		0.0026		
Cobalt, total	mg/L	MW-3	05/13/2020		0.0027		
Cobalt, total	mg/L	MW-3	11/03/2020		0.0021		
Cobalt, total	mg/L	MW-4C	09/28/2016	ND	0.0200		
Cobalt, total	mg/L	MW-4C	10/19/2016	ND	0.0200		
Cobalt, total	mg/L	MW-4C	11/09/2016	ND	0.0200		
Cobalt, total	mg/L	MW-4C	12/12/2016	ND	0.0200		
Cobalt, total	mg/L	MW-4C	02/05/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	03/25/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	05/25/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	06/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	08/08/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	05/09/2018	ND	0.0200		
Cobalt, total	mg/L	MW-4C	09/12/2018	ND	0.0036	0.0200	**
Cobalt, total	mg/L	MW-4C	05/16/2019		0.0010		
Cobalt, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-4C	11/03/2020		0.0010		
Fluoride	mg/L	MW-2R	09/28/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-2R	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-2R	11/09/2016	ND	0.5000	5.0000	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Fluoride	mg/L	MW-2R	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-2R	03/16/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	03/17/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	03/24/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	04/20/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	04/24/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	05/16/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	05/09/2018	ND	5.0000		
Fluoride	mg/L	MW-2R	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-2R	05/16/2019	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-2R	11/06/2019	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-2R	05/13/2020		0.1200		
Fluoride	mg/L	MW-2R	11/03/2020		0.1200		
Fluoride	mg/L	MW-3	09/28/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-3	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-3	11/09/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-3	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-3	02/05/2017	ND	5.0000		
Fluoride	mg/L	MW-3	03/24/2017	ND	5.0000		
Fluoride	mg/L	MW-3	05/25/2017	ND	5.0000		
Fluoride	mg/L	MW-3	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-3	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-3	05/09/2018	ND	5.0000		
Fluoride	mg/L	MW-3	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-3	05/16/2019		0.1900		
Fluoride	mg/L	MW-3	11/06/2019		0.1300		
Fluoride	mg/L	MW-3	05/13/2020		0.3500		
Fluoride	mg/L	MW-3	11/03/2020		0.1700		
Fluoride	mg/L	MW-4C	09/28/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-4C	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-4C	11/09/2016	ND	0.5000	5.0000	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Fluoride	mg/L	MW-4C	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-4C	02/05/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	03/25/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	05/25/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	05/09/2018	ND	5.0000		
Fluoride	mg/L	MW-4C	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-4C	05/16/2019		0.1100		
Fluoride	mg/L	MW-4C	11/06/2019		0.1200		
Fluoride	mg/L	MW-4C	05/13/2020		0.1900		
Fluoride	mg/L	MW-4C	11/03/2020		0.1200		
Lead, total	mg/L	MW-2R	09/28/2016	ND	0.0100		
Lead, total	mg/L	MW-2R	10/19/2016	ND	0.0100		
Lead, total	mg/L	MW-2R	11/09/2016	ND	0.0100		
Lead, total	mg/L	MW-2R	12/12/2016	ND	0.0100		
Lead, total	mg/L	MW-2R	03/16/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	03/17/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	03/24/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	04/20/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	04/24/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	05/16/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	06/20/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	08/08/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	05/09/2018	ND	0.0100		
Lead, total	mg/L	MW-2R	05/16/2019	ND	0.0100		
Lead, total	mg/L	MW-2R	11/06/2019	ND	0.0100		
Lead, total	mg/L	MW-2R	05/13/2020	ND	0.0100		
Lead, total	mg/L	MW-2R	11/03/2020	ND	0.0100		
Lead, total	mg/L	MW-3	09/28/2016	ND	0.0100		
Lead, total	mg/L	MW-3	10/19/2016	ND	0.0100		
Lead, total	mg/L	MW-3	11/09/2016	ND	0.0100		
Lead, total	mg/L	MW-3	12/12/2016	ND	0.0100		

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lead, total	mg/L	MW-3	02/05/2017	ND	0.0100		
Lead, total	mg/L	MW-3	03/24/2017	ND	0.0100		
Lead, total	mg/L	MW-3	05/25/2017	ND	0.0100		
Lead, total	mg/L	MW-3	06/20/2017	ND	0.0100		
Lead, total	mg/L	MW-3	08/08/2017	ND	0.0100		
Lead, total	mg/L	MW-3	05/09/2018	ND	0.0100		
Lead, total	mg/L	MW-3	05/16/2019		0.0478		
Lead, total	mg/L	MW-3	11/06/2019	ND	0.0100		
Lead, total	mg/L	MW-3	05/13/2020	ND	0.0100		
Lead, total	mg/L	MW-3	11/03/2020	ND	0.0100		
Lead, total	mg/L	MW-4C	09/28/2016	ND	0.0100		
Lead, total	mg/L	MW-4C	10/19/2016	ND	0.0100		
Lead, total	mg/L	MW-4C	11/09/2016	ND	0.0100		
Lead, total	mg/L	MW-4C	12/12/2016	ND	0.0100		
Lead, total	mg/L	MW-4C	02/05/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	03/25/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	05/25/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	06/20/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	08/08/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	05/09/2018	ND	0.0100		
Lead, total	mg/L	MW-4C	05/16/2019	ND	0.0100		
Lead, total	mg/L	MW-4C	11/06/2019	ND	0.0100		
Lead, total	mg/L	MW-4C	05/13/2020	ND	0.0100		
Lead, total	mg/L	MW-4C	11/03/2020	ND	0.0100		
Lithium, total	mg/L	MW-2R	09/28/2016		1.1000		
Lithium, total	mg/L	MW-2R	10/19/2016		0.8200		
Lithium, total	mg/L	MW-2R	11/09/2016		0.7800		
Lithium, total	mg/L	MW-2R	12/12/2016		0.5100		
Lithium, total	mg/L	MW-2R	03/16/2017		0.2800		
Lithium, total	mg/L	MW-2R	03/17/2017		0.4100		
Lithium, total	mg/L	MW-2R	03/24/2017		0.5300		
Lithium, total	mg/L	MW-2R	04/20/2017		0.7800		
Lithium, total	mg/L	MW-2R	04/24/2017		0.8400		

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 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date	Result	Adjusted
Lithium, total	mg/L	MW-2R	05/16/2017	1.1000	
Lithium, total	mg/L	MW-2R	06/20/2017	1.1000	
Lithium, total	mg/L	MW-2R	08/08/2017	1.0000	
Lithium, total	mg/L	MW-2R	05/09/2018	0.9600	
Lithium, total	mg/L	MW-2R	09/12/2018	0.8000	
Lithium, total	mg/L	MW-2R	05/16/2019	0.6160	
Lithium, total	mg/L	MW-2R	11/06/2019	0.4950	
Lithium, total	mg/L	MW-2R	05/13/2020	0.6380	
Lithium, total	mg/L	MW-2R	11/03/2020	0.5220	
Lithium, total	mg/L	MW-3	09/28/2016	2.0000	
Lithium, total	mg/L	MW-3	10/19/2016	1.9000	
Lithium, total	mg/L	MW-3	11/09/2016	2.2000	
Lithium, total	mg/L	MW-3	12/12/2016	2.2000	
Lithium, total	mg/L	MW-3	02/05/2017	2.1000	
Lithium, total	mg/L	MW-3	03/24/2017	2.1000	
Lithium, total	mg/L	MW-3	05/25/2017	2.0000	
Lithium, total	mg/L	MW-3	06/20/2017	2.0000	
Lithium, total	mg/L	MW-3	08/08/2017	1.6000	
Lithium, total	mg/L	MW-3	05/09/2018	2.6000	
Lithium, total	mg/L	MW-3	09/12/2018	2.6000	
Lithium, total	mg/L	MW-3	05/16/2019	1.2600	
Lithium, total	mg/L	MW-3	11/06/2019	1.9300	
Lithium, total	mg/L	MW-3	05/13/2020	1.5200	
Lithium, total	mg/L	MW-3	11/03/2020	1.7600	
Lithium, total	mg/L	MW-4C	09/28/2016	0.3100	
Lithium, total	mg/L	MW-4C	10/19/2016	0.2800	
Lithium, total	mg/L	MW-4C	11/09/2016	0.3300	
Lithium, total	mg/L	MW-4C	12/12/2016	0.2600	
Lithium, total	mg/L	MW-4C	02/05/2017	0.3100	
Lithium, total	mg/L	MW-4C	03/25/2017	0.2900	
Lithium, total	mg/L	MW-4C	05/25/2017	0.3300	
Lithium, total	mg/L	MW-4C	06/20/2017	0.2500	
Lithium, total	mg/L	MW-4C	08/08/2017	0.2300	

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Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lithium, total	mg/L	MW-4C	05/09/2018		0.2500		
Lithium, total	mg/L	MW-4C	09/12/2018		0.2800		
Lithium, total	mg/L	MW-4C	05/16/2019		0.3160		
Lithium, total	mg/L	MW-4C	11/06/2019		0.2840		
Lithium, total	mg/L	MW-4C	05/13/2020		0.2420		
Lithium, total	mg/L	MW-4C	11/03/2020		0.2870		
Mercury, total	mg/L	MW-2R	09/28/2016	ND	0.0002		
Mercury, total	mg/L	MW-2R	10/19/2016	ND	0.0002		
Mercury, total	mg/L	MW-2R	11/09/2016	ND	0.0002		
Mercury, total	mg/L	MW-2R	12/12/2016	ND	0.0002		
Mercury, total	mg/L	MW-2R	03/16/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	03/17/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	03/24/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	04/20/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	04/24/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	05/16/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	06/20/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	08/08/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	05/09/2018	ND	0.0002		
Mercury, total	mg/L	MW-2R	05/16/2019	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-2R	05/13/2020	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-3	09/28/2016	ND	0.0002		
Mercury, total	mg/L	MW-3	10/19/2016	ND	0.0002		
Mercury, total	mg/L	MW-3	11/09/2016	ND	0.0002		
Mercury, total	mg/L	MW-3	12/12/2016	ND	0.0002		
Mercury, total	mg/L	MW-3	02/05/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	03/24/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	05/25/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	06/20/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	08/08/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	05/09/2018	ND	0.0002		
Mercury, total	mg/L	MW-3	05/16/2019	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-3	05/13/2020	ND	0.0020	0.0002	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Mercury, total	mg/L	MW-4C	09/28/2016	ND	0.0002		
Mercury, total	mg/L	MW-4C	10/19/2016	ND	0.0002		
Mercury, total	mg/L	MW-4C	11/09/2016	ND	0.0002		
Mercury, total	mg/L	MW-4C	12/12/2016	ND	0.0002		
Mercury, total	mg/L	MW-4C	02/05/2017	ND	0.0002		
Mercury, total	mg/L	MW-4C	03/25/2017	ND	0.0002		
Mercury, total	mg/L	MW-4C	05/25/2017	ND	0.0002		
Mercury, total	mg/L	MW-4C	06/20/2017		0.0004		
Mercury, total	mg/L	MW-4C	08/08/2017	ND	0.0002		
Mercury, total	mg/L	MW-4C	05/09/2018	ND	0.0002		
Mercury, total	mg/L	MW-4C	05/16/2019	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-4C	05/13/2020	ND	0.0020	0.0002	**
Molybdenum, total	mg/L	MW-2R	09/28/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	10/19/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	11/09/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	12/12/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	03/16/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	03/17/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	03/24/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	04/20/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	04/24/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	05/16/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	06/20/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	08/08/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	05/09/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	09/12/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	05/16/2019		0.0112		
Molybdenum, total	mg/L	MW-2R	11/06/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-2R	05/13/2020		0.0117		
Molybdenum, total	mg/L	MW-2R	11/03/2020		0.0128		
Molybdenum, total	mg/L	MW-3	09/28/2016		0.3500		
Molybdenum, total	mg/L	MW-3	10/19/2016		0.3300		
Molybdenum, total	mg/L	MW-3	11/09/2016		0.2800		

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 *** - ND value replaced with manual RL.
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Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Molybdenum, total	mg/L	MW-3	12/12/2016		0.3900		
Molybdenum, total	mg/L	MW-3	02/05/2017		0.6600		
Molybdenum, total	mg/L	MW-3	03/24/2017		0.6600		
Molybdenum, total	mg/L	MW-3	05/25/2017		0.5700		
Molybdenum, total	mg/L	MW-3	06/20/2017		0.5100		
Molybdenum, total	mg/L	MW-3	08/08/2017		0.3300		
Molybdenum, total	mg/L	MW-3	05/09/2018		0.3900		
Molybdenum, total	mg/L	MW-3	09/12/2018		0.5200		
Molybdenum, total	mg/L	MW-3	05/16/2019		0.3380		
Molybdenum, total	mg/L	MW-3	11/06/2019		0.5080		
Molybdenum, total	mg/L	MW-3	05/13/2020		0.5290		
Molybdenum, total	mg/L	MW-3	11/03/2020		0.5490		
Molybdenum, total	mg/L	MW-4C	09/28/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	10/19/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	11/09/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	12/12/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	02/05/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	03/25/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	05/25/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	06/20/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	08/08/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	05/09/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	09/12/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	05/16/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-4C	11/06/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-4C	05/13/2020	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-4C	11/03/2020	ND	0.0100	0.1000	**
Selenium, total	mg/L	MW-2R	09/28/2016	ND	0.0016	0.0050	**
Selenium, total	mg/L	MW-2R	10/19/2016	ND	0.0100	0.0050	**
Selenium, total	mg/L	MW-2R	11/09/2016	ND	0.0200	0.0050	**
Selenium, total	mg/L	MW-2R	12/12/2016	ND	0.0050		
Selenium, total	mg/L	MW-2R	03/16/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	03/17/2017	ND	0.0050		

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 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
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Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Selenium, total	mg/L	MW-2R	03/24/2017	ND	0.0200	0.0050	**
Selenium, total	mg/L	MW-2R	04/20/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	04/24/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	05/16/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	06/20/2017		0.0059		
Selenium, total	mg/L	MW-2R	08/08/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	05/09/2018	ND	0.0050		
Selenium, total	mg/L	MW-2R	09/12/2018	ND	0.0050		
Selenium, total	mg/L	MW-2R	05/16/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-2R	11/06/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-2R	05/13/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-2R	11/03/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-3	09/28/2016		0.0026		
Selenium, total	mg/L	MW-3	10/19/2016	ND	0.0100	0.0050	**
Selenium, total	mg/L	MW-3	11/09/2016		0.0023		
Selenium, total	mg/L	MW-3	12/12/2016	ND	0.0050		
Selenium, total	mg/L	MW-3	02/05/2017	ND	0.0300	0.0050	**
Selenium, total	mg/L	MW-3	03/24/2017	ND	0.0200	0.0050	**
Selenium, total	mg/L	MW-3	05/25/2017	ND	0.0050		
Selenium, total	mg/L	MW-3	06/20/2017		0.0052		
Selenium, total	mg/L	MW-3	08/08/2017	ND	0.0050		
Selenium, total	mg/L	MW-3	05/09/2018	ND	0.0050		
Selenium, total	mg/L	MW-3	09/12/2018	ND	0.0050		
Selenium, total	mg/L	MW-3	05/16/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-3	11/06/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-3	05/13/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-3	11/03/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-4C	09/28/2016	ND	0.0016	0.0050	**
Selenium, total	mg/L	MW-4C	10/19/2016	ND	0.0100	0.0050	**
Selenium, total	mg/L	MW-4C	11/09/2016	ND	0.0200	0.0050	**
Selenium, total	mg/L	MW-4C	12/12/2016	ND	0.0050		
Selenium, total	mg/L	MW-4C	02/05/2017	ND	0.0300	0.0050	**
Selenium, total	mg/L	MW-4C	03/25/2017	ND	0.0200	0.0050	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Selenium, total	mg/L	MW-4C	05/25/2017	ND	0.0050		
Selenium, total	mg/L	MW-4C	06/20/2017	ND	0.0050		
Selenium, total	mg/L	MW-4C	08/08/2017	ND	0.0050		
Selenium, total	mg/L	MW-4C	05/09/2018	ND	0.0050		
Selenium, total	mg/L	MW-4C	09/12/2018	ND	0.0050		
Selenium, total	mg/L	MW-4C	05/16/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-4C	11/03/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	09/28/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-2R	10/19/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-2R	11/09/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-2R	12/12/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-2R	03/16/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	03/17/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	03/24/2017	ND	0.0200	0.0050	**
Thallium, total	mg/L	MW-2R	04/20/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	04/24/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	05/16/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	06/20/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	08/08/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	05/09/2018	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	09/12/2018		0.0023		
Thallium, total	mg/L	MW-2R	05/16/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	11/06/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	05/13/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	11/03/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	09/28/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-3	10/19/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-3	11/09/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-3	12/12/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-3	02/05/2017	ND	0.0020	0.0050	**
Thallium, total	mg/L	MW-3	03/24/2017	ND	0.0200	0.0050	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Thallium, total	mg/L	MW-3	05/25/2017	ND	0.0050		
Thallium, total	mg/L	MW-3	06/20/2017	ND	0.0050		
Thallium, total	mg/L	MW-3	08/08/2017	ND	0.0050		
Thallium, total	mg/L	MW-3	05/09/2018	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	09/12/2018	ND	0.0006	0.0050	**
Thallium, total	mg/L	MW-3	05/16/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	11/06/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	05/13/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	11/03/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	09/28/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-4C	10/19/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-4C	11/09/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-4C	12/12/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-4C	02/05/2017	ND	0.0020	0.0050	**
Thallium, total	mg/L	MW-4C	03/25/2017	ND	0.0200	0.0050	**
Thallium, total	mg/L	MW-4C	05/25/2017	ND	0.0050		
Thallium, total	mg/L	MW-4C	06/20/2017	ND	0.0050		
Thallium, total	mg/L	MW-4C	08/08/2017	ND	0.0050		
Thallium, total	mg/L	MW-4C	05/09/2018	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	09/12/2018	ND	0.0006	0.0050	**
Thallium, total	mg/L	MW-4C	05/16/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	11/03/2020	ND	0.0010	0.0050	**
Total Radium	pCi/L	MW-2R	03/16/2017	ND	0.5500	1.0000	**
Total Radium	pCi/L	MW-2R	03/17/2017		2.2800		
Total Radium	pCi/L	MW-2R	03/24/2017		1.3600		
Total Radium	pCi/L	MW-2R	04/20/2017		1.3800		
Total Radium	pCi/L	MW-2R	04/24/2017		1.2000		
Total Radium	pCi/L	MW-2R	05/16/2017		0.9700		
Total Radium	pCi/L	MW-2R	06/20/2017		3.1200		
Total Radium	pCi/L	MW-2R	08/08/2017		0.8900		
Total Radium	pCi/L	MW-2R	05/09/2018		2.2000		

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 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Total Radium	pCi/L	MW-2R	09/12/2018	ND	1.0000		
Total Radium	pCi/L	MW-2R	05/16/2019		1.1900		
Total Radium	pCi/L	MW-2R	11/06/2019		0.8510		
Total Radium	pCi/L	MW-2R	05/13/2020		1.0100		
Total Radium	pCi/L	MW-2R	11/03/2020	ND	1.6200	1.0000	**
Total Radium	pCi/L	MW-3	09/28/2016		1.4000		
Total Radium	pCi/L	MW-3	10/19/2016		2.5000		
Total Radium	pCi/L	MW-3	11/09/2016		1.7700		
Total Radium	pCi/L	MW-3	12/12/2016		2.0800		
Total Radium	pCi/L	MW-3	02/05/2017		1.7000		
Total Radium	pCi/L	MW-3	03/24/2017	ND	0.6000	1.0000	**
Total Radium	pCi/L	MW-3	03/25/2017	ND	0.5000	1.0000	**
Total Radium	pCi/L	MW-3	06/20/2017		0.9600		
Total Radium	pCi/L	MW-3	08/08/2017		2.2000		
Total Radium	pCi/L	MW-3	05/09/2018		2.0700		
Total Radium	pCi/L	MW-3	09/12/2018	ND	1.0000		
Total Radium	pCi/L	MW-3	05/16/2019		0.7450		
Total Radium	pCi/L	MW-3	11/06/2019		4.4000		
Total Radium	pCi/L	MW-3	05/13/2020		1.8000		
Total Radium	pCi/L	MW-3	11/03/2020		0.7770		
Total Radium	pCi/L	MW-4C	09/28/2016		2.1000		
Total Radium	pCi/L	MW-4C	10/19/2016		1.1000		
Total Radium	pCi/L	MW-4C	11/09/2016		0.8600		
Total Radium	pCi/L	MW-4C	12/12/2016		2.2800		
Total Radium	pCi/L	MW-4C	02/05/2017		2.5200		
Total Radium	pCi/L	MW-4C	03/25/2017		1.4000		
Total Radium	pCi/L	MW-4C	06/20/2017		3.0300		
Total Radium	pCi/L	MW-4C	08/08/2017		2.0300		
Total Radium	pCi/L	MW-4C	05/09/2018	ND	1.0000		
Total Radium	pCi/L	MW-4C	09/12/2018	ND	1.0000		
Total Radium	pCi/L	MW-4C	05/16/2019		0.7880		
Total Radium	pCi/L	MW-4C	11/06/2019	ND	1.3700	1.0000	**
Total Radium	pCi/L	MW-4C	05/13/2020	ND	1.9900	1.0000	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
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Table 1
Upgradient Data

Constituent	Units	Well	Date	Result	Adjusted
Total Radium	pCi/L	MW-4C	11/03/2020	1.2200	

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	mg/L	AP-1R	11/09/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-2A	11/09/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-2BO	11/09/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-3	11/07/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-3A	11/07/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-4A	11/07/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-4B	11/07/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-4I	11/07/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-5	11/07/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-5A	11/07/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-6A	11/07/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-6B	11/07/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-7	11/05/2020	ND	0.0010		0.0060
Antimony, total	mg/L	AP-8	11/05/2020	ND	0.0010		0.0060
Arsenic, total	mg/L	AP-1R	11/09/2020		0.0019		0.0205
Arsenic, total	mg/L	AP-2A	11/09/2020		0.0046		0.0205
Arsenic, total	mg/L	AP-2BO	11/09/2020		0.0027		0.0205
Arsenic, total	mg/L	AP-3	11/07/2020	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-3A	11/07/2020		0.0016		0.0205
Arsenic, total	mg/L	AP-4A	11/07/2020	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-4B	11/07/2020	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-4I	11/07/2020	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-5	11/07/2020	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-5A	11/07/2020	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-6A	11/07/2020	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-6B	11/07/2020	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-7	11/05/2020	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-8	11/05/2020		0.0055		0.0205
Barium, total	mg/L	AP-1R	11/09/2020		0.0576		0.0720
Barium, total	mg/L	AP-2A	11/09/2020		0.0436		0.0720
Barium, total	mg/L	AP-2BO	11/09/2020		0.0234		0.0720

* - Current value failed - awaiting verification.
 ** - Current value passed - previous exceedance not verified.
 *** - Current value failed - exceedance verified.
 **** - Current value passed - awaiting one more verification.
 ***** - Insufficient background data to compute prediction limit.
 ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Barium, total	mg/L	AP-3	11/07/2020		0.0283		0.0720
Barium, total	mg/L	AP-3A	11/07/2020		0.0352		0.0720
Barium, total	mg/L	AP-4A	11/07/2020		0.0322		0.0720
Barium, total	mg/L	AP-4B	11/07/2020		0.0708	**	0.0720
Barium, total	mg/L	AP-4I	11/07/2020		0.0306		0.0720
Barium, total	mg/L	AP-5	11/07/2020		0.0353		0.0720
Barium, total	mg/L	AP-5A	11/07/2020		0.0308		0.0720
Barium, total	mg/L	AP-6A	11/07/2020		0.0277		0.0720
Barium, total	mg/L	AP-6B	11/07/2020		0.0304		0.0720
Barium, total	mg/L	AP-7	11/05/2020		0.0678		0.0720
Barium, total	mg/L	AP-8	11/05/2020		0.0146		0.0720
Beryllium, total	mg/L	AP-1R	11/09/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-2A	11/09/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-2BO	11/09/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-3	11/07/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-3A	11/07/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-4A	11/07/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-4B	11/07/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-4I	11/07/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-5	11/07/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-5A	11/07/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-6A	11/07/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-6B	11/07/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-7	11/05/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-8	11/05/2020		0.0022	***	0.0010
Cadmium, total	mg/L	AP-1R	11/09/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-2A	11/09/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-2BO	11/09/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-3	11/07/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-3A	11/07/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-4A	11/07/2020	ND	0.0020		0.0020

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 ** - Current value passed - previous exceedance not verified.
 *** - Current value failed - exceedance verified.
 **** - Current value passed - awaiting one more verification.
 ***** - Insufficient background data to compute prediction limit.
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Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Cadmium, total	mg/L	AP-4B	11/07/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-4I	11/07/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-5	11/07/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-5A	11/07/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-6A	11/07/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-6B	11/07/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-7	11/05/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-8	11/05/2020		0.0067	***	0.0020
Chromium, total	mg/L	AP-1R	05/12/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-2A	05/11/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-2BO	05/11/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-3	05/11/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-3A	05/11/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-4A	05/07/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-4B	05/07/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-4I	05/07/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-5	05/07/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-5A	05/07/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-6A	05/07/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-6B	05/07/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-7	05/12/2020	ND	0.0100		0.0100
Chromium, total	mg/L	AP-8	05/11/2020	ND	0.0100		0.0100
Cobalt, total	mg/L	AP-1R	11/09/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-2A	11/09/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-2BO	11/09/2020		0.0030		0.0200
Cobalt, total	mg/L	AP-3	11/07/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-3A	11/07/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-4A	11/07/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-4B	11/07/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-4I	11/07/2020		0.0021		0.0200
Cobalt, total	mg/L	AP-5	11/07/2020		0.0025		0.0200

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 ** - Current value passed - previous exceedance not verified.
 *** - Current value failed - exceedance verified.
 **** - Current value passed - awaiting one more verification.
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Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Cobalt, total	mg/L	AP-5A	11/07/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-6A	11/07/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-6B	11/07/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-7	11/05/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-8	11/05/2020		0.3720	***	0.0200
Fluoride	mg/L	AP-1R	11/09/2020	ND	0.1000		5.0000
Fluoride	mg/L	AP-2A	11/09/2020		0.1800		5.0000
Fluoride	mg/L	AP-2BO	11/09/2020	ND	0.1000		5.0000
Fluoride	mg/L	AP-3	11/07/2020	ND	0.1000		5.0000
Fluoride	mg/L	AP-3A	11/07/2020		0.1200		5.0000
Fluoride	mg/L	AP-4A	11/07/2020		0.1100		5.0000
Fluoride	mg/L	AP-4B	11/07/2020	ND	0.1000		5.0000
Fluoride	mg/L	AP-4I	11/07/2020		0.2000		5.0000
Fluoride	mg/L	AP-5	11/07/2020		0.1900		5.0000
Fluoride	mg/L	AP-5A	11/07/2020	ND	0.1000		5.0000
Fluoride	mg/L	AP-6A	11/07/2020	ND	0.1000		5.0000
Fluoride	mg/L	AP-6B	11/07/2020	ND	0.1000		5.0000
Fluoride	mg/L	AP-7	11/05/2020		0.1600		5.0000
Fluoride	mg/L	AP-8	11/05/2020		0.7600		5.0000
Lead, total	mg/L	AP-1R	11/09/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-2A	11/09/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-2BO	11/09/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-3	11/07/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-3A	11/07/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-4A	11/07/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-4B	11/07/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-4I	11/07/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-5	11/07/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-5A	11/07/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-6A	11/07/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-6B	11/07/2020	ND	0.0100		0.0478

* - Current value failed - awaiting verification.
 ** - Current value passed - previous exceedance not verified.
 *** - Current value failed - exceedance verified.
 **** - Current value passed - awaiting one more verification.
 ***** - Insufficient background data to compute prediction limit.
 ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Lead, total	mg/L	AP-7	11/05/2020	ND	0.0100		0.0478
Lead, total	mg/L	AP-8	11/05/2020	ND	0.0100		0.0478
Lithium, total	mg/L	AP-1R	11/09/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-2A	11/09/2020		0.0849		2.8089
Lithium, total	mg/L	AP-2BO	11/09/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-3	11/07/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-3A	11/07/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-4A	11/07/2020		0.0498		2.8089
Lithium, total	mg/L	AP-4B	11/07/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-4I	11/07/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-5	11/07/2020		0.0237		2.8089
Lithium, total	mg/L	AP-5A	11/07/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-6A	11/07/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-6B	11/07/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-7	11/05/2020	ND	0.0200		2.8089
Lithium, total	mg/L	AP-8	11/05/2020		0.0573		2.8089
Mercury, total	mg/L	AP-1R	05/12/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-2A	05/11/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-2BO	05/11/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-3	05/11/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-3A	05/11/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-4A	05/07/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-4B	05/07/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-4I	05/07/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-5	05/07/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-5A	05/07/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-6A	05/07/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-6B	05/07/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-7	05/12/2020	ND	0.0020		0.0004
Mercury, total	mg/L	AP-8	05/11/2020	ND	0.0020		0.0004
Molybdenum, total	mg/L	AP-1R	11/09/2020		0.0151		0.6600

* - Current value failed - awaiting verification.
 ** - Current value passed - previous exceedance not verified.
 *** - Current value failed - exceedance verified.
 **** - Current value passed - awaiting one more verification.
 ***** - Insufficient background data to compute prediction limit.
 ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Molybdenum, total	mg/L	AP-2A	11/09/2020		2.4300	***	0.6600
Molybdenum, total	mg/L	AP-2BO	11/09/2020		0.2350		0.6600
Molybdenum, total	mg/L	AP-3	11/07/2020	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-3A	11/07/2020		0.5990	**	0.6600
Molybdenum, total	mg/L	AP-4A	11/07/2020		0.2280		0.6600
Molybdenum, total	mg/L	AP-4B	11/07/2020	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-4I	11/07/2020		0.1820		0.6600
Molybdenum, total	mg/L	AP-5	11/07/2020		0.1310		0.6600
Molybdenum, total	mg/L	AP-5A	11/07/2020		0.2360		0.6600
Molybdenum, total	mg/L	AP-6A	11/07/2020	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-6B	11/07/2020	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-7	11/05/2020	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-8	11/05/2020	ND	0.0100		0.6600
Selenium, total	mg/L	AP-1R	11/09/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-2A	11/09/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-2BO	11/09/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-3	11/07/2020		0.0014		0.0059
Selenium, total	mg/L	AP-3A	11/07/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-4A	11/07/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-4B	11/07/2020		0.0066	***	0.0059
Selenium, total	mg/L	AP-4I	11/07/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-5	11/07/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-5A	11/07/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-6A	11/07/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-6B	11/07/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-7	11/05/2020	ND	0.0010		0.0059
Selenium, total	mg/L	AP-8	11/05/2020	ND	0.0010		0.0059
Thallium, total	mg/L	AP-1R	11/09/2020	ND	0.0010		0.0050
Thallium, total	mg/L	AP-2A	11/09/2020	ND	0.0010		0.0050
Thallium, total	mg/L	AP-2BO	11/09/2020	ND	0.0010		0.0050
Thallium, total	mg/L	AP-3	11/07/2020	ND	0.0010		0.0050

* - Current value failed - awaiting verification.
 ** - Current value passed - previous exceedance not verified.
 *** - Current value failed - exceedance verified.
 **** - Current value passed - awaiting one more verification.
 ***** - Insufficient background data to compute prediction limit.
 ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result	Pred. Limit
Thallium, total	mg/L	AP-3A	11/07/2020	ND	0.0010	0.0050
Thallium, total	mg/L	AP-4A	11/07/2020	ND	0.0010	0.0050
Thallium, total	mg/L	AP-4B	11/07/2020	ND	0.0010	0.0050
Thallium, total	mg/L	AP-4I	11/07/2020	ND	0.0010	0.0050
Thallium, total	mg/L	AP-5	11/07/2020	ND	0.0010	0.0050
Thallium, total	mg/L	AP-5A	11/07/2020	ND	0.0010	0.0050
Thallium, total	mg/L	AP-6A	11/07/2020	ND	0.0010	0.0050
Thallium, total	mg/L	AP-6B	11/07/2020	ND	0.0010	0.0050
Thallium, total	mg/L	AP-7	11/05/2020	ND	0.0010	0.0050
Thallium, total	mg/L	AP-8	11/05/2020	ND	0.0010	0.0050
Total Radium	pCi/L	AP-1R	11/09/2020	ND	1.6900	4.1261
Total Radium	pCi/L	AP-2A	11/09/2020		0.9990	4.1261
Total Radium	pCi/L	AP-2BO	11/09/2020		1.3500	4.1261
Total Radium	pCi/L	AP-3	11/07/2020	ND	1.2400	4.1261
Total Radium	pCi/L	AP-3A	11/07/2020		1.3500	4.1261
Total Radium	pCi/L	AP-4A	11/07/2020		1.7100	4.1261
Total Radium	pCi/L	AP-4B	11/07/2020		1.2700	4.1261
Total Radium	pCi/L	AP-4I	11/07/2020		2.1800	4.1261
Total Radium	pCi/L	AP-5	11/07/2020		1.4200	4.1261
Total Radium	pCi/L	AP-5A	11/07/2020		1.1500	4.1261
Total Radium	pCi/L	AP-6A	11/07/2020		1.2700	4.1261
Total Radium	pCi/L	AP-6B	11/07/2020	ND	1.6000	4.1261
Total Radium	pCi/L	AP-7	11/05/2020		2.0300	4.1261
Total Radium	pCi/L	AP-8	11/05/2020		1.4400	4.1261

* - Current value failed - awaiting verification.
 ** - Current value passed - previous exceedance not verified.
 *** - Current value failed - exceedance verified.
 **** - Current value passed - awaiting one more verification.
 ***** - Insufficient background data to compute prediction limit.
 ND = Not Detected, Result = detection limit.

Table 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient			Downgradient		
	Detect	N	Proportion	Detect	N	Proportion
Antimony, total	1	48	0.021	7	210	0.033
Arsenic, total	15	46	0.326	59	210	0.281
Barium, total	48	48	1.000	209	210	0.995
Beryllium, total	0	48	0.000	7	210	0.033
Cadmium, total	0	48	0.000	15	210	0.071
Chromium, total	0	39	0.000	1	168	0.006
Cobalt, total	10	48	0.208	32	210	0.152
Fluoride	10	48	0.208	32	210	0.152
Lead, total	1	45	0.022	4	196	0.020
Lithium, total	48	48	1.000	49	210	0.233
Mercury, total	1	39	0.026	2	168	0.012
Molybdenum, total	18	48	0.375	106	210	0.505
Selenium, total	4	48	0.083	30	210	0.143
Thallium, total	1	48	0.021	0	210	0.000
Total Radium	33	43	0.767	166	209	0.794

N = Total number of measurements in all wells.
 Detect = Total number of detections in all wells.
 Proportion = Detect/N.

Table 4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value	Dist Form	Model Type
Antimony, total	1	48	0.021	7.870	7.870					2.326	non-norm	nonpar
Arsenic, total	15	46	0.326	7.265	7.673					2.326	non-norm	nonpar
Barium, total	48	48	1.000	2.543	2.283					2.326	lognor	lognor
Beryllium, total	0	48	0.000	7.870	7.870					2.326	non-norm	nonpar
Cadmium, total	0	48	0.000	7.870	7.870					2.326	non-norm	nonpar
Chromium, total	0	39	0.000	6.833	6.833					2.326	non-norm	nonpar
Cobalt, total	10	48	0.208	10.350	10.229					2.326	non-norm	nonpar
Fluoride	10	48	0.208	10.419	10.186					2.326	non-norm	nonpar
Lead, total	1	45	0.022	16.858	16.858					2.326	non-norm	nonpar
Lithium, total	48	48	1.000	0.066	0.721					2.326	normal	normal
Mercury, total	1	39	0.026	17.264	17.264					2.326	non-norm	nonpar
Molybdenum, total	18	48	0.375	6.871	6.806					2.326	non-norm	nonpar
Selenium, total	4	48	0.083	9.004	9.056					2.326	non-norm	nonpar
Thallium, total	1	48	0.021	7.870	7.870					2.326	non-norm	nonpar
Total Radium	33	43	0.767	4.416	2.258					2.326	lognor	lognor

* - Distribution override for that constituent.
 Fit to distribution is confirmed if G <= critical value.
 Model type may not match distributional form when detection frequency < 50%.

Table 5

Summary Statistics and Prediction Limits

Constituent	Units	Detect	N	Mean	SD	alpha	Factor	Pred Limit	Type		Conf
Antimony, total	mg/L	1	48					0.0060	nonpar	***	0.99
Arsenic, total	mg/L	15	46					0.0205	nonpar		0.99
Barium, total	mg/L	48	48	-3.3310	0.2877	0.0100	2.4332	0.0720	lognor		
Beryllium, total	mg/L	0	48					0.0010	nonpar	***	0.99
Cadmium, total	mg/L	0	48					0.0020	nonpar	***	0.99
Chromium, total	mg/L	0	39					0.0100	nonpar	***	0.98
Cobalt, total	mg/L	10	48					0.0200	nonpar	***	0.99
Fluoride	mg/L	10	48					5.0000	nonpar	***	0.99
Lead, total	mg/L	1	45					0.0478	nonpar		0.99
Lithium, total	mg/L	48	48	0.9854	0.7494	0.0100	2.4332	2.8089	normal		
Mercury, total	mg/L	1	39					0.0004	nonpar		0.98
Molybdenum, total	mg/L	18	48					0.6600	nonpar		0.99
Selenium, total	mg/L	4	48					0.0059	nonpar		0.99
Thallium, total	mg/L	1	48					0.0050	nonpar	***	0.99
Total Radium	pCi/L	33	43	0.3272	0.4456	0.0100	2.4463	4.1261	lognor		

Conf = confidence level for passing initial test or one verification resample at all downgradient wells for a single constituent (nonparametric test only).

* - Insufficient Data.

** - Calculated limit raised to Manual Reporting Limit.

*** - Nonparametric limit based on ND value.

For transformed data, mean and SD in transformed units and prediction limit in original units.

All sample sizes and statistics are based on outlier free data.

For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table 6
Dixon's Test Outliers
1% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Arsenic, total	mg/L	MW-2R	03/24/2017	0.0400	< 0.0400	09/28/2016-11/03/2020	18	0.5798
Arsenic, total	mg/L	MW-2R	05/09/2018	0.0310		09/28/2016-11/03/2020	18	0.5798

N = Total number of independent measurements in background at each well.

Date Range = Dates of the first and last measurements included in background at each well.

Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Table 7

**Historical Downgradient Data for Constituent-Well Combinations
that Failed the Current Statistical Evaluation or
are in Verification Resampling Mode**

Constituent	Units	Well	Date		Result	Pred. Limit
Barium, total	mg/L	AP-4B	09/29/2016		0.0620	0.0720
Barium, total	mg/L	AP-4B	10/18/2016		0.0560	0.0720
Barium, total	mg/L	AP-4B	11/08/2016		0.0610	0.0720
Barium, total	mg/L	AP-4B	12/13/2016		0.0450	0.0720
Barium, total	mg/L	AP-4B	02/04/2017		0.0780 *	0.0720
Barium, total	mg/L	AP-4B	03/23/2017		0.0630	0.0720
Barium, total	mg/L	AP-4B	05/24/2017		0.0530	0.0720
Barium, total	mg/L	AP-4B	06/21/2017		0.0510	0.0720
Barium, total	mg/L	AP-4B	08/09/2017		0.0740 *	0.0720
Barium, total	mg/L	AP-4B	05/08/2018		0.0810 *	0.0720
Barium, total	mg/L	AP-4B	09/30/2018		0.0440	0.0720
Barium, total	mg/L	AP-4B	05/14/2019		0.0875 *	0.0720
Barium, total	mg/L	AP-4B	11/04/2019		0.0685	0.0720
Barium, total	mg/L	AP-4B	05/07/2020		0.1070 *	0.0720
Barium, total	mg/L	AP-4B	11/07/2020		0.0708	0.0720
Beryllium, total	mg/L	AP-8	09/28/2016	ND	0.0100	0.0010
Beryllium, total	mg/L	AP-8	10/19/2016	ND	0.0100	0.0010
Beryllium, total	mg/L	AP-8	11/09/2016	ND	0.0100	0.0010
Beryllium, total	mg/L	AP-8	12/12/2016	ND	0.0100	0.0010
Beryllium, total	mg/L	AP-8	02/05/2017	ND	0.0040	0.0010
Beryllium, total	mg/L	AP-8	03/25/2017	ND	0.0040	0.0010
Beryllium, total	mg/L	AP-8	05/24/2017	ND	0.0020	0.0010
Beryllium, total	mg/L	AP-8	06/20/2017		0.0021 *	0.0010
Beryllium, total	mg/L	AP-8	08/08/2017		0.0024 *	0.0010
Beryllium, total	mg/L	AP-8	05/09/2018	ND	0.0050	0.0010
Beryllium, total	mg/L	AP-8	09/30/2018		0.0035 *	0.0010
Beryllium, total	mg/L	AP-8	05/15/2019		0.0019 *	0.0010
Beryllium, total	mg/L	AP-8	11/04/2019		0.0020 *	0.0010
Beryllium, total	mg/L	AP-8	05/11/2020		0.0015 *	0.0010
Beryllium, total	mg/L	AP-8	11/05/2020		0.0022 *	0.0010

* - Significantly increased over background.
 ** - Detect at limit for 100% NDs in background (NPPL only).
 *** - Manual exclusion.
 ND = Not Detected, Result = detection limit.

Table 7

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Cadmium, total	mg/L	AP-8	09/28/2016		0.0160	*	0.0020
Cadmium, total	mg/L	AP-8	10/19/2016		0.0130	*	0.0020
Cadmium, total	mg/L	AP-8	11/09/2016		0.0120	*	0.0020
Cadmium, total	mg/L	AP-8	12/12/2016		0.0180	*	0.0020
Cadmium, total	mg/L	AP-8	02/05/2017		0.0150	*	0.0020
Cadmium, total	mg/L	AP-8	03/25/2017		0.0091	*	0.0020
Cadmium, total	mg/L	AP-8	05/24/2017		0.0068	*	0.0020
Cadmium, total	mg/L	AP-8	06/20/2017		0.0099	*	0.0020
Cadmium, total	mg/L	AP-8	08/08/2017		0.0110	*	0.0020
Cadmium, total	mg/L	AP-8	05/09/2018		0.0063	*	0.0020
Cadmium, total	mg/L	AP-8	09/30/2018		0.0140	*	0.0020
Cadmium, total	mg/L	AP-8	05/15/2019		0.0070	*	0.0020
Cadmium, total	mg/L	AP-8	11/04/2019		0.0086	*	0.0020
Cadmium, total	mg/L	AP-8	05/11/2020		0.0062	*	0.0020
Cadmium, total	mg/L	AP-8	11/05/2020		0.0067	*	0.0020
Cobalt, total	mg/L	AP-8	09/28/2016		0.4400	*	0.0200
Cobalt, total	mg/L	AP-8	10/19/2016		0.3700	*	0.0200
Cobalt, total	mg/L	AP-8	11/09/2016		0.4100	*	0.0200
Cobalt, total	mg/L	AP-8	12/12/2016		0.5000	*	0.0200
Cobalt, total	mg/L	AP-8	02/05/2017		0.5000	*	0.0200
Cobalt, total	mg/L	AP-8	03/25/2017		0.3500	*	0.0200
Cobalt, total	mg/L	AP-8	05/24/2017		0.2900	*	0.0200
Cobalt, total	mg/L	AP-8	06/20/2017		0.4000	*	0.0200
Cobalt, total	mg/L	AP-8	08/08/2017		0.4100	*	0.0200
Cobalt, total	mg/L	AP-8	05/09/2018		0.2600	*	0.0200
Cobalt, total	mg/L	AP-8	09/30/2018		0.4500	*	0.0200
Cobalt, total	mg/L	AP-8	05/15/2019		0.2950	*	0.0200
Cobalt, total	mg/L	AP-8	11/04/2019		0.3640	*	0.0200
Cobalt, total	mg/L	AP-8	05/11/2020		0.2580	*	0.0200
Cobalt, total	mg/L	AP-8	11/05/2020		0.3720	*	0.0200

* - Significantly increased over background.
 ** - Detect at limit for 100% NDs in background (NPPL only).
 *** - Manual exclusion.
 ND = Not Detected, Result = detection limit.

Table 7

**Historical Downgradient Data for Constituent-Well Combinations
that Failed the Current Statistical Evaluation or
are in Verification Resampling Mode**

Constituent	Units	Well	Date		Result		Pred. Limit
Molybdenum, total	mg/L	AP-2A	09/28/2016		2.6000	*	0.6600
Molybdenum, total	mg/L	AP-2A	10/19/2016		2.7000	*	0.6600
Molybdenum, total	mg/L	AP-2A	11/09/2016		2.7000	*	0.6600
Molybdenum, total	mg/L	AP-2A	12/12/2016		2.1000	*	0.6600
Molybdenum, total	mg/L	AP-2A	02/05/2017		3.0000	*	0.6600
Molybdenum, total	mg/L	AP-2A	03/24/2017		2.7000	*	0.6600
Molybdenum, total	mg/L	AP-2A	05/24/2017		2.9000	*	0.6600
Molybdenum, total	mg/L	AP-2A	06/21/2017		2.8000	*	0.6600
Molybdenum, total	mg/L	AP-2A	08/10/2017		2.8000	*	0.6600
Molybdenum, total	mg/L	AP-2A	05/09/2018		2.1000	*	0.6600
Molybdenum, total	mg/L	AP-2A	09/30/2018		2.3000	*	0.6600
Molybdenum, total	mg/L	AP-2A	05/15/2019		2.2000	*	0.6600
Molybdenum, total	mg/L	AP-2A	11/05/2019		2.6000	*	0.6600
Molybdenum, total	mg/L	AP-2A	05/11/2020		2.6500	*	0.6600
Molybdenum, total	mg/L	AP-2A	11/09/2020		2.4300	*	0.6600
Molybdenum, total	mg/L	AP-3A	09/28/2016		1.0000	*	0.6600
Molybdenum, total	mg/L	AP-3A	10/18/2016		1.1000	*	0.6600
Molybdenum, total	mg/L	AP-3A	11/08/2016		1.1000	*	0.6600
Molybdenum, total	mg/L	AP-3A	12/13/2016		0.8200	*	0.6600
Molybdenum, total	mg/L	AP-3A	02/04/2017		1.0000	*	0.6600
Molybdenum, total	mg/L	AP-3A	03/23/2017		1.0000	*	0.6600
Molybdenum, total	mg/L	AP-3A	05/24/2017		0.9900	*	0.6600
Molybdenum, total	mg/L	AP-3A	06/21/2017		0.9500	*	0.6600
Molybdenum, total	mg/L	AP-3A	08/09/2017		1.1000	*	0.6600
Molybdenum, total	mg/L	AP-3A	05/08/2018		0.9600	*	0.6600
Molybdenum, total	mg/L	AP-3A	09/30/2018		0.6300	*	0.6600
Molybdenum, total	mg/L	AP-3A	05/14/2019		0.9290	*	0.6600
Molybdenum, total	mg/L	AP-3A	11/04/2019		0.7020	*	0.6600
Molybdenum, total	mg/L	AP-3A	05/11/2020		0.8360	*	0.6600
Molybdenum, total	mg/L	AP-3A	11/07/2020		0.5990	*	0.6600

* - Significantly increased over background.
 ** - Detect at limit for 100% NDs in background (NPPL only).
 *** - Manual exclusion.
 ND = Not Detected, Result = detection limit.

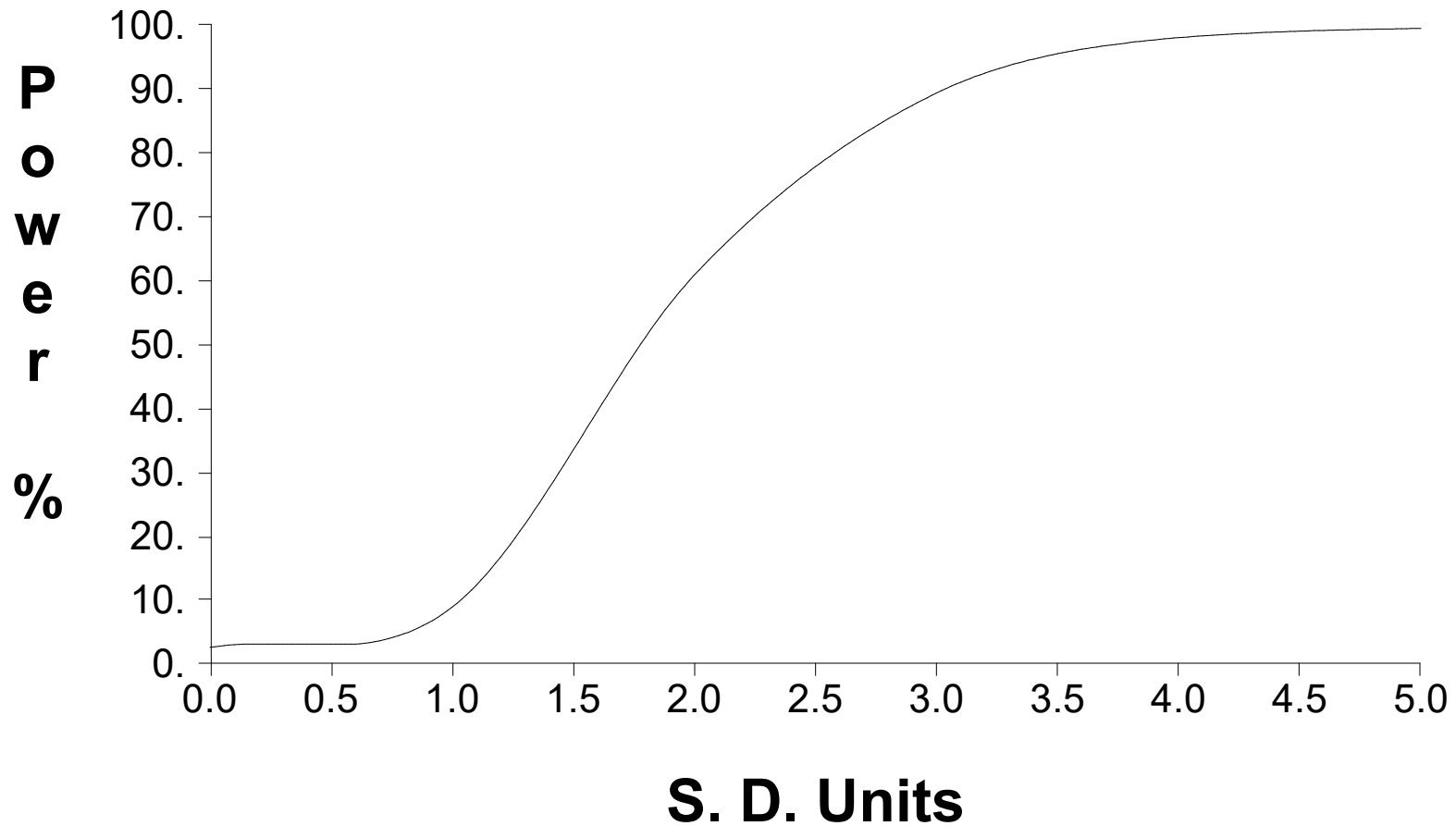
Table 7

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result	Pred. Limit
Selenium, total	mg/L	AP-4B	09/29/2016		0.0100 *	0.0059
Selenium, total	mg/L	AP-4B	10/18/2016		0.0110 *	0.0059
Selenium, total	mg/L	AP-4B	11/08/2016		0.0068 *	0.0059
Selenium, total	mg/L	AP-4B	12/13/2016		0.0064 *	0.0059
Selenium, total	mg/L	AP-4B	02/04/2017	ND	0.0300	0.0059
Selenium, total	mg/L	AP-4B	03/23/2017		0.0074 *	0.0059
Selenium, total	mg/L	AP-4B	05/24/2017		0.0082 *	0.0059
Selenium, total	mg/L	AP-4B	06/21/2017		0.0071 *	0.0059
Selenium, total	mg/L	AP-4B	08/09/2017		0.0063 *	0.0059
Selenium, total	mg/L	AP-4B	05/08/2018		0.0091 *	0.0059
Selenium, total	mg/L	AP-4B	09/30/2018		0.0062 *	0.0059
Selenium, total	mg/L	AP-4B	05/14/2019		0.0097 *	0.0059
Selenium, total	mg/L	AP-4B	11/04/2019		0.0092 *	0.0059
Selenium, total	mg/L	AP-4B	05/07/2020		0.0072 *	0.0059
Selenium, total	mg/L	AP-4B	11/07/2020		0.0066 *	0.0059

* - Significantly increased over background.
 ** - Detect at limit for 100% NDs in background (NPPL only).
 *** - Manual exclusion.
 ND = Not Detected, Result = detection limit.

False Positive and False Negative Rates for Current Upgradient vs. Downgradient Monitoring Program



May 2021

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	mg/L	MW-2R	09/28/2016	ND	0.0001	0.0050	**
Antimony, total	mg/L	MW-2R	10/19/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-2R	11/09/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-2R	12/12/2016	ND	0.0050		
Antimony, total	mg/L	MW-2R	03/16/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-2R	03/17/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-2R	03/24/2017	ND	0.0240	0.0050	**
Antimony, total	mg/L	MW-2R	04/20/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-2R	04/24/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-2R	05/16/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-2R	06/20/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-2R	08/08/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-2R	05/09/2018	ND	0.0050		
Antimony, total	mg/L	MW-2R	09/12/2018	ND	0.0014	0.0050	**
Antimony, total	mg/L	MW-2R	05/16/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-2R	11/06/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-2R	05/13/2020	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-2R	11/03/2020	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-2R	05/05/2021	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-3	09/28/2016	ND	0.0001	0.0050	**
Antimony, total	mg/L	MW-3	10/19/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-3	11/09/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-3	12/12/2016	ND	0.0050		
Antimony, total	mg/L	MW-3	02/05/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-3	03/24/2017	ND	0.0240	0.0050	**
Antimony, total	mg/L	MW-3	05/25/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-3	06/20/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-3	08/08/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-3	05/09/2018	ND	0.0050		
Antimony, total	mg/L	MW-3	09/12/2018	ND	0.0014	0.0050	**
Antimony, total	mg/L	MW-3	05/16/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-3	11/06/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-3	05/13/2020	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-3	11/03/2020	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-3	05/05/2021	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-4C	09/28/2016		0.0002		
Antimony, total	mg/L	MW-4C	10/19/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-4C	11/09/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-4C	12/12/2016	ND	0.0050		
Antimony, total	mg/L	MW-4C	02/05/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-4C	03/25/2017	ND	0.0240	0.0050	**
Antimony, total	mg/L	MW-4C	05/25/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-4C	06/20/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-4C	08/08/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-4C	05/09/2018	ND	0.0050		
Antimony, total	mg/L	MW-4C	09/12/2018	ND	0.0014	0.0050	**
Antimony, total	mg/L	MW-4C	05/16/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-4C	11/03/2020	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-4C	05/05/2021	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-2R	09/28/2016		0.0043		
Arsenic, total	mg/L	MW-2R	10/19/2016	ND	0.0100		
Arsenic, total	mg/L	MW-2R	11/09/2016		0.0064		
Arsenic, total	mg/L	MW-2R	12/12/2016	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-2R	03/16/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	03/17/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	03/24/2017	ND	0.0400		*
Arsenic, total	mg/L	MW-2R	04/20/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	04/24/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	05/16/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	06/20/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	08/08/2017	ND	0.0100		
Arsenic, total	mg/L	MW-2R	05/09/2018		0.0310		*

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Arsenic, total	mg/L	MW-2R	09/12/2018		0.0110		
Arsenic, total	mg/L	MW-2R	05/16/2019		0.0083		
Arsenic, total	mg/L	MW-2R	11/06/2019		0.0105		
Arsenic, total	mg/L	MW-2R	05/13/2020		0.0147		
Arsenic, total	mg/L	MW-2R	11/03/2020		0.0089		
Arsenic, total	mg/L	MW-2R	05/05/2021		0.0062		
Arsenic, total	mg/L	MW-3	09/28/2016		0.0040		
Arsenic, total	mg/L	MW-3	10/19/2016	ND	0.0100		
Arsenic, total	mg/L	MW-3	11/09/2016		0.0074		
Arsenic, total	mg/L	MW-3	12/12/2016	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-3	02/05/2017	ND	0.0100		
Arsenic, total	mg/L	MW-3	03/24/2017	ND	0.0400	0.0100	**
Arsenic, total	mg/L	MW-3	05/25/2017	ND	0.0100		
Arsenic, total	mg/L	MW-3	06/20/2017	ND	0.0100		
Arsenic, total	mg/L	MW-3	08/08/2017	ND	0.0100		
Arsenic, total	mg/L	MW-3	05/09/2018	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-3	09/12/2018	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-3	05/16/2019		0.0129		
Arsenic, total	mg/L	MW-3	11/06/2019		0.0103		
Arsenic, total	mg/L	MW-3	05/13/2020		0.0162		
Arsenic, total	mg/L	MW-3	11/03/2020		0.0205		
Arsenic, total	mg/L	MW-3	05/05/2021		0.0170		
Arsenic, total	mg/L	MW-4C	09/28/2016		0.0024		
Arsenic, total	mg/L	MW-4C	10/19/2016	ND	0.0100		
Arsenic, total	mg/L	MW-4C	11/09/2016		0.0049		
Arsenic, total	mg/L	MW-4C	12/12/2016	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-4C	02/05/2017	ND	0.0100		
Arsenic, total	mg/L	MW-4C	03/25/2017	ND	0.0400	0.0100	**
Arsenic, total	mg/L	MW-4C	05/25/2017	ND	0.0100		
Arsenic, total	mg/L	MW-4C	06/20/2017	ND	0.0100		
Arsenic, total	mg/L	MW-4C	08/08/2017	ND	0.0100		
Arsenic, total	mg/L	MW-4C	05/09/2018	ND	0.0050	0.0100	**
Arsenic, total	mg/L	MW-4C	09/12/2018	ND	0.0012	0.0100	**
Arsenic, total	mg/L	MW-4C	05/16/2019	ND	0.0010	0.0100	**
Arsenic, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0100	**
Arsenic, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0100	**
Arsenic, total	mg/L	MW-4C	11/03/2020	ND	0.0010	0.0100	**
Arsenic, total	mg/L	MW-4C	05/05/2021	ND	0.0010	0.0100	**
Barium, total	mg/L	MW-2R	09/28/2016		0.0430		
Barium, total	mg/L	MW-2R	10/19/2016		0.0370		
Barium, total	mg/L	MW-2R	11/09/2016		0.0370		
Barium, total	mg/L	MW-2R	12/12/2016		0.0290		
Barium, total	mg/L	MW-2R	03/16/2017		0.0530		
Barium, total	mg/L	MW-2R	03/17/2017		0.0660		
Barium, total	mg/L	MW-2R	03/24/2017		0.0540		
Barium, total	mg/L	MW-2R	04/20/2017		0.0460		
Barium, total	mg/L	MW-2R	04/24/2017		0.0560		
Barium, total	mg/L	MW-2R	05/16/2017		0.0460		
Barium, total	mg/L	MW-2R	06/20/2017		0.0450		
Barium, total	mg/L	MW-2R	08/08/2017		0.0420		
Barium, total	mg/L	MW-2R	05/09/2018		0.0730		
Barium, total	mg/L	MW-2R	09/12/2018		0.0440		
Barium, total	mg/L	MW-2R	05/16/2019		0.0355		
Barium, total	mg/L	MW-2R	11/06/2019		0.0390		
Barium, total	mg/L	MW-2R	05/13/2020		0.0425		
Barium, total	mg/L	MW-2R	11/03/2020		0.0450		
Barium, total	mg/L	MW-2R	05/05/2021		0.0446		
Barium, total	mg/L	MW-3	09/28/2016		0.0320		
Barium, total	mg/L	MW-3	10/19/2016		0.0310		
Barium, total	mg/L	MW-3	11/09/2016		0.0360		
Barium, total	mg/L	MW-3	12/12/2016		0.0290		
Barium, total	mg/L	MW-3	02/05/2017		0.0370		
Barium, total	mg/L	MW-3	03/24/2017		0.0320		
Barium, total	mg/L	MW-3	05/25/2017		0.0360		

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium, total	mg/L	MW-3	06/20/2017		0.0360		
Barium, total	mg/L	MW-3	08/08/2017		0.0400		
Barium, total	mg/L	MW-3	05/09/2018		0.0380		
Barium, total	mg/L	MW-3	09/12/2018		0.0450		
Barium, total	mg/L	MW-3	05/16/2019		0.0286		
Barium, total	mg/L	MW-3	11/06/2019		0.0428		
Barium, total	mg/L	MW-3	05/13/2020		0.0437		
Barium, total	mg/L	MW-3	11/03/2020		0.0394		
Barium, total	mg/L	MW-3	05/05/2021		0.0373		
Barium, total	mg/L	MW-4C	09/28/2016		0.0270		
Barium, total	mg/L	MW-4C	10/19/2016		0.0280		
Barium, total	mg/L	MW-4C	11/09/2016		0.0320		
Barium, total	mg/L	MW-4C	12/12/2016		0.0260		
Barium, total	mg/L	MW-4C	02/05/2017		0.0300		
Barium, total	mg/L	MW-4C	03/25/2017		0.0250		
Barium, total	mg/L	MW-4C	05/25/2017		0.0280		
Barium, total	mg/L	MW-4C	06/20/2017		0.0270		
Barium, total	mg/L	MW-4C	08/08/2017		0.0270		
Barium, total	mg/L	MW-4C	05/09/2018		0.0140		
Barium, total	mg/L	MW-4C	09/12/2018		0.0290		
Barium, total	mg/L	MW-4C	05/16/2019		0.0262		
Barium, total	mg/L	MW-4C	11/06/2019		0.0291		
Barium, total	mg/L	MW-4C	05/13/2020		0.0283		
Barium, total	mg/L	MW-4C	11/03/2020		0.0307		
Barium, total	mg/L	MW-4C	05/05/2021		0.0286		
Beryllium, total	mg/L	MW-2R	09/28/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-2R	10/19/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-2R	11/09/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-2R	12/12/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-2R	03/16/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	03/17/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	03/24/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-2R	04/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	04/24/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	05/16/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	06/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	08/08/2017	ND	0.0010		
Beryllium, total	mg/L	MW-2R	05/09/2018	ND	0.0050	0.0010	**
Beryllium, total	mg/L	MW-2R	09/12/2018	ND	0.0007	0.0010	**
Beryllium, total	mg/L	MW-2R	05/16/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-2R	11/06/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-2R	05/13/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-2R	11/03/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-2R	05/05/2021	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-3	09/28/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-3	10/19/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-3	11/09/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-3	12/12/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-3	02/05/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-3	03/24/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-3	05/25/2017	ND	0.0010		
Beryllium, total	mg/L	MW-3	06/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-3	08/08/2017	ND	0.0010		
Beryllium, total	mg/L	MW-3	05/09/2018	ND	0.0050	0.0010	**
Beryllium, total	mg/L	MW-3	09/12/2018	ND	0.0007	0.0010	**
Beryllium, total	mg/L	MW-3	05/16/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-3	11/06/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-3	05/13/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-3	11/03/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-3	05/05/2021	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-4C	09/28/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-4C	10/19/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-4C	11/09/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-4C	12/12/2016	ND	0.0100	0.0010	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium, total	mg/L	MW-4C	02/05/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-4C	03/25/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-4C	05/25/2017	ND	0.0010		
Beryllium, total	mg/L	MW-4C	06/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-4C	08/08/2017	ND	0.0010		
Beryllium, total	mg/L	MW-4C	05/09/2018	ND	0.0050	0.0010	**
Beryllium, total	mg/L	MW-4C	09/12/2018	ND	0.0007	0.0010	**
Beryllium, total	mg/L	MW-4C	05/16/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-4C	11/06/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-4C	05/13/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-4C	11/03/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-4C	05/05/2021	ND	0.0002	0.0010	**
Cadmium, total	mg/L	MW-2R	09/28/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-2R	10/19/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-2R	11/09/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-2R	12/12/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-2R	03/16/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	03/17/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	03/24/2017	ND	0.0040	0.0020	**
Cadmium, total	mg/L	MW-2R	04/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	04/24/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	05/16/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	06/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	08/08/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-2R	05/09/2018	ND	0.0050	0.0020	**
Cadmium, total	mg/L	MW-2R	09/12/2018	ND	0.0006	0.0020	**
Cadmium, total	mg/L	MW-2R	05/16/2019	ND	0.0020		
Cadmium, total	mg/L	MW-2R	11/06/2019	ND	0.0020		
Cadmium, total	mg/L	MW-2R	05/13/2020	ND	0.0020		
Cadmium, total	mg/L	MW-2R	11/03/2020	ND	0.0020		
Cadmium, total	mg/L	MW-2R	05/05/2021	ND	0.0020		
Cadmium, total	mg/L	MW-3	09/28/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-3	10/19/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-3	11/09/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-3	12/12/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-3	02/05/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-3	03/24/2017	ND	0.0040	0.0020	**
Cadmium, total	mg/L	MW-3	05/25/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-3	06/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-3	08/08/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-3	05/09/2018	ND	0.0050	0.0020	**
Cadmium, total	mg/L	MW-3	09/12/2018	ND	0.0006	0.0020	**
Cadmium, total	mg/L	MW-3	05/16/2019	ND	0.0020		
Cadmium, total	mg/L	MW-3	11/06/2019	ND	0.0020		
Cadmium, total	mg/L	MW-3	05/13/2020	ND	0.0020		
Cadmium, total	mg/L	MW-3	11/03/2020	ND	0.0020		
Cadmium, total	mg/L	MW-3	05/05/2021	ND	0.0020		
Cadmium, total	mg/L	MW-4C	09/28/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-4C	10/19/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-4C	11/09/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-4C	12/12/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-4C	02/05/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-4C	03/25/2017	ND	0.0040	0.0020	**
Cadmium, total	mg/L	MW-4C	05/25/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-4C	06/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-4C	08/08/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-4C	05/09/2018	ND	0.0050	0.0020	**
Cadmium, total	mg/L	MW-4C	09/12/2018	ND	0.0006	0.0020	**
Cadmium, total	mg/L	MW-4C	05/16/2019	ND	0.0020		
Cadmium, total	mg/L	MW-4C	11/06/2019	ND	0.0020		
Cadmium, total	mg/L	MW-4C	05/13/2020	ND	0.0020		
Cadmium, total	mg/L	MW-4C	11/03/2020	ND	0.0020		
Cadmium, total	mg/L	MW-4C	05/05/2021	ND	0.0020		
Chromium, total	mg/L	MW-2R	09/28/2016	ND	0.0100		

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Chromium, total	mg/L	MW-2R	10/19/2016	ND	0.0100		
Chromium, total	mg/L	MW-2R	11/09/2016	ND	0.0100		
Chromium, total	mg/L	MW-2R	12/12/2016	ND	0.0100		
Chromium, total	mg/L	MW-2R	03/16/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	03/17/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	03/24/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	04/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	04/24/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	05/16/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	06/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	08/08/2017	ND	0.0100		
Chromium, total	mg/L	MW-2R	05/09/2018	ND	0.0100		
Chromium, total	mg/L	MW-2R	05/16/2019	ND	0.0100		
Chromium, total	mg/L	MW-2R	05/13/2020	ND	0.0100		
Chromium, total	mg/L	MW-2R	05/05/2021	ND	0.0100		
Chromium, total	mg/L	MW-3	09/28/2016	ND	0.0100		
Chromium, total	mg/L	MW-3	10/19/2016	ND	0.0100		
Chromium, total	mg/L	MW-3	11/09/2016	ND	0.0100		
Chromium, total	mg/L	MW-3	12/12/2016	ND	0.0100		
Chromium, total	mg/L	MW-3	02/05/2017	ND	0.0100		
Chromium, total	mg/L	MW-3	03/24/2017	ND	0.0100		
Chromium, total	mg/L	MW-3	05/25/2017	ND	0.0100		
Chromium, total	mg/L	MW-3	06/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-3	08/08/2017	ND	0.0100		
Chromium, total	mg/L	MW-3	05/09/2018	ND	0.0100		
Chromium, total	mg/L	MW-3	05/16/2019	ND	0.0100		
Chromium, total	mg/L	MW-3	05/13/2020	ND	0.0100		
Chromium, total	mg/L	MW-3	05/05/2021	ND	0.0100		
Chromium, total	mg/L	MW-4C	09/28/2016	ND	0.0100		
Chromium, total	mg/L	MW-4C	10/19/2016	ND	0.0100		
Chromium, total	mg/L	MW-4C	11/09/2016	ND	0.0100		
Chromium, total	mg/L	MW-4C	12/12/2016	ND	0.0100		
Chromium, total	mg/L	MW-4C	02/05/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	03/25/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	05/25/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	06/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	08/08/2017	ND	0.0100		
Chromium, total	mg/L	MW-4C	05/09/2018	ND	0.0100		
Chromium, total	mg/L	MW-4C	05/16/2019	ND	0.0100		
Chromium, total	mg/L	MW-4C	05/13/2020	ND	0.0100		
Chromium, total	mg/L	MW-4C	05/05/2021	ND	0.0100		
Cobalt, total	mg/L	MW-2R	09/28/2016	ND	0.0200		
Cobalt, total	mg/L	MW-2R	10/19/2016	ND	0.0200		
Cobalt, total	mg/L	MW-2R	11/09/2016	ND	0.0200		
Cobalt, total	mg/L	MW-2R	12/12/2016	ND	0.0200		
Cobalt, total	mg/L	MW-2R	03/16/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	03/17/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	03/24/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	04/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	04/24/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	05/16/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	06/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	08/08/2017	ND	0.0200		
Cobalt, total	mg/L	MW-2R	05/09/2018	ND	0.0200		
Cobalt, total	mg/L	MW-2R	09/12/2018	ND	0.0036	0.0200	**
Cobalt, total	mg/L	MW-2R	05/16/2019		0.0033		
Cobalt, total	mg/L	MW-2R	11/06/2019		0.0031		
Cobalt, total	mg/L	MW-2R	05/13/2020		0.0028		
Cobalt, total	mg/L	MW-2R	11/03/2020		0.0031		
Cobalt, total	mg/L	MW-2R	05/05/2021		0.0029		
Cobalt, total	mg/L	MW-3	09/28/2016	ND	0.0200		
Cobalt, total	mg/L	MW-3	10/19/2016	ND	0.0200		
Cobalt, total	mg/L	MW-3	11/09/2016	ND	0.0200		
Cobalt, total	mg/L	MW-3	12/12/2016	ND	0.0200		

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cobalt, total	mg/L	MW-3	02/05/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	03/24/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	05/25/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	06/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	08/08/2017	ND	0.0200		
Cobalt, total	mg/L	MW-3	05/09/2018	ND	0.0200		
Cobalt, total	mg/L	MW-3	09/12/2018	ND	0.0036	0.0200	**
Cobalt, total	mg/L	MW-3	05/16/2019		0.0020		
Cobalt, total	mg/L	MW-3	11/06/2019		0.0026		
Cobalt, total	mg/L	MW-3	05/13/2020		0.0027		
Cobalt, total	mg/L	MW-3	11/03/2020		0.0021		
Cobalt, total	mg/L	MW-3	05/05/2021		0.0021		
Cobalt, total	mg/L	MW-4C	09/28/2016	ND	0.0200		
Cobalt, total	mg/L	MW-4C	10/19/2016	ND	0.0200		
Cobalt, total	mg/L	MW-4C	11/09/2016	ND	0.0200		
Cobalt, total	mg/L	MW-4C	12/12/2016	ND	0.0200		
Cobalt, total	mg/L	MW-4C	02/05/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	03/25/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	05/25/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	06/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	08/08/2017	ND	0.0200		
Cobalt, total	mg/L	MW-4C	05/09/2018	ND	0.0200		
Cobalt, total	mg/L	MW-4C	09/12/2018	ND	0.0036	0.0200	**
Cobalt, total	mg/L	MW-4C	05/16/2019		0.0010		
Cobalt, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-4C	11/03/2020		0.0010		
Cobalt, total	mg/L	MW-4C	05/05/2021		0.0012		
Fluoride	mg/L	MW-2R	09/28/2016	ND	5.0000	5.0000	**
Fluoride	mg/L	MW-2R	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-2R	11/09/2016	ND	5.0000	5.0000	**
Fluoride	mg/L	MW-2R	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-2R	03/16/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	03/17/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	03/24/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	04/20/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	04/24/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	05/16/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	05/09/2018	ND	5.0000		
Fluoride	mg/L	MW-2R	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-2R	05/16/2019	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-2R	11/06/2019	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-2R	05/13/2020		0.1200		
Fluoride	mg/L	MW-2R	11/03/2020		0.1200		
Fluoride	mg/L	MW-2R	05/05/2021	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-3	09/28/2016	ND	5.0000	5.0000	**
Fluoride	mg/L	MW-3	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-3	11/09/2016	ND	5.0000	5.0000	**
Fluoride	mg/L	MW-3	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-3	02/05/2017	ND	5.0000		
Fluoride	mg/L	MW-3	03/24/2017	ND	5.0000		
Fluoride	mg/L	MW-3	05/25/2017	ND	5.0000		
Fluoride	mg/L	MW-3	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-3	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-3	05/09/2018	ND	5.0000		
Fluoride	mg/L	MW-3	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-3	05/16/2019		0.1900		
Fluoride	mg/L	MW-3	11/06/2019		0.1300		
Fluoride	mg/L	MW-3	05/13/2020		0.3500		
Fluoride	mg/L	MW-3	11/03/2020		0.1700		
Fluoride	mg/L	MW-3	05/05/2021		0.1400		
Fluoride	mg/L	MW-4C	09/28/2016	ND	0.5000	5.0000	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Fluoride	mg/L	MW-4C	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-4C	11/09/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-4C	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-4C	02/05/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	03/25/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	05/25/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	05/09/2018	ND	5.0000		
Fluoride	mg/L	MW-4C	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-4C	05/16/2019		0.1100		
Fluoride	mg/L	MW-4C	11/06/2019		0.1200		
Fluoride	mg/L	MW-4C	05/13/2020		0.1900		
Fluoride	mg/L	MW-4C	11/03/2020		0.1200		
Fluoride	mg/L	MW-4C	05/05/2021	ND	0.1000	5.0000	**
Lead, total	mg/L	MW-2R	09/28/2016	ND	0.0100		
Lead, total	mg/L	MW-2R	10/19/2016	ND	0.0100		
Lead, total	mg/L	MW-2R	11/09/2016	ND	0.0100		
Lead, total	mg/L	MW-2R	12/12/2016	ND	0.0100		
Lead, total	mg/L	MW-2R	03/16/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	03/17/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	03/24/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	04/20/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	04/24/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	05/16/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	06/20/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	08/08/2017	ND	0.0100		
Lead, total	mg/L	MW-2R	05/09/2018	ND	0.0100		
Lead, total	mg/L	MW-2R	05/16/2019	ND	0.0100		
Lead, total	mg/L	MW-2R	11/06/2019	ND	0.0100		
Lead, total	mg/L	MW-2R	05/13/2020	ND	0.0100		
Lead, total	mg/L	MW-2R	11/03/2020	ND	0.0100		
Lead, total	mg/L	MW-2R	05/05/2021	ND	0.0100		
Lead, total	mg/L	MW-3	09/28/2016	ND	0.0100		
Lead, total	mg/L	MW-3	10/19/2016	ND	0.0100		
Lead, total	mg/L	MW-3	11/09/2016	ND	0.0100		
Lead, total	mg/L	MW-3	12/12/2016	ND	0.0100		
Lead, total	mg/L	MW-3	02/05/2017	ND	0.0100		
Lead, total	mg/L	MW-3	03/24/2017	ND	0.0100		
Lead, total	mg/L	MW-3	05/25/2017	ND	0.0100		
Lead, total	mg/L	MW-3	06/20/2017	ND	0.0100		
Lead, total	mg/L	MW-3	08/08/2017	ND	0.0100		
Lead, total	mg/L	MW-3	05/09/2018	ND	0.0100		
Lead, total	mg/L	MW-3	05/16/2019		0.0478		
Lead, total	mg/L	MW-3	11/06/2019	ND	0.0100		
Lead, total	mg/L	MW-3	05/13/2020	ND	0.0100		
Lead, total	mg/L	MW-3	11/03/2020	ND	0.0100		
Lead, total	mg/L	MW-3	05/05/2021	ND	0.0100		
Lead, total	mg/L	MW-4C	09/28/2016	ND	0.0100		
Lead, total	mg/L	MW-4C	10/19/2016	ND	0.0100		
Lead, total	mg/L	MW-4C	11/09/2016	ND	0.0100		
Lead, total	mg/L	MW-4C	12/12/2016	ND	0.0100		
Lead, total	mg/L	MW-4C	02/05/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	03/25/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	05/25/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	06/20/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	08/08/2017	ND	0.0100		
Lead, total	mg/L	MW-4C	05/09/2018	ND	0.0100		
Lead, total	mg/L	MW-4C	05/16/2019	ND	0.0100		
Lead, total	mg/L	MW-4C	11/06/2019	ND	0.0100		
Lead, total	mg/L	MW-4C	05/13/2020	ND	0.0100		
Lead, total	mg/L	MW-4C	11/03/2020	ND	0.0100		
Lead, total	mg/L	MW-4C	05/05/2021	ND	0.0100		
Lithium, total	mg/L	MW-2R	09/28/2016		1.1000		

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lithium, total	mg/L	MW-2R	10/19/2016		0.8200		
Lithium, total	mg/L	MW-2R	11/09/2016		0.7800		
Lithium, total	mg/L	MW-2R	12/12/2016		0.5100		
Lithium, total	mg/L	MW-2R	03/16/2017		0.2800		
Lithium, total	mg/L	MW-2R	03/17/2017		0.4100		
Lithium, total	mg/L	MW-2R	03/24/2017		0.5300		
Lithium, total	mg/L	MW-2R	04/20/2017		0.7800		
Lithium, total	mg/L	MW-2R	04/24/2017		0.8400		
Lithium, total	mg/L	MW-2R	05/16/2017		1.1000		
Lithium, total	mg/L	MW-2R	06/20/2017		1.1000		
Lithium, total	mg/L	MW-2R	08/08/2017		1.0000		
Lithium, total	mg/L	MW-2R	05/09/2018		0.9600		
Lithium, total	mg/L	MW-2R	09/12/2018		0.8000		
Lithium, total	mg/L	MW-2R	05/16/2019		0.6160		
Lithium, total	mg/L	MW-2R	11/06/2019		0.4950		
Lithium, total	mg/L	MW-2R	05/13/2020		0.6380		
Lithium, total	mg/L	MW-2R	11/03/2020		0.5220		
Lithium, total	mg/L	MW-2R	05/05/2021		0.8900		
Lithium, total	mg/L	MW-3	09/28/2016		2.0000		
Lithium, total	mg/L	MW-3	10/19/2016		1.9000		
Lithium, total	mg/L	MW-3	11/09/2016		2.2000		
Lithium, total	mg/L	MW-3	12/12/2016		2.2000		
Lithium, total	mg/L	MW-3	02/05/2017		2.1000		
Lithium, total	mg/L	MW-3	03/24/2017		2.1000		
Lithium, total	mg/L	MW-3	05/25/2017		2.0000		
Lithium, total	mg/L	MW-3	06/20/2017		2.0000		
Lithium, total	mg/L	MW-3	08/08/2017		1.6000		
Lithium, total	mg/L	MW-3	05/09/2018		2.6000		
Lithium, total	mg/L	MW-3	09/12/2018		2.6000		
Lithium, total	mg/L	MW-3	05/16/2019		1.2600		
Lithium, total	mg/L	MW-3	11/06/2019		1.9300		
Lithium, total	mg/L	MW-3	05/13/2020		1.5200		
Lithium, total	mg/L	MW-3	11/03/2020		1.7600		
Lithium, total	mg/L	MW-3	05/05/2021		1.8200		
Lithium, total	mg/L	MW-4C	09/28/2016		0.3100		
Lithium, total	mg/L	MW-4C	10/19/2016		0.2800		
Lithium, total	mg/L	MW-4C	11/09/2016		0.3300		
Lithium, total	mg/L	MW-4C	12/12/2016		0.2600		
Lithium, total	mg/L	MW-4C	02/05/2017		0.3100		
Lithium, total	mg/L	MW-4C	03/25/2017		0.2900		
Lithium, total	mg/L	MW-4C	05/25/2017		0.3300		
Lithium, total	mg/L	MW-4C	06/20/2017		0.2500		
Lithium, total	mg/L	MW-4C	08/08/2017		0.2300		
Lithium, total	mg/L	MW-4C	05/09/2018		0.2500		
Lithium, total	mg/L	MW-4C	09/12/2018		0.2800		
Lithium, total	mg/L	MW-4C	05/16/2019		0.3160		
Lithium, total	mg/L	MW-4C	11/06/2019		0.2840		
Lithium, total	mg/L	MW-4C	05/13/2020		0.2420		
Lithium, total	mg/L	MW-4C	11/03/2020		0.2870		
Lithium, total	mg/L	MW-4C	05/05/2021		0.3590		
Mercury, total	mg/L	MW-2R	09/28/2016	ND	0.0002		
Mercury, total	mg/L	MW-2R	10/19/2016	ND	0.0002		
Mercury, total	mg/L	MW-2R	11/09/2016	ND	0.0002		
Mercury, total	mg/L	MW-2R	12/12/2016	ND	0.0002		
Mercury, total	mg/L	MW-2R	03/16/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	03/17/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	03/24/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	04/20/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	04/24/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	05/16/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	06/20/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	08/08/2017	ND	0.0002		
Mercury, total	mg/L	MW-2R	05/09/2018	ND	0.0002		
Mercury, total	mg/L	MW-2R	05/16/2019	ND	0.0020	0.0002	**

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Mercury, total	mg/L	MW-2R	05/13/2020	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-2R	05/05/2021	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-3	09/28/2016	ND	0.0002		
Mercury, total	mg/L	MW-3	10/19/2016	ND	0.0002		
Mercury, total	mg/L	MW-3	11/09/2016	ND	0.0002		
Mercury, total	mg/L	MW-3	12/12/2016	ND	0.0002		
Mercury, total	mg/L	MW-3	02/05/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	03/24/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	05/25/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	06/20/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	08/08/2017	ND	0.0002		
Mercury, total	mg/L	MW-3	05/09/2018	ND	0.0002		
Mercury, total	mg/L	MW-3	05/16/2019	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-3	05/13/2020	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-3	05/05/2021	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-4C	09/28/2016	ND	0.0002		
Mercury, total	mg/L	MW-4C	10/19/2016	ND	0.0002		
Mercury, total	mg/L	MW-4C	11/09/2016	ND	0.0002		
Mercury, total	mg/L	MW-4C	12/12/2016	ND	0.0002		
Mercury, total	mg/L	MW-4C	02/05/2017	ND	0.0002		
Mercury, total	mg/L	MW-4C	03/25/2017	ND	0.0002		
Mercury, total	mg/L	MW-4C	05/25/2017	ND	0.0002		
Mercury, total	mg/L	MW-4C	06/20/2017		0.0004		
Mercury, total	mg/L	MW-4C	08/08/2017	ND	0.0002		
Mercury, total	mg/L	MW-4C	05/09/2018	ND	0.0002		
Mercury, total	mg/L	MW-4C	05/16/2019	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-4C	05/13/2020	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-4C	05/05/2021	ND	0.0020	0.0002	**
Molybdenum, total	mg/L	MW-2R	09/28/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	10/19/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	11/09/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	12/12/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	03/16/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	03/17/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	03/24/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	04/20/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	04/24/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	05/16/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	06/20/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	08/08/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	05/09/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	09/12/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-2R	05/16/2019		0.0112		
Molybdenum, total	mg/L	MW-2R	11/06/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-2R	05/13/2020		0.0117		
Molybdenum, total	mg/L	MW-2R	11/03/2020		0.0128		
Molybdenum, total	mg/L	MW-2R	05/05/2021		0.0103		
Molybdenum, total	mg/L	MW-3	09/28/2016		0.3500		
Molybdenum, total	mg/L	MW-3	10/19/2016		0.3300		
Molybdenum, total	mg/L	MW-3	11/09/2016		0.2800		
Molybdenum, total	mg/L	MW-3	12/12/2016		0.3900		
Molybdenum, total	mg/L	MW-3	02/05/2017		0.6600		
Molybdenum, total	mg/L	MW-3	03/24/2017		0.6600		
Molybdenum, total	mg/L	MW-3	05/25/2017		0.5700		
Molybdenum, total	mg/L	MW-3	06/20/2017		0.5100		
Molybdenum, total	mg/L	MW-3	08/08/2017		0.3300		
Molybdenum, total	mg/L	MW-3	05/09/2018		0.3900		
Molybdenum, total	mg/L	MW-3	09/12/2018		0.5200		
Molybdenum, total	mg/L	MW-3	05/16/2019		0.3380		
Molybdenum, total	mg/L	MW-3	11/06/2019		0.5080		
Molybdenum, total	mg/L	MW-3	05/13/2020		0.5290		
Molybdenum, total	mg/L	MW-3	11/03/2020		0.5490		
Molybdenum, total	mg/L	MW-3	05/05/2021		0.5320		
Molybdenum, total	mg/L	MW-4C	09/28/2016	ND	0.1000		

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 ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Molybdenum, total	mg/L	MW-4C	10/19/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	11/09/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	12/12/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	02/05/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	03/25/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	05/25/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	06/20/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	08/08/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	05/09/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	09/12/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-4C	05/16/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-4C	11/06/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-4C	05/13/2020	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-4C	11/03/2020	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-4C	05/05/2021	ND	0.0100	0.1000	**
Selenium, total	mg/L	MW-2R	09/28/2016	ND	0.0016	0.0050	**
Selenium, total	mg/L	MW-2R	10/19/2016	ND	0.0100	0.0050	**
Selenium, total	mg/L	MW-2R	11/09/2016	ND	0.0200	0.0050	**
Selenium, total	mg/L	MW-2R	12/12/2016	ND	0.0050		
Selenium, total	mg/L	MW-2R	03/16/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	03/17/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	03/24/2017	ND	0.0200	0.0050	**
Selenium, total	mg/L	MW-2R	04/20/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	04/24/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	05/16/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	06/20/2017		0.0059		
Selenium, total	mg/L	MW-2R	08/08/2017	ND	0.0050		
Selenium, total	mg/L	MW-2R	05/09/2018	ND	0.0050		
Selenium, total	mg/L	MW-2R	09/12/2018	ND	0.0050		
Selenium, total	mg/L	MW-2R	05/16/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-2R	11/06/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-2R	05/13/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-2R	11/03/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-2R	05/05/2021	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-3	09/28/2016		0.0026		
Selenium, total	mg/L	MW-3	10/19/2016	ND	0.0100	0.0050	**
Selenium, total	mg/L	MW-3	11/09/2016		0.0023		
Selenium, total	mg/L	MW-3	12/12/2016	ND	0.0050		
Selenium, total	mg/L	MW-3	02/05/2017	ND	0.0300	0.0050	**
Selenium, total	mg/L	MW-3	03/24/2017	ND	0.0200	0.0050	**
Selenium, total	mg/L	MW-3	05/25/2017	ND	0.0050		
Selenium, total	mg/L	MW-3	06/20/2017		0.0052		
Selenium, total	mg/L	MW-3	08/08/2017	ND	0.0050		
Selenium, total	mg/L	MW-3	05/09/2018	ND	0.0050		
Selenium, total	mg/L	MW-3	09/12/2018	ND	0.0050		
Selenium, total	mg/L	MW-3	05/16/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-3	11/06/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-3	05/13/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-3	11/03/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-3	05/05/2021	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-4C	09/28/2016	ND	0.0016	0.0050	**
Selenium, total	mg/L	MW-4C	10/19/2016	ND	0.0100	0.0050	**
Selenium, total	mg/L	MW-4C	11/09/2016	ND	0.0200	0.0050	**
Selenium, total	mg/L	MW-4C	12/12/2016	ND	0.0050		
Selenium, total	mg/L	MW-4C	02/05/2017	ND	0.0300	0.0050	**
Selenium, total	mg/L	MW-4C	03/25/2017	ND	0.0200	0.0050	**
Selenium, total	mg/L	MW-4C	05/25/2017	ND	0.0050		
Selenium, total	mg/L	MW-4C	06/20/2017	ND	0.0050		
Selenium, total	mg/L	MW-4C	08/08/2017	ND	0.0050		
Selenium, total	mg/L	MW-4C	05/09/2018	ND	0.0050		
Selenium, total	mg/L	MW-4C	09/12/2018	ND	0.0050		
Selenium, total	mg/L	MW-4C	05/16/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0050	**

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 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
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Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Selenium, total	mg/L	MW-4C	11/03/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-4C	05/05/2021	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	09/28/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-2R	10/19/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-2R	11/09/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-2R	12/12/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-2R	03/16/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	03/17/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	03/24/2017	ND	0.0200	0.0050	**
Thallium, total	mg/L	MW-2R	04/20/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	04/24/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	05/16/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	06/20/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	08/08/2017	ND	0.0050		
Thallium, total	mg/L	MW-2R	05/09/2018	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	09/12/2018		0.0023		
Thallium, total	mg/L	MW-2R	05/16/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	11/06/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	05/13/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	11/03/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-2R	05/05/2021	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	09/28/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-3	10/19/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-3	11/09/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-3	12/12/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-3	02/05/2017	ND	0.0020	0.0050	**
Thallium, total	mg/L	MW-3	03/24/2017	ND	0.0200	0.0050	**
Thallium, total	mg/L	MW-3	05/25/2017	ND	0.0050		
Thallium, total	mg/L	MW-3	06/20/2017	ND	0.0050		
Thallium, total	mg/L	MW-3	08/08/2017	ND	0.0050		
Thallium, total	mg/L	MW-3	05/09/2018	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	09/12/2018	ND	0.0006	0.0050	**
Thallium, total	mg/L	MW-3	05/16/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	11/06/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	05/13/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	11/03/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-3	05/05/2021	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	09/28/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-4C	10/19/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-4C	11/09/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-4C	12/12/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-4C	02/05/2017	ND	0.0020	0.0050	**
Thallium, total	mg/L	MW-4C	03/25/2017	ND	0.0200	0.0050	**
Thallium, total	mg/L	MW-4C	05/25/2017	ND	0.0050		
Thallium, total	mg/L	MW-4C	06/20/2017	ND	0.0050		
Thallium, total	mg/L	MW-4C	08/08/2017	ND	0.0050		
Thallium, total	mg/L	MW-4C	05/09/2018	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	09/12/2018	ND	0.0006	0.0050	**
Thallium, total	mg/L	MW-4C	05/16/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	11/06/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	05/13/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	11/03/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-4C	05/05/2021	ND	0.0010	0.0050	**
Total Radium	pCi/L	MW-2R	03/16/2017	ND	0.5500	1.0000	**
Total Radium	pCi/L	MW-2R	03/17/2017		2.2800		
Total Radium	pCi/L	MW-2R	03/24/2017		1.3600		
Total Radium	pCi/L	MW-2R	04/20/2017		1.3800		
Total Radium	pCi/L	MW-2R	04/24/2017		1.2000		
Total Radium	pCi/L	MW-2R	05/16/2017		0.9700		
Total Radium	pCi/L	MW-2R	06/20/2017		3.1200		
Total Radium	pCi/L	MW-2R	08/08/2017		0.8900		
Total Radium	pCi/L	MW-2R	05/09/2018		2.2000		
Total Radium	pCi/L	MW-2R	09/12/2018	ND	1.0000		
Total Radium	pCi/L	MW-2R	05/16/2019		1.1900		

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Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Total Radium	pCi/L	MW-2R	11/06/2019		0.8510		
Total Radium	pCi/L	MW-2R	05/13/2020		1.0100		
Total Radium	pCi/L	MW-2R	11/03/2020	ND	1.6200	1.0000	**
Total Radium	pCi/L	MW-2R	05/05/2021		1.5900		
Total Radium	pCi/L	MW-3	09/28/2016		1.4000		
Total Radium	pCi/L	MW-3	10/19/2016		2.5000		
Total Radium	pCi/L	MW-3	11/09/2016		1.7700		
Total Radium	pCi/L	MW-3	12/12/2016		2.0800		
Total Radium	pCi/L	MW-3	02/05/2017		1.7000		
Total Radium	pCi/L	MW-3	03/24/2017	ND	0.6000	1.0000	**
Total Radium	pCi/L	MW-3	03/25/2017	ND	0.5000	1.0000	**
Total Radium	pCi/L	MW-3	06/20/2017		0.9600		
Total Radium	pCi/L	MW-3	08/08/2017		2.2000		
Total Radium	pCi/L	MW-3	05/09/2018		2.0700		
Total Radium	pCi/L	MW-3	09/12/2018	ND	1.0000		
Total Radium	pCi/L	MW-3	05/16/2019		0.7450		
Total Radium	pCi/L	MW-3	11/06/2019		4.4000		
Total Radium	pCi/L	MW-3	05/13/2020		1.8000		
Total Radium	pCi/L	MW-3	11/03/2020		0.7770		
Total Radium	pCi/L	MW-3	05/05/2021		2.5100		
Total Radium	pCi/L	MW-4C	09/28/2016		2.1000		
Total Radium	pCi/L	MW-4C	10/19/2016		1.1000		
Total Radium	pCi/L	MW-4C	11/09/2016		0.8600		
Total Radium	pCi/L	MW-4C	12/12/2016		2.2800		
Total Radium	pCi/L	MW-4C	02/05/2017		2.5200		
Total Radium	pCi/L	MW-4C	03/25/2017		1.4000		
Total Radium	pCi/L	MW-4C	06/20/2017		3.0300		
Total Radium	pCi/L	MW-4C	08/08/2017		2.0300		
Total Radium	pCi/L	MW-4C	05/09/2018	ND	1.0000		
Total Radium	pCi/L	MW-4C	09/12/2018	ND	1.0000		
Total Radium	pCi/L	MW-4C	05/16/2019		0.7880		
Total Radium	pCi/L	MW-4C	11/06/2019	ND	1.3700	1.0000	**
Total Radium	pCi/L	MW-4C	05/13/2020	ND	1.9900	1.0000	**
Total Radium	pCi/L	MW-4C	11/03/2020		1.2200		
Total Radium	pCi/L	MW-4C	05/05/2021		2.0900		

* - Outlier for that well and constituent.
 ** - ND value replaced with median RL.
 *** - ND value replaced with manual RL.
 ND = Not detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	mg/L	AP-1R	05/08/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-2A	05/08/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-2BO	05/08/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-3	05/08/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-3A	05/08/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-4A	05/08/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-4B	05/10/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-4I	05/08/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-5	05/10/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-5A	05/10/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-6A	05/10/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-6B	05/10/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-7	05/08/2021	ND	0.0010		0.0050
Antimony, total	mg/L	AP-8	05/07/2021	ND	0.0010		0.0050
Arsenic, total	mg/L	AP-1R	05/08/2021		0.0018		0.0205
Arsenic, total	mg/L	AP-2A	05/08/2021		0.0027		0.0205
Arsenic, total	mg/L	AP-2BO	05/08/2021		0.0018		0.0205
Arsenic, total	mg/L	AP-3	05/08/2021	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-3A	05/08/2021		0.0012		0.0205
Arsenic, total	mg/L	AP-4A	05/08/2021	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-4B	05/10/2021	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-4I	05/08/2021	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-5	05/10/2021	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-5A	05/10/2021		0.0012		0.0205
Arsenic, total	mg/L	AP-6A	05/10/2021		0.0018		0.0205
Arsenic, total	mg/L	AP-6B	05/10/2021	ND	0.0010		0.0205
Arsenic, total	mg/L	AP-7	05/08/2021		0.0019		0.0205
Arsenic, total	mg/L	AP-8	05/07/2021		0.0040		0.0205
Barium, total	mg/L	AP-1R	05/08/2021		0.0687		0.0730
Barium, total	mg/L	AP-2A	05/08/2021		0.0453		0.0730
Barium, total	mg/L	AP-2BO	05/08/2021		0.0254		0.0730
Barium, total	mg/L	AP-3	05/08/2021		0.0245		0.0730
Barium, total	mg/L	AP-3A	05/08/2021		0.0352		0.0730
Barium, total	mg/L	AP-4A	05/08/2021		0.0310		0.0730
Barium, total	mg/L	AP-4B	05/10/2021		0.1000 *		0.0730
Barium, total	mg/L	AP-4I	05/08/2021		0.0261		0.0730
Barium, total	mg/L	AP-5	05/10/2021		0.0157		0.0730
Barium, total	mg/L	AP-5A	05/10/2021		0.0335		0.0730
Barium, total	mg/L	AP-6A	05/10/2021		0.0312		0.0730
Barium, total	mg/L	AP-6B	05/10/2021		0.0365		0.0730
Barium, total	mg/L	AP-7	05/08/2021		0.0795 *		0.0730
Barium, total	mg/L	AP-8	05/07/2021		0.0151		0.0730
Beryllium, total	mg/L	AP-1R	05/08/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-2A	05/08/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-2BO	05/08/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-3	05/08/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-3A	05/08/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-4A	05/08/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-4B	05/10/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-4I	05/08/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-5	05/10/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-5A	05/10/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-6A	05/10/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-6B	05/10/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-7	05/08/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	AP-8	05/07/2021		0.0065 ***		0.0010
Cadmium, total	mg/L	AP-1R	05/08/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-2A	05/08/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-2BO	05/08/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-3	05/08/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-3A	05/08/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-4A	05/08/2021	ND	0.0020		0.0020

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 ** - Current value passed - previous exceedance not verified.
 *** - Current value failed - exceedance verified.
 **** - Current value passed - awaiting one more verification.
 ***** - Insufficient background data to compute prediction limit.
 ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Cadmium, total	mg/L	AP-4B	05/10/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-4I	05/08/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-5	05/10/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-5A	05/10/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-6A	05/10/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-6B	05/10/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-7	05/08/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	AP-8	05/07/2021		0.0105	***	0.0020
Chromium, total	mg/L	AP-1R	05/08/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-2A	05/08/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-2BO	05/08/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-3	05/08/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-3A	05/08/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-4A	05/08/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-4B	05/10/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-4I	05/08/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-5	05/10/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-5A	05/10/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-6A	05/10/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-6B	05/10/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-7	05/08/2021	ND	0.0100		0.0100
Chromium, total	mg/L	AP-8	05/07/2021	ND	0.0100		0.0100
Cobalt, total	mg/L	AP-1R	05/08/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-2A	05/08/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-2BO	05/08/2021		0.0035		0.0200
Cobalt, total	mg/L	AP-3	05/08/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-3A	05/08/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-4A	05/08/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-4B	05/10/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-4I	05/08/2021		0.0019		0.0200
Cobalt, total	mg/L	AP-5	05/10/2021		0.0015		0.0200
Cobalt, total	mg/L	AP-5A	05/10/2021		0.0010		0.0200
Cobalt, total	mg/L	AP-6A	05/10/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-6B	05/10/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-7	05/08/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	AP-8	05/07/2021		0.6770	***	0.0200
Fluoride	mg/L	AP-1R	05/08/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-2A	05/08/2021		0.1500		5.0000
Fluoride	mg/L	AP-2BO	05/08/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-3	05/08/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-3A	05/08/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-4A	05/08/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-4B	05/10/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-4I	05/08/2021		0.1600		5.0000
Fluoride	mg/L	AP-5	05/10/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-5A	05/10/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-6A	05/10/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-6B	05/10/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-7	05/08/2021		0.1200		5.0000
Fluoride	mg/L	AP-8	05/07/2021		1.6000		5.0000
Lead, total	mg/L	AP-1R	05/08/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-2A	05/08/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-2BO	05/08/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-3	05/08/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-3A	05/08/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-4A	05/08/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-4B	05/10/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-4I	05/08/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-5	05/10/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-5A	05/10/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-6A	05/10/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-6B	05/10/2021	ND	0.0100		0.0478

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ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Lead, total	mg/L	AP-7	05/08/2021	ND	0.0100		0.0478
Lead, total	mg/L	AP-8	05/07/2021	ND	0.0100		0.0478
Lithium, total	mg/L	AP-1R	05/08/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-2A	05/08/2021		0.0646		2.7871
Lithium, total	mg/L	AP-2BO	05/08/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-3	05/08/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-3A	05/08/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-4A	05/08/2021		0.0366		2.7871
Lithium, total	mg/L	AP-4B	05/10/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-4I	05/08/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-5	05/10/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-5A	05/10/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-6A	05/10/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-6B	05/10/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-7	05/08/2021	ND	0.0200		2.7871
Lithium, total	mg/L	AP-8	05/07/2021		0.0743		2.7871
Mercury, total	mg/L	AP-1R	05/08/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-2A	05/08/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-2BO	05/08/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-3	05/08/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-3A	05/08/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-4A	05/08/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-4B	05/10/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-4I	05/08/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-5	05/10/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-5A	05/10/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-6A	05/10/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-6B	05/10/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-7	05/08/2021	ND	0.0020		0.0004
Mercury, total	mg/L	AP-8	05/07/2021	ND	0.0020		0.0004
Molybdenum, total	mg/L	AP-1R	05/08/2021		0.0150		0.6600
Molybdenum, total	mg/L	AP-2A	05/08/2021		1.9200	***	0.6600
Molybdenum, total	mg/L	AP-2BO	05/08/2021		0.1900		0.6600
Molybdenum, total	mg/L	AP-3	05/08/2021	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-3A	05/08/2021		0.6450		0.6600
Molybdenum, total	mg/L	AP-4A	05/08/2021		0.2220		0.6600
Molybdenum, total	mg/L	AP-4B	05/10/2021	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-4I	05/08/2021		0.1010		0.6600
Molybdenum, total	mg/L	AP-5	05/10/2021		0.0721		0.6600
Molybdenum, total	mg/L	AP-5A	05/10/2021		0.2340		0.6600
Molybdenum, total	mg/L	AP-6A	05/10/2021	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-6B	05/10/2021	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-7	05/08/2021	ND	0.0100		0.6600
Molybdenum, total	mg/L	AP-8	05/07/2021	ND	0.0100		0.6600
Selenium, total	mg/L	AP-1R	05/08/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-2A	05/08/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-2BO	05/08/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-3	05/08/2021		0.0023		0.0059
Selenium, total	mg/L	AP-3A	05/08/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-4A	05/08/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-4B	05/10/2021		0.0167	***	0.0059
Selenium, total	mg/L	AP-4I	05/08/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-5	05/10/2021		0.0030		0.0059
Selenium, total	mg/L	AP-5A	05/10/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-6A	05/10/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-6B	05/10/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-7	05/08/2021	ND	0.0010		0.0059
Selenium, total	mg/L	AP-8	05/07/2021		0.0042		0.0059
Thallium, total	mg/L	AP-1R	05/08/2021	ND	0.0010		0.0050
Thallium, total	mg/L	AP-2A	05/08/2021	ND	0.0010		0.0050
Thallium, total	mg/L	AP-2BO	05/08/2021	ND	0.0010		0.0050
Thallium, total	mg/L	AP-3	05/08/2021	ND	0.0010		0.0050

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ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result	Pred. Limit
Thallium, total	mg/L	AP-3A	05/08/2021	ND	0.0010	0.0050
Thallium, total	mg/L	AP-4A	05/08/2021	ND	0.0010	0.0050
Thallium, total	mg/L	AP-4B	05/10/2021	ND	0.0010	0.0050
Thallium, total	mg/L	AP-4I	05/08/2021	ND	0.0010	0.0050
Thallium, total	mg/L	AP-5	05/10/2021	ND	0.0010	0.0050
Thallium, total	mg/L	AP-5A	05/10/2021	ND	0.0010	0.0050
Thallium, total	mg/L	AP-6A	05/10/2021	ND	0.0010	0.0050
Thallium, total	mg/L	AP-6B	05/10/2021	ND	0.0010	0.0050
Thallium, total	mg/L	AP-7	05/08/2021	ND	0.0010	0.0050
Thallium, total	mg/L	AP-8	05/07/2021	ND	0.0010	0.0050
Total Radium	pCi/L	AP-1R	05/08/2021		0.9990	4.1908
Total Radium	pCi/L	AP-2A	05/08/2021		1.2300	4.1908
Total Radium	pCi/L	AP-2BO	05/08/2021		1.0800	4.1908
Total Radium	pCi/L	AP-3	05/08/2021	ND	1.6200	4.1908
Total Radium	pCi/L	AP-3A	05/08/2021		1.7700	4.1908
Total Radium	pCi/L	AP-4A	05/08/2021		1.0500	4.1908
Total Radium	pCi/L	AP-4B	05/10/2021		1.0500	4.1908
Total Radium	pCi/L	AP-4I	05/08/2021		0.8320	4.1908
Total Radium	pCi/L	AP-5	05/10/2021	ND	1.8800	4.1908
Total Radium	pCi/L	AP-5A	05/10/2021	ND	1.6100	4.1908
Total Radium	pCi/L	AP-6A	05/10/2021	ND	1.4100	4.1908
Total Radium	pCi/L	AP-6B	05/10/2021	ND	1.7800	4.1908
Total Radium	pCi/L	AP-7	05/08/2021		0.6750	4.1908
Total Radium	pCi/L	AP-8	05/07/2021		1.3300	4.1908

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 *** - Current value failed - exceedance verified.
 **** - Current value passed - awaiting one more verification.
 ***** - Insufficient background data to compute prediction limit.
 ND = Not Detected, Result = detection limit.

Table 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient			Downgradient		
	Detect	N	Proportion	Detect	N	Proportion
Antimony, total	1	51	0.020	7	224	0.031
Arsenic, total	17	49	0.347	67	224	0.299
Barium, total	51	51	1.000	223	224	0.996
Beryllium, total	0	51	0.000	8	224	0.036
Cadmium, total	0	51	0.000	16	224	0.071
Chromium, total	0	42	0.000	1	182	0.005
Cobalt, total	13	51	0.255	37	224	0.165
Fluoride	11	51	0.216	36	224	0.161
Lead, total	1	48	0.021	4	210	0.019
Lithium, total	51	51	1.000	52	224	0.232
Mercury, total	1	42	0.024	2	182	0.011
Molybdenum, total	20	51	0.392	114	224	0.509
Selenium, total	4	51	0.078	34	224	0.152
Thallium, total	1	51	0.020	0	224	0.000
Total Radium	36	46	0.783	175	223	0.785

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table 4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value	Dist Form
Antimony, total	1	51	0.020	8.171	8.171					2.326	non-norm
Arsenic, total	17	49	0.347	7.029	7.450					2.326	non-norm
Barium, total	51	51	1.000	2.818	2.677					2.326	non-norm
Beryllium, total	0	51	0.000	8.171	8.171					2.326	non-norm
Cadmium, total	0	51	0.000	8.171	8.171					2.326	non-norm
Chromium, total	0	42	0.000	7.182	7.182					2.326	non-norm
Cobalt, total	13	51	0.255	9.607	9.449					2.326	non-norm
Fluoride	11	51	0.216	10.625	10.388					2.326	non-norm
Lead, total	1	48	0.021	7.870	7.870					2.326	non-norm
Lithium, total	51	51	1.000	0.618	0.083					2.326	normal
Mercury, total	1	42	0.024	16.856	16.856					2.326	non-norm
Molybdenum, total	20	51	0.392	6.751	6.749					2.326	non-norm
Selenium, total	4	51	0.078	20.833	20.887					2.326	non-norm
Thallium, total	1	51	0.020	19.624	19.624					2.326	non-norm
Total Radium	36	46	0.783	4.077	2.043					2.326	lognor

* - Distribution override for that constituent.

Fit to distribution is confirmed if $G \leq$ critical value.

Model type may not match distributional form when detection frequency < 50%.

Table 4

Shapiro-Wilk Multiple Group Test of Normality

Model Type
nonpar
nonpar
nonpar
nonpar
nonpar
nonpar
nonpar
nonpar
nonpar
nonpar
normal
nonpar
nonpar
nonpar
lognor

* - Distribution override for that constituent.
Fit to distribution is confirmed if $G \leq$ critical value.
Model type may not match distributional form when detection frequency < 50%.

Table 5

Summary Statistics and Prediction Limits

Constituent	Units	Detect	N	Mean	SD	alpha	Factor	Pred Limit	Type		Conf
Antimony, total	mg/L	1	51					0.0050	nonpar	***	0.99
Arsenic, total	mg/L	17	49					0.0205	nonpar		0.99
Barium, total	mg/L	51	51					0.0730	nonpar		0.99
Beryllium, total	mg/L	0	51					0.0010	nonpar	***	0.99
Cadmium, total	mg/L	0	51					0.0020	nonpar	***	0.99
Chromium, total	mg/L	0	42					0.0100	nonpar	***	0.99
Cobalt, total	mg/L	13	51					0.0200	nonpar	***	0.99
Fluoride	mg/L	11	51					5.0000	nonpar	***	0.99
Lead, total	mg/L	1	48					0.0478	nonpar		0.99
Lithium, total	mg/L	51	51	0.9876	0.7415	0.0100	2.4267	2.7871	normal		
Mercury, total	mg/L	1	42					0.0004	nonpar		0.99
Molybdenum, total	mg/L	20	51					0.6600	nonpar		0.99
Selenium, total	mg/L	4	51					0.0059	nonpar		0.99
Thallium, total	mg/L	1	51					0.0050	nonpar	***	0.99
Total Radium	pCi/L	36	46	0.3520	0.4433	0.0100	2.4381	4.1908	lognor		

Conf = confidence level for passing initial test or one verification resample at all downgradient wells for a single constituent (nonparametric test only).

* - Insufficient Data.

** - Calculated limit raised to Manual Reporting Limit.

*** - Nonparametric limit based on ND value.

For transformed data, mean and SD in transformed units and prediction limit in original units.

All sample sizes and statistics are based on outlier free data.

For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table 6**Dixon's Test Outliers
1% Significance Level**

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Arsenic, total	mg/L	MW-2R	03/24/2017	0.0400	< 0.0400	09/28/2016-05/05/2021	19	0.5643
Arsenic, total	mg/L	MW-2R	05/09/2018	0.0310		09/28/2016-05/05/2021	19	0.5643

N = Total number of independent measurements in background at each well.

Date Range = Dates of the first and last measurements included in background at each well.

Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Table 7

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result	Pred. Limit
Barium, total	mg/L	AP-4B	09/29/2016		0.0620	0.0730
Barium, total	mg/L	AP-4B	10/18/2016		0.0560	0.0730
Barium, total	mg/L	AP-4B	11/08/2016		0.0610	0.0730
Barium, total	mg/L	AP-4B	12/13/2016		0.0450	0.0730
Barium, total	mg/L	AP-4B	02/04/2017		0.0780 *	0.0730
Barium, total	mg/L	AP-4B	03/23/2017		0.0630	0.0730
Barium, total	mg/L	AP-4B	05/24/2017		0.0530	0.0730
Barium, total	mg/L	AP-4B	06/21/2017		0.0510	0.0730
Barium, total	mg/L	AP-4B	08/09/2017		0.0740 *	0.0730
Barium, total	mg/L	AP-4B	05/08/2018		0.0810 *	0.0730
Barium, total	mg/L	AP-4B	09/30/2018		0.0440	0.0730
Barium, total	mg/L	AP-4B	05/14/2019		0.0875 *	0.0730
Barium, total	mg/L	AP-4B	11/04/2019		0.0685	0.0730
Barium, total	mg/L	AP-4B	05/07/2020		0.1070 *	0.0730
Barium, total	mg/L	AP-4B	11/07/2020		0.0708	0.0730
Barium, total	mg/L	AP-4B	05/10/2021		0.1000 *	0.0730
Barium, total	mg/L	AP-7	09/28/2016		0.0490	0.0730
Barium, total	mg/L	AP-7	10/19/2016		0.0560	0.0730
Barium, total	mg/L	AP-7	11/09/2016		0.0540	0.0730
Barium, total	mg/L	AP-7	12/12/2016		0.0450	0.0730
Barium, total	mg/L	AP-7	02/05/2017		0.0530	0.0730
Barium, total	mg/L	AP-7	03/25/2017		0.0470	0.0730
Barium, total	mg/L	AP-7	05/24/2017		0.0520	0.0730
Barium, total	mg/L	AP-7	06/21/2017		0.0470	0.0730
Barium, total	mg/L	AP-7	08/08/2017		0.0500	0.0730
Barium, total	mg/L	AP-7	05/09/2018		0.0560	0.0730
Barium, total	mg/L	AP-7	09/30/2018		0.0480	0.0730
Barium, total	mg/L	AP-7	05/15/2019		0.0692	0.0730
Barium, total	mg/L	AP-7	11/05/2019		0.0534	0.0730
Barium, total	mg/L	AP-7	05/12/2020		0.0668	0.0730
Barium, total	mg/L	AP-7	11/05/2020		0.0678	0.0730
Barium, total	mg/L	AP-7	05/08/2021		0.0795 *	0.0730
Beryllium, total	mg/L	AP-8	09/28/2016	ND	0.0100	0.0010
Beryllium, total	mg/L	AP-8	10/19/2016	ND	0.0100	0.0010
Beryllium, total	mg/L	AP-8	11/09/2016	ND	0.0100	0.0010
Beryllium, total	mg/L	AP-8	12/12/2016	ND	0.0100	0.0010
Beryllium, total	mg/L	AP-8	02/05/2017	ND	0.0040	0.0010
Beryllium, total	mg/L	AP-8	03/25/2017	ND	0.0040	0.0010
Beryllium, total	mg/L	AP-8	05/24/2017	ND	0.0020	0.0010
Beryllium, total	mg/L	AP-8	06/20/2017		0.0021 *	0.0010
Beryllium, total	mg/L	AP-8	08/08/2017		0.0024 *	0.0010
Beryllium, total	mg/L	AP-8	05/09/2018	ND	0.0050	0.0010
Beryllium, total	mg/L	AP-8	09/30/2018		0.0035 *	0.0010
Beryllium, total	mg/L	AP-8	05/15/2019		0.0019 *	0.0010
Beryllium, total	mg/L	AP-8	11/04/2019		0.0020 *	0.0010
Beryllium, total	mg/L	AP-8	05/11/2020		0.0015 *	0.0010
Beryllium, total	mg/L	AP-8	11/05/2020		0.0022 *	0.0010
Beryllium, total	mg/L	AP-8	05/07/2021		0.0065 *	0.0010
Cadmium, total	mg/L	AP-8	09/28/2016		0.0160 *	0.0020
Cadmium, total	mg/L	AP-8	10/19/2016		0.0130 *	0.0020
Cadmium, total	mg/L	AP-8	11/09/2016		0.0120 *	0.0020
Cadmium, total	mg/L	AP-8	12/12/2016		0.0180 *	0.0020
Cadmium, total	mg/L	AP-8	02/05/2017		0.0150 *	0.0020
Cadmium, total	mg/L	AP-8	03/25/2017		0.0091 *	0.0020
Cadmium, total	mg/L	AP-8	05/24/2017		0.0068 *	0.0020
Cadmium, total	mg/L	AP-8	06/20/2017		0.0099 *	0.0020
Cadmium, total	mg/L	AP-8	08/08/2017		0.0110 *	0.0020
Cadmium, total	mg/L	AP-8	05/09/2018		0.0063 *	0.0020
Cadmium, total	mg/L	AP-8	09/30/2018		0.0140 *	0.0020
Cadmium, total	mg/L	AP-8	05/15/2019		0.0070 *	0.0020
Cadmium, total	mg/L	AP-8	11/04/2019		0.0086 *	0.0020

* - Significantly increased over background.
 ** - Detect at limit for 100% NDs in background (NPPL only).
 *** - Manual exclusion.
 ND = Not Detected, Result = detection limit.

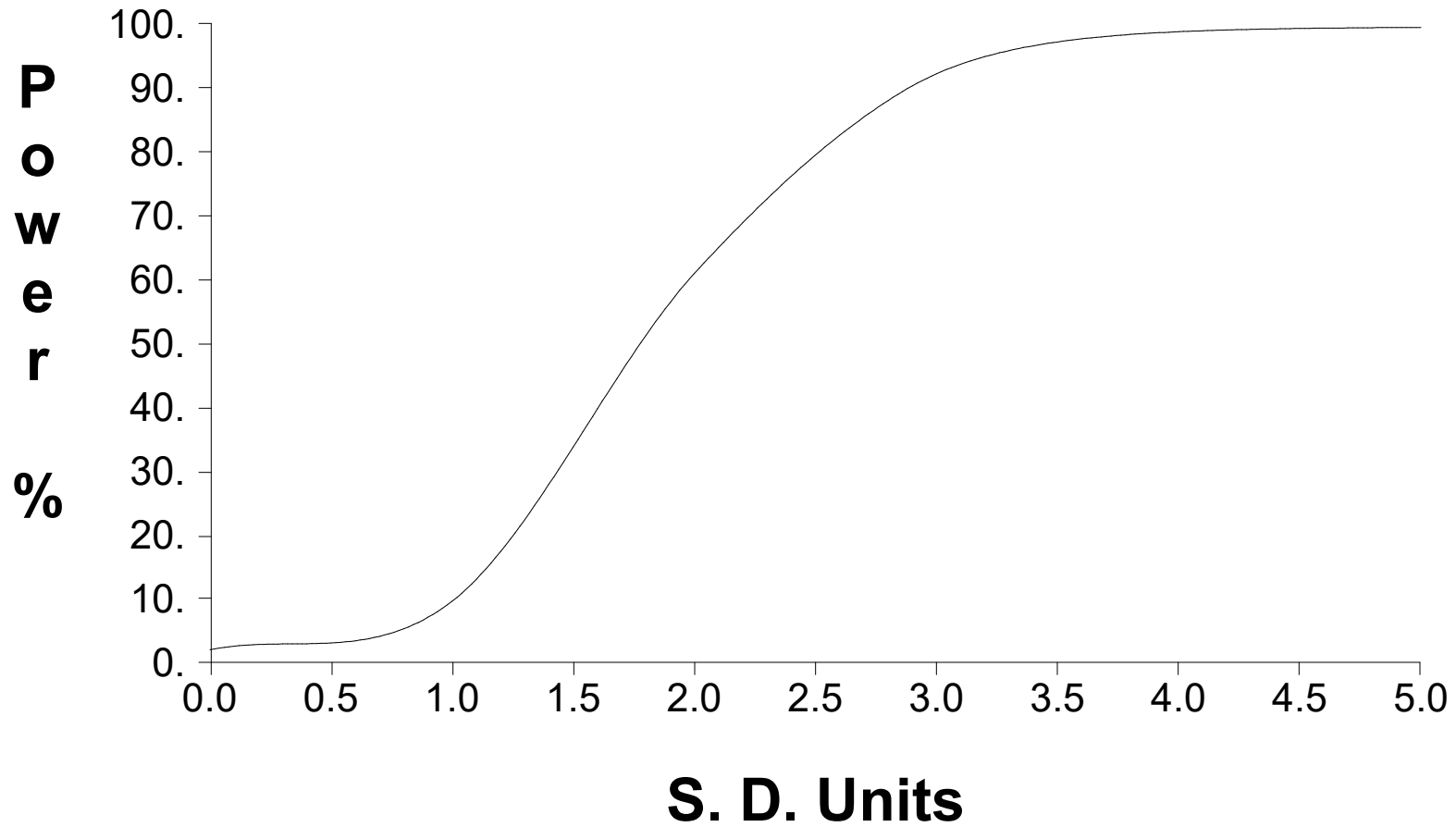
Table 7

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Cadmium, total	mg/L	AP-8	05/11/2020		0.0062	*	0.0020
Cadmium, total	mg/L	AP-8	11/05/2020		0.0067	*	0.0020
Cadmium, total	mg/L	AP-8	05/07/2021		0.0105	*	0.0020
Cobalt, total	mg/L	AP-8	09/28/2016		0.4400	*	0.0200
Cobalt, total	mg/L	AP-8	10/19/2016		0.3700	*	0.0200
Cobalt, total	mg/L	AP-8	11/09/2016		0.4100	*	0.0200
Cobalt, total	mg/L	AP-8	12/12/2016		0.5000	*	0.0200
Cobalt, total	mg/L	AP-8	02/05/2017		0.5000	*	0.0200
Cobalt, total	mg/L	AP-8	03/25/2017		0.3500	*	0.0200
Cobalt, total	mg/L	AP-8	05/24/2017		0.2900	*	0.0200
Cobalt, total	mg/L	AP-8	06/20/2017		0.4000	*	0.0200
Cobalt, total	mg/L	AP-8	08/08/2017		0.4100	*	0.0200
Cobalt, total	mg/L	AP-8	05/09/2018		0.2600	*	0.0200
Cobalt, total	mg/L	AP-8	09/30/2018		0.4500	*	0.0200
Cobalt, total	mg/L	AP-8	05/15/2019		0.2950	*	0.0200
Cobalt, total	mg/L	AP-8	11/04/2019		0.3640	*	0.0200
Cobalt, total	mg/L	AP-8	05/11/2020		0.2580	*	0.0200
Cobalt, total	mg/L	AP-8	11/05/2020		0.3720	*	0.0200
Cobalt, total	mg/L	AP-8	05/07/2021		0.6770	*	0.0200
Molybdenum, total	mg/L	AP-2A	09/28/2016		2.6000	*	0.6600
Molybdenum, total	mg/L	AP-2A	10/19/2016		2.7000	*	0.6600
Molybdenum, total	mg/L	AP-2A	11/09/2016		2.7000	*	0.6600
Molybdenum, total	mg/L	AP-2A	12/12/2016		2.1000	*	0.6600
Molybdenum, total	mg/L	AP-2A	02/05/2017		3.0000	*	0.6600
Molybdenum, total	mg/L	AP-2A	03/24/2017		2.7000	*	0.6600
Molybdenum, total	mg/L	AP-2A	05/24/2017		2.9000	*	0.6600
Molybdenum, total	mg/L	AP-2A	06/21/2017		2.8000	*	0.6600
Molybdenum, total	mg/L	AP-2A	08/10/2017		2.8000	*	0.6600
Molybdenum, total	mg/L	AP-2A	05/09/2018		2.1000	*	0.6600
Molybdenum, total	mg/L	AP-2A	09/30/2018		2.3000	*	0.6600
Molybdenum, total	mg/L	AP-2A	05/15/2019		2.2000	*	0.6600
Molybdenum, total	mg/L	AP-2A	11/05/2019		2.6000	*	0.6600
Molybdenum, total	mg/L	AP-2A	05/11/2020		2.6500	*	0.6600
Molybdenum, total	mg/L	AP-2A	11/09/2020		2.4300	*	0.6600
Molybdenum, total	mg/L	AP-2A	05/08/2021		1.9200	*	0.6600
Selenium, total	mg/L	AP-4B	09/29/2016		0.0100	*	0.0059
Selenium, total	mg/L	AP-4B	10/18/2016		0.0110	*	0.0059
Selenium, total	mg/L	AP-4B	11/08/2016		0.0068	*	0.0059
Selenium, total	mg/L	AP-4B	12/13/2016		0.0064	*	0.0059
Selenium, total	mg/L	AP-4B	02/04/2017	ND	0.0300	*	0.0059
Selenium, total	mg/L	AP-4B	03/23/2017		0.0074	*	0.0059
Selenium, total	mg/L	AP-4B	05/24/2017		0.0082	*	0.0059
Selenium, total	mg/L	AP-4B	06/21/2017		0.0071	*	0.0059
Selenium, total	mg/L	AP-4B	08/09/2017		0.0063	*	0.0059
Selenium, total	mg/L	AP-4B	05/08/2018		0.0091	*	0.0059
Selenium, total	mg/L	AP-4B	09/30/2018		0.0062	*	0.0059
Selenium, total	mg/L	AP-4B	05/14/2019		0.0097	*	0.0059
Selenium, total	mg/L	AP-4B	11/04/2019		0.0092	*	0.0059
Selenium, total	mg/L	AP-4B	05/07/2020		0.0072	*	0.0059
Selenium, total	mg/L	AP-4B	11/07/2020		0.0066	*	0.0059
Selenium, total	mg/L	AP-4B	05/10/2021		0.0167	*	0.0059

* - Significantly increased over background.
 ** - Detect at limit for 100% NDs in background (NPPL only).
 *** - Manual exclusion.
 ND = Not Detected, Result = detection limit.

False Positive and False Negative Rates for Current Upgradient vs. Downgradient Monitoring Program



**Attachment C: Statistical Analyses – 95% Lower Confidence Limit
Documentation**

November 2020

Table 1: 95% LCL Compared to GWPS
 Multiunit Ash Pond System
 Indianapolis Power and Light Company
 Petersburg Generating Station, Petersburg, Indiana
 ATC Project No. 170LF00871

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	6	20.5	2000	4	5	100	6**	4**	47.8	2808.9	2	660	50	2**	5
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2020)	6	20.5	72	1	2	10	20	5	47.8	2808.9	0.4	660	5.9	5	4.1261
Shallow Zone																
AP-1R	September 2018	3	5	46	2	1	5	10	2.5	5	50	0	50	2	2	0
	May 2019	3	2	47	1	1	5	10	2.5	5	50	0	24	2	2	0.511
	November 2019	3	1	47	1	1	5	10	2.5	5	50	0	10	2	2	0.549
	May 2020	3	0	49	1	1	5	10	0.505	5	50	0	5	2	2	0.182
	November 2020	2	1	54	1	1	5	10	0.505	5	50	0	14	2	2	0.182
AP-2BO	September 2018	3	5	18	2	1	5	10	2.5	5	50	0	406	2	2	0.413
	May 2019	3	3	17	1	1	5	4	2.5	5	50	0	298	2	2	0.371
	November 2019	3	2	17	1	1	5	1	2.5	5	50	0	183	2	2	0.501
	May 2020	3	1	21	1	1	5	0	2.5	5	50	0	157	2	2	0.212
	November 2020	2	2	23	1	1	5	3	2.5	5	50	0	99	2	2	0.845
AP-3	September 2018	3	5	13	2	1	5	10	2.5	5	50	0	50	2	2	0.248
	May 2019	3	5	14	1	1	5	3	0.505	5	50	0	50	2	2	0.260
	November 2019	3	5	13	1	1	5	3	0.505	5	50	0	50	2	2	0.336
	May 2020	2	3	19	1	1	5	0	0	5	50	0	50	2	2	0.049
	November 2020	2	2	22	1	1	5	0	0	5	50	0	50	1	2	0.049
AP-4B	September 2018	2	5	42	2	1	5	10	2.5	5	50	0	50	6	2	0.094
	May 2019	3	5	49	1	1	5	10	0.497	5	50	0	50	6	2	0
	November 2019	3	5	48	1	1	5	10	0.497	5	50	0	50	7	2	0.132
	May 2020	2	2	45	1	1	5	10	0.497	5	50	0	50	6	2	0.328
	November 2020	2	2	62	1	1	5	10	0.497	5	50	0	50	6	2	0.708
AP-4I	September 2018	3	5	19	2	1	5	10	2.5	5	50	0	35	2	2	1.161
	May 2019	3	5	19	2	1	5	3	0.547	5	50	0	37	2	2	1.219
	November 2019	3	5	19	2	1	5	1	0	5	50	0	54	2	2	1.096
	May 2020	3	2	22	1	1	5	0	0	5	32	0	85	2	2	0.413
	November 2020	2	2	28	1	1	5	2	0.15	5	32	0	77	2	2	0.302
AP-5	September 2018	3	5	17	2	1	5	10	2.5	5	50	0	60	2	2	0.107
	May 2019	3	5	19	2	1	5	3	0.564	5	26	0	62	2	2	0
	November 2019	3	5	22	2	1	5	1	0	5	16	0	114	2	2	0.248
	May 2020	2	2	23	1	1	5	0	0	5	14	0	123	2	2	0.000
	November 2020	2	2	26	1	1	5	2	0.18	5	19	0	108	2	2	0.365
AP-6B	September 2018	3	5	24	2	1	5	10	2.5	5	50	0	50	2	2	0.122
	May 2019	3	5	23	2	1	5	10	0.497	5	50	0	50	2	2	0.219
	November 2019	3	5	23	2	1	5	10	0.497	5	50	0	50	1	2	0.219
	May 2020	2	5	23	1	1	5	10	0.497	5	50	0	50	1	2	0.895
	November 2020	2	2	24	1	1	5	10	0.295	5	50	0	50	1	2	0.8

Table 1: 95% LCL Compared to GWPS
 Multiunit Ash Pond System
 Indianapolis Power and Light Company
 Petersburg Generating Station, Petersburg, Indiana
 ATC Project No. 170LF00871

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	6	20.5	2000	4	5	100	6**	4**	47.8	2808.9	2	660	50	2**	5
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2020)	6	20.5	72	1	2	10	20	5	47.8	2808.9	0.4	660	5.9	5	4.1261
AP-7	September 2018	3	5	46	2	2	5	10	2.5	5	50	0	50	2	2	0.608
	May 2019	3	3	45	2	1	5	10	0.505	5	50	0	50	2	2	0
	November 2019	3	1	46	2	1	5	10	0	5	50	0	50	2	2	0
	May 2020	2	1	47	1	1	5	10	0	5	50	0	50	2	2	0.191
	November 2020	2	1	56	1	1	5	10	0.122	5	50	0	50	2	2	0.124
AP-8	September 2018	3	5	12	2	7	5	283	2.5	5	50	0	50	2	2	1.163
	May 2019	3	5	12	2	5	5	247	0.782	5	40	0	50	2	2	0.798
	November 2019	3	5	12	2	5	5	244	0.152	5	40	0	50	2	2	0.813
	May 2020	2	6	14	1	5	5	242	0	5	33	0	50	2	2	0.297
	November 2020	2	6	15	2	6	5	258	0.325	5	32	0	50	2	2	0.297
Deep Zone																
AP-2A	September 2018	3	0	35	2	1	5	10	2.5	5	33	0	2081	2	2	1.08
	May 2019	3	0	35	1	1	5	3	0.497	5	41	0	1984	2	2	0.768
	November 2019	3	0	36	1	1	5	0	0	5	53	0	2046	2	2	0.504
	May 2020	2	0	40	1	1	5	0	0	5	55	0	2177	2	2	0
	November 2020	2	4	44	1	1	5	0	0.117	5	79	0	2231	2	2	0
AP-3A	September 2018	3	5	27	2	1	5	10	2.5	5	50	0	676	2	2	0.528
	May 2019	3	2	27	1	1	5	10	2.5	5	50	0	672	2	2	0.518
	November 2019	3	1	28	1	1	5	3	2.5	5	50	0	612	2	2	0.770
	May 2020	2	0	35	1	1	5	3	0.522	5	50	0	617	2	2	0.798
	November 2020	2	1	35	1	1	5	3	0	5	50	0	595	2	2	0.834
AP-4A	September 2018	3	5	24	2	1	5	10	2.5	5	50	0	150	2	2	0.559
	May 2019	3	5	24	1	1	5	10	2.5	5	45	0	173	2	2	0.589
	November 2019	3	5	25	1	1	5	10	2.5	5	42	0	184	2	2	0.713
	May 2020	2	2	29	1	1	5	10	0.514	5	39	0	212	2	2	1.289
	November 2020	2	2	30	1	1	5	10	0	5	39	0	216	2	2	1.28
AP-5A	September 2018	3	5	7	2	1	5	10	2.5	5	50	0	173	2	2	0
	May 2019	3	5	7	2	1	5	10	2.5	5	50	0	173	2	2	0.205
	November 2019	3	2	7	2	1	5	10	2.5	5	50	0	170	2	2	0.521
	May 2020	2	2	20	1	1	5	10	0.497	5	28	0	180	2	2	0.221
	November 2020	2	1	22	1	1	5	10	0.497	5	28	0	174	2	2	0.532

Table 1: 95% LCL Compared to GWPS
 Multiunit Ash Pond System
 Indianapolis Power and Light Company
 Petersburg Generating Station, Petersburg, Indiana
 ATC Project No. 170LF00871

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	6	20.5	2000	4	5	100	6**	4**	47.8	2808.9	2	660	50	2**	5
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2020)	6	20.5	72	1	2	10	20	5	47.8	2808.9	0.4	660	5.9	5	4.1261
AP-6A	September 2018	3	5	22	2	1	5	10	2.5	5	50	0	50	2	2	0
	May 2019	3	5	23	2	1	5	10	2.5	5	50	0	50	2	2	0.045
	November 2019	3	5	24	2	1	5	10	2.5	5	50	0	50	2	2	0.120
	May 2020	2	2	24	1	1	5	10	2.5	5	50	0	50	2	2	0.276
	November 2020	2	2	25	1	1	5	10	2.5	5	50	0	50	2	2	0.590

Notes:

GWPS = Groundwater Protection Standard

MCL = Maximum Contaminant Level

LCL = Lower Confidence Limit

Bold font with gray shading indicates 95% LCL of the mean of the last four measurements that is in exceedance of GWPS.

ug/L = micrograms per liter (ppb)

mg/L = milligrams per liter (ppm)

Std. Units = Standard Units

*USEPA'S Amendments to the National Minimum Criteria (Phase One, Part One), Disposal of Coal Combustion Residuals from Electric Utilities; effective August 29, 2018 (page 36444).

** Utilizing MCL or USEPA's Amendment value as GWPS.

Background prediction limits are re-calculated after each sampling event. If a background prediction limit value is utilized as the GWPS, the GWPS for the current summary may be different from previous events.

Table updated to include November 2020 assessment sampling results.

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend
Antimony, total	mg/L	AP-1R	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-2A	4	0.003	0.001	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-2BO	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-3	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-3A	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-4A	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-4B	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-4I	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-5	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-5A	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-6A	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-6B	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-7	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-8	4	0.003	0.000	1.176	0.002	0.003	0.006	
Arsenic, total	mg/L	AP-1R	4	0.002	0.000	1.176	0.001	0.002	0.013	
Arsenic, total	mg/L	AP-2A	4	0.005	0.001	1.176	0.004	0.007	0.013	
Arsenic, total	mg/L	AP-2BO	4	0.002	0.000	1.176	0.002	0.003	0.013	
Arsenic, total	mg/L	AP-3	4	0.002	0.000	1.176	0.002	0.003	0.013	
Arsenic, total	mg/L	AP-3A	4	0.001	0.000	1.176	0.001	0.002	0.013	
Arsenic, total	mg/L	AP-4A	4	0.003	0.000	1.176	0.002	0.003	0.013	
Arsenic, total	mg/L	AP-4B	4	0.003	0.000	1.176	0.002	0.003	0.013	
Arsenic, total	mg/L	AP-4I	4	0.003	0.000	1.176	0.002	0.003	0.013	
Arsenic, total	mg/L	AP-5	4	0.003	0.000	1.176	0.002	0.003	0.013	
Arsenic, total	mg/L	AP-5A	4	0.002	0.001	1.176	0.001	0.003	0.013	
Arsenic, total	mg/L	AP-6A	4	0.003	0.000	1.176	0.002	0.003	0.013	
Arsenic, total	mg/L	AP-6B	4	0.003	0.000	1.176	0.002	0.003	0.013	
Arsenic, total	mg/L	AP-7	4	0.003	0.002	1.176	0.001	0.005	0.013	
Arsenic, total	mg/L	AP-8	4	0.006	0.000	1.176	0.006	0.006	0.013	
Barium, total	mg/L	AP-1R	4	0.058	0.004	1.176	0.054	0.063	2.000	dec
Barium, total	mg/L	AP-2A	4	0.047	0.002	1.176	0.044	0.050	2.000	dec
Barium, total	mg/L	AP-2BO	4	0.027	0.003	1.176	0.023	0.030	2.000	
Barium, total	mg/L	AP-3	4	0.028	0.005	1.176	0.022	0.034	2.000	

* - Insufficient Data
 ** - Significant Exceedance
 LCL = Lower Confidence Limit
 UCL = Upper Confidence Limit

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend
Barium, total	mg/L	AP-3A	4	0.037	0.002	1.176	0.035	0.039	2.000	dec
Barium, total	mg/L	AP-4A	4	0.031	0.001	1.176	0.030	0.032	2.000	
Barium, total	mg/L	AP-4B	4	0.083	0.018	1.176	0.062	0.104	2.000	
Barium, total	mg/L	AP-4I	4	0.030	0.001	1.176	0.028	0.031	2.000	
Barium, total	mg/L	AP-5	4	0.030	0.003	1.176	0.026	0.034	2.000	
Barium, total	mg/L	AP-5A	4	0.026	0.003	1.176	0.022	0.030	2.000	
Barium, total	mg/L	AP-6A	4	0.027	0.001	1.176	0.025	0.029	2.000	
Barium, total	mg/L	AP-6B	4	0.030	0.006	1.176	0.024	0.037	2.000	
Barium, total	mg/L	AP-7	4	0.064	0.007	1.176	0.056	0.073	2.000	
Barium, total	mg/L	AP-8	4	0.017	0.001	1.176	0.015	0.018	2.000	
Beryllium, total	mg/L	AP-1R	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-2A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-2BO	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-3	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-3A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-4A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-4B	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-4I	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-5	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-5A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-6A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-6B	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-7	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-8	4	0.002	0.000	1.176	0.002	0.002	0.004	
Cadmium, total	mg/L	AP-1R	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-2A	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-2BO	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-3	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-3A	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-4A	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-4B	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-4I	4	0.001	0.000	1.176	0.001	0.001	0.005	

* - Insufficient Data
 ** - Significant Exceedance
 LCL = Lower Confidence Limit
 UCL = Upper Confidence Limit

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Cadmium, total	mg/L	AP-5	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-5A	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-6A	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-6B	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-7	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-8	4	0.007	0.001	1.176	0.006	0.008	0.005	dec	**
Chromium, total	mg/L	AP-1R	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-2A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-2BO	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-3	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-3A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-4A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-4B	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-4I	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-5	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-5A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-6A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-6B	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-7	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-8	4	0.005	0.000	1.176	0.005	0.005	0.100		
Cobalt, total	mg/L	AP-1R	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-2A	4	0.006	0.005	1.176	0.000	0.012	0.006		
Cobalt, total	mg/L	AP-2BO	4	0.003	0.000	1.176	0.003	0.003	0.006		
Cobalt, total	mg/L	AP-3	4	0.006	0.005	1.176	0.000	0.012	0.006		
Cobalt, total	mg/L	AP-3A	4	0.008	0.004	1.176	0.003	0.013	0.006		
Cobalt, total	mg/L	AP-4A	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-4B	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-4I	4	0.002	0.000	1.176	0.002	0.003	0.006		
Cobalt, total	mg/L	AP-5	4	0.002	0.000	1.176	0.002	0.003	0.006		
Cobalt, total	mg/L	AP-5A	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-6A	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-6B	4	0.010	0.000	1.176	0.010	0.010	0.006		**

* - Insufficient Data
 ** - Significant Exceedance
 LCL = Lower Confidence Limit
 UCL = Upper Confidence Limit

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Cobalt, total	mg/L	AP-7	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-8	4	0.322	0.055	1.176	0.258	0.387	0.006		**
Fluoride	mg/L	AP-1R	4	1.905	1.190	1.176	0.505	3.305	4.000		
Fluoride	mg/L	AP-2A	4	0.163	0.039	1.176	0.117	0.208	4.000		
Fluoride	mg/L	AP-2BO	4	2.500	0.000	1.176	2.500	2.500	4.000		
Fluoride	mg/L	AP-3	4	1.313	1.371	1.176	0.000	2.925	4.000		
Fluoride	mg/L	AP-3A	4	1.315	1.368	1.176	0.000	2.925	4.000		
Fluoride	mg/L	AP-4A	4	1.310	1.374	1.176	0.000	2.926	4.000		
Fluoride	mg/L	AP-4B	4	1.902	1.195	1.176	0.497	3.308	4.000		
Fluoride	mg/L	AP-4I	4	0.193	0.036	1.176	0.150	0.235	4.000		
Fluoride	mg/L	AP-5	4	0.190	0.008	1.176	0.180	0.200	4.000		
Fluoride	mg/L	AP-5A	4	1.903	1.195	1.176	0.497	3.308	4.000		
Fluoride	mg/L	AP-6A	4	2.500	0.000	1.176	2.500	2.500	4.000		
Fluoride	mg/L	AP-6B	4	0.965	0.570	1.176	0.295	1.635	4.000		
Fluoride	mg/L	AP-7	4	0.145	0.019	1.176	0.122	0.168	4.000		
Fluoride	mg/L	AP-8	4	0.533	0.176	1.176	0.325	0.740	4.000		
Lead, total	mg/L	AP-1R	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-2A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-2BO	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-3	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-3A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-4A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-4B	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-4I	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-5	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-5A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-6A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-6B	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-7	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-8	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lithium, total	mg/L	AP-1R	4	0.050	0.000	1.176	0.050	0.050	2.886		
Lithium, total	mg/L	AP-2A	4	0.083	0.004	1.176	0.079	0.087	2.886		

* - Insufficient Data
 ** - Significant Exceedance
 LCL = Lower Confidence Limit
 UCL = Upper Confidence Limit

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Lithium, total	mg/L	AP-2BO	4	0.050	0.000	1.176	0.050	0.050	2.886		
Lithium, total	mg/L	AP-3	4	0.050	0.000	1.176	0.050	0.050	2.886		
Lithium, total	mg/L	AP-3A	4	0.050	0.000	1.176	0.050	0.050	2.886		
Lithium, total	mg/L	AP-4A	4	0.050	0.009	1.176	0.039	0.061	2.886		
Lithium, total	mg/L	AP-4B	4	0.050	0.000	1.176	0.050	0.050	2.886		
Lithium, total	mg/L	AP-4I	4	0.045	0.011	1.176	0.032	0.057	2.886		
Lithium, total	mg/L	AP-5	4	0.024	0.004	1.176	0.019	0.029	2.886		
Lithium, total	mg/L	AP-5A	4	0.043	0.013	1.176	0.028	0.059	2.886		
Lithium, total	mg/L	AP-6A	4	0.050	0.000	1.176	0.050	0.050	2.886		
Lithium, total	mg/L	AP-6B	4	0.050	0.000	1.176	0.050	0.050	2.886		
Lithium, total	mg/L	AP-7	4	0.050	0.000	1.176	0.050	0.050	2.886		
Lithium, total	mg/L	AP-8	4	0.044	0.010	1.176	0.032	0.056	2.886		
Mercury, total	mg/L	AP-1R	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-2A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-2BO	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-3	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-3A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-4A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-4B	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-4I	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-5	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-5A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-6A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-6B	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-7	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-8	4	0.000	0.000	1.176	0.000	0.000	0.002		
Molybdenum, total	mg/L	AP-1R	4	0.016	0.002	1.176	0.014	0.019	0.660		
Molybdenum, total	mg/L	AP-2A	4	2.470	0.203	1.176	2.231	2.709	0.660		**
Molybdenum, total	mg/L	AP-2BO	4	0.329	0.195	1.176	0.099	0.558	0.660	dec	
Molybdenum, total	mg/L	AP-3	4	0.050	0.000	1.176	0.050	0.050	0.660		
Molybdenum, total	mg/L	AP-3A	4	0.767	0.145	1.176	0.595	0.938	0.660	dec	
Molybdenum, total	mg/L	AP-4A	4	0.244	0.024	1.176	0.216	0.272	0.660		

* - Insufficient Data
 ** - Significant Exceedance
 LCL = Lower Confidence Limit
 UCL = Upper Confidence Limit

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend
Molybdenum, total	mg/L	AP-4B	4	0.050	0.000	1.176	0.050	0.050	0.660	
Molybdenum, total	mg/L	AP-4I	4	0.127	0.043	1.176	0.077	0.177	0.660	
Molybdenum, total	mg/L	AP-5	4	0.161	0.046	1.176	0.108	0.215	0.660	
Molybdenum, total	mg/L	AP-5A	4	0.202	0.024	1.176	0.174	0.231	0.660	
Molybdenum, total	mg/L	AP-6A	4	0.050	0.000	1.176	0.050	0.050	0.660	
Molybdenum, total	mg/L	AP-6B	4	0.050	0.000	1.176	0.050	0.050	0.660	
Molybdenum, total	mg/L	AP-7	4	0.050	0.000	1.176	0.050	0.050	0.660	
Molybdenum, total	mg/L	AP-8	4	0.050	0.000	1.176	0.050	0.050	0.660	
Selenium, total	mg/L	AP-1R	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-2A	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-2BO	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-3	4	0.002	0.000	1.176	0.001	0.002	0.050	
Selenium, total	mg/L	AP-3A	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-4A	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-4B	4	0.008	0.002	1.176	0.006	0.010	0.050	
Selenium, total	mg/L	AP-4I	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-5	4	0.002	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-5A	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-6A	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-6B	4	0.002	0.001	1.176	0.001	0.003	0.050	
Selenium, total	mg/L	AP-7	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	AP-8	4	0.003	0.000	1.176	0.002	0.003	0.050	
Thallium, total	mg/L	AP-1R	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	AP-2A	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	AP-2BO	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	AP-3	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	AP-3A	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	AP-4A	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	AP-4B	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	AP-4I	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	AP-5	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	AP-5A	4	0.003	0.000	1.176	0.002	0.003	0.002	**

* - Insufficient Data
 ** - Significant Exceedance
 LCL = Lower Confidence Limit
 UCL = Upper Confidence Limit

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Thallium, total	mg/L	AP-6A	4	0.003	0.000	1.176	0.002	0.003	0.002		**
Thallium, total	mg/L	AP-6B	4	0.003	0.000	1.176	0.002	0.003	0.002		**
Thallium, total	mg/L	AP-7	4	0.003	0.000	1.176	0.002	0.003	0.002		**
Thallium, total	mg/L	AP-8	4	0.003	0.000	1.176	0.002	0.003	0.002		**
Total Radium	pCi/L	AP-1R	4	1.200	0.866	1.176	0.182	2.218			
Total Radium	pCi/L	AP-2A	4	2.385	2.417	1.176	0.000	5.228			
Total Radium	pCi/L	AP-2BO	4	1.646	0.681	1.176	0.845	2.447			
Total Radium	pCi/L	AP-3	4	1.175	0.957	1.176	0.049	2.301			
Total Radium	pCi/L	AP-3A	4	1.219	0.327	1.176	0.834	1.603			
Total Radium	pCi/L	AP-4A	4	1.622	0.291	1.176	1.280	1.965			
Total Radium	pCi/L	AP-4B	4	1.025	0.269	1.176	0.708	1.341			
Total Radium	pCi/L	AP-4I	4	1.218	0.778	1.176	0.302	2.133			
Total Radium	pCi/L	AP-5	4	1.611	1.060	1.176	0.365	2.858			
Total Radium	pCi/L	AP-5A	4	1.150	0.526	1.176	0.532	1.768			
Total Radium	pCi/L	AP-6A	4	1.218	0.534	1.176	0.590	1.845			
Total Radium	pCi/L	AP-6B	4	0.800	0.000	1.176	0.800	0.800			
Total Radium	pCi/L	AP-7	4	0.994	0.740	1.176	0.124	1.864			
Total Radium	pCi/L	AP-8	4	1.052	0.642	1.176	0.297	1.807			

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 ** - Significant Exceedance
 LCL = Lower Confidence Limit
 UCL = Upper Confidence Limit

May 2021

Table 1: 95% LCL Compared to GWPS
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01112

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	6	20.5	2000	4	5	100	6**	4**	47.8	2787.1	2	660	50	2**	5
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through May 2021)	5	20.5	73	1	2	10	20	5	47.8	2787.1	0.4	660	5.9	5	4.1908
Shallow Zone																
AP-1R	September 2018	3	5	46	2	1	5	10	2.5	5	50	0	50	2	2	0
	May 2019	3	2	47	1	1	5	10	2.5	5	50	0	24	2	2	0.511
	November 2019	3	1	47	1	1	5	10	2.5	5	50	0	10	2	2	0.549
	May 2020	3	0	49	1	1	5	10	0.505	5	50	0	5	2	2	0.182
	November 2020	2	1	54	1	1	5	10	0.505	5	50	0	14	2	2	0.182
May 2021	2	1	52	1	1	5	10	0.505	5	50	0	14	2	1	0.081	
AP-2BO	September 2018	3	5	18	2	1	5	10	2.5	5	50	0	406	2	2	0.413
	May 2019	3	3	17	1	1	5	4	2.5	5	50	0	298	2	2	0.371
	November 2019	3	2	17	1	1	5	1	2.5	5	50	0	183	2	2	0.501
	May 2020	3	1	21	1	1	5	0	2.5	5	50	0	157	2	2	0.212
	November 2020	2	2	23	1	1	5	3	2.5	5	50	0	99	2	2	0.845
May 2021	2	2	24	1	1	5	2	0.300	5	50	0	65	2	1	0.623	
AP-3	September 2018	3	5	13	2	1	5	10	2.5	5	50	0	50	2	2	0.248
	May 2019	3	5	14	1	1	5	3	0.505	5	50	0	50	2	2	0.260
	November 2019	3	5	13	1	1	5	3	0.505	5	50	0	50	2	2	0.336
	May 2020	2	3	19	1	1	5	0	0	5	50	0	50	2	2	0.049
	November 2020	2	2	22	1	1	5	0	0	5	50	0	50	1	2	0.049
May 2021	2	2	25	1	1	5	4	0.514	5	50	0	50	1	1	0.000	
AP-4B	September 2018	2	5	42	2	1	5	10	2.5	5	50	0	50	6	2	0.094
	May 2019	3	5	49	1	1	5	10	0.497	5	50	0	50	6	2	0
	November 2019	3	5	48	1	1	5	10	0.497	5	50	0	50	7	2	0.132
	May 2020	2	2	45	1	1	5	10	0.497	5	50	0	50	6	2	0.328
	November 2020	2	2	62	1	1	5	10	0.497	5	50	0	50	6	2	0.708
May 2021	2	2	63	1	1	5	10	2.5	5	50	0	50	4	1	0.704	
AP-4I	September 2018	3	5	19	2	1	5	10	2.5	5	50	0	35	2	2	1.161
	May 2019	3	5	19	2	1	5	3	0.547	5	50	0	37	2	2	1.219
	November 2019	3	5	19	2	1	5	1	0	5	50	0	54	2	2	1.096
	May 2020	3	2	22	1	1	5	0	0	5	32	0	85	2	2	0.413
	November 2020	2	2	28	1	1	5	2	0.15	5	32	0	77	2	2	0.302
May 2021	2	2	26	1	1	5	2	0.145	5	32	0	84	2	1	0.161	
AP-5	September 2018	3	5	17	2	1	5	10	2.5	5	50	0	60	2	2	0.107
	May 2019	3	5	19	2	1	5	3	0.564	5	26	0	62	2	2	0
	November 2019	3	5	22	2	1	5	1	0	5	16	0	114	2	2	0.248
	May 2020	2	2	23	1	1	5	0	0	5	14	0	123	2	2	0.000
	November 2020	2	2	26	1	1	5	2	0.18	5	19	0	108	2	2	0.365
May 2021	2	2	17	1	1	5	1	0	5	16	0	69	2	1	0.237	
AP-6B	September 2018	3	5	24	2	1	5	10	2.5	5	50	0	50	2	2	0.122
	May 2019	3	5	23	2	1	5	10	0.497	5	50	0	50	2	2	0.219
	November 2019	3	5	23	2	1	5	10	0.497	5	50	0	50	1	2	0.219
	May 2020	2	5	23	1	1	5	10	0.497	5	50	0	50	1	2	0.895
	November 2020	2	2	24	1	1	5	10	0.295	5	50	0	50	1	2	0.8
May 2021	2	2	29	1	1	5	10	1.250	5	50	0	50	1	1	0.890	

Table 1: 95% LCL Compared to GWPS
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01112

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	6	20.5	2000	4	5	100	6**	4**	47.8	2787.1	2	660	50	2**	5
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through May 2021)	5	20.5	73	1	2	10	20	5	47.8	2787.1	0.4	660	5.9	5	4.1908
AP-7	September 2018	3	5	46	2	2	5	10	2.5	5	50	0	50	2	2	0.608
	May 2019	3	3	45	2	1	5	10	0.505	5	50	0	50	2	2	0
	November 2019	3	1	46	2	1	5	10	0	5	50	0	50	2	2	0
	May 2020	2	1	47	1	1	5	10	0	5	50	0	50	2	2	0.191
	November 2020	2	1	56	1	1	5	10	0.122	5	50	0	50	2	2	0.124
	May 2021	2	1	54	1	1	5	10	0.122	5	50	0	50	2	1	0.073
AP-8	September 2018	3	5	12	2	7	5	283	2.5	5	50	0	50	2	2	1.163
	May 2019	3	5	12	2	5	5	247	0.782	5	40	0	50	2	2	0.798
	November 2019	3	5	12	2	5	5	244	0.152	5	40	0	50	2	2	0.813
	May 2020	2	6	14	1	5	5	242	0	5	33	0	50	2	2	0.297
	November 2020	2	6	15	2	6	5	258	0.325	5	32	0	50	2	2	0.297
	May 2021	2	4	14	0	6	5	205	0.177	5	33	0	50	2	1	0.508
Deep Zone																
AP-2A	September 2018	3	0	35	2	1	5	10	2.5	5	33	0	2081	2	2	1.08
	May 2019	3	0	35	1	1	5	3	0.497	5	41	0	1984	2	2	0.768
	November 2019	3	0	36	1	1	5	0	0	5	53	0	2046	2	2	0.504
	May 2020	2	0	40	1	1	5	0	0	5	55	0	2177	2	2	0
	November 2020	2	4	44	1	1	5	0	0.117	5	79	0	2231	2	2	0
	May 2021	2	3	44	1	1	5	3	0.146	5	68	0	2008	2	1	0
AP-3A	September 2018	3	5	27	2	1	5	10	2.5	5	50	0	676	2	2	0.528
	May 2019	3	2	27	1	1	5	10	2.5	5	50	0	672	2	2	0.518
	November 2019	3	1	28	1	1	5	3	2.5	5	50	0	612	2	2	0.770
	May 2020	2	0	35	1	1	5	3	0.522	5	50	0	617	2	2	0.798
	November 2020	2	1	35	1	1	5	3	0	5	50	0	595	2	2	0.834
	May 2021	2	1	35	1	1	5	3	0	5	50	0	575	2	1	0.796
AP-4A	September 2018	3	5	24	2	1	5	10	2.5	5	50	0	150	2	2	0.559
	May 2019	3	5	24	1	1	5	10	2.5	5	45	0	173	2	2	0.589
	November 2019	3	5	25	1	1	5	10	2.5	5	42	0	184	2	2	0.713
	May 2020	2	2	29	1	1	5	10	0.514	5	39	0	212	2	2	1.289
	November 2020	2	2	30	1	1	5	10	0	5	39	0	216	2	2	1.28
	May 2021	2	2	30	1	1	5	10	0	5	35	0	209	2	1	0.998
AP-5A	September 2018	3	5	7	2	1	5	10	2.5	5	50	0	173	2	2	0
	May 2019	3	5	7	2	1	5	10	2.5	5	50	0	173	2	2	0.205
	November 2019	3	2	7	2	1	5	10	2.5	5	50	0	170	2	2	0.521
	May 2020	2	2	20	1	1	5	10	0.497	5	28	0	180	2	2	0.221
	November 2020	2	1	22	1	1	5	10	0.497	5	28	0	174	2	2	0.532
	May 2021	2	1	23	1	1	5	2	0.497	5	28	0	179	2	1	0.357

Table 1: 95% LCL Compared to GWPS
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01112

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	6	20.5	2000	4	5	100	6**	4**	47.8	2787.1	2	660	50	2**	5
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through May 2021)	5	20.5	73	1	2	10	20	5	47.8	2787.1	0.4	660	5.9	5	4.1908
AP-6A	September 2018	3	5	22	2	1	5	10	2.5	5	50	0	50	2	2	0
	May 2019	3	5	23	2	1	5	10	2.5	5	50	0	50	2	2	0.045
	November 2019	3	5	24	2	1	5	10	2.5	5	50	0	50	2	2	0.120
	May 2020	2	2	24	1	1	5	10	2.5	5	50	0	50	2	2	0.276
	November 2020	2	2	25	1	1	5	10	2.5	5	50	0	50	2	2	0.590
	May 2021	2	2	25	1	1	5	10	0.3	5	50	0	50	2	1	0.272

Notes:

GWPS = Groundwater Protection Standard

MCL = Maximum Contaminant Level

LCL = Lower Confidence Limit

Bold font with gray shading indicates 95% LCL of the mean of the last four measurements that is in exceedance of GWPS.

ug/L = micrograms per liter (ppb)

mg/L = milligrams per liter (ppm)

Std. Units = Standard Units

*USEPA'S Amendments to the National Minimum Criteria (Phase One, Part One), Disposal of Coal Combustion Residuals from Electric Utilities; effective August 29, 2018 (page 36444).

** Utilizing MCL or USEPA's Amendment value as GWPS.

Background prediction limits are re-calculated after each sampling event. If a background prediction limit value is utilized as the GWPS, the GWPS for the current summary may be different from previous events.

The 95% LCL statistic is based on the rolling set of the four most recent individual sample results for a parameter.

LCL calculations utilize 1/2 the median non-detect (ND) reporting limit (RL) from the full date range of non-detect sample results. If RL levels changed over time, the current calculated LCL value may be larger than the most recent four ND results.

DUMPStat summary table output limits the number of significant digits reported for a calculated LCL. An exceedingly small calculated LCL value (e.g. 0.00001 mg/L) may simply be reported as 0 in the output summary.

Table updated to include May 2021 assessment sampling results.

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend
Antimony, total	mg/L	AP-1R	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-2A	4	0.002	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-2BO	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-3	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-3A	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-4A	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-4B	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-4I	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-5	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-5A	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-6A	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-6B	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-7	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	AP-8	4	0.003	0.000	1.176	0.002	0.003	0.006	
Arsenic, total	mg/L	AP-1R	4	0.002	0.000	1.176	0.001	0.002	0.021	
Arsenic, total	mg/L	AP-2A	4	0.005	0.002	1.176	0.003	0.007	0.021	
Arsenic, total	mg/L	AP-2BO	4	0.002	0.000	1.176	0.002	0.003	0.021	
Arsenic, total	mg/L	AP-3	4	0.002	0.000	1.176	0.002	0.003	0.021	
Arsenic, total	mg/L	AP-3A	4	0.001	0.000	1.176	0.001	0.002	0.021	
Arsenic, total	mg/L	AP-4A	4	0.003	0.000	1.176	0.002	0.003	0.021	
Arsenic, total	mg/L	AP-4B	4	0.003	0.000	1.176	0.002	0.003	0.021	
Arsenic, total	mg/L	AP-4I	4	0.003	0.000	1.176	0.002	0.003	0.021	
Arsenic, total	mg/L	AP-5	4	0.003	0.000	1.176	0.002	0.003	0.021	
Arsenic, total	mg/L	AP-5A	4	0.002	0.001	1.176	0.001	0.003	0.021	
Arsenic, total	mg/L	AP-6A	4	0.002	0.000	1.176	0.002	0.003	0.021	
Arsenic, total	mg/L	AP-6B	4	0.003	0.000	1.176	0.002	0.003	0.021	
Arsenic, total	mg/L	AP-7	4	0.003	0.002	1.176	0.001	0.005	0.021	
Arsenic, total	mg/L	AP-8	4	0.006	0.001	1.176	0.004	0.007	0.021	
Barium, total	mg/L	AP-1R	4	0.060	0.007	1.176	0.052	0.068	2.000	dec
Barium, total	mg/L	AP-2A	4	0.047	0.003	1.176	0.044	0.050	2.000	dec
Barium, total	mg/L	AP-2BO	4	0.025	0.001	1.176	0.024	0.027	2.000	
Barium, total	mg/L	AP-3	4	0.029	0.004	1.176	0.025	0.033	2.000	
Barium, total	mg/L	AP-3A	4	0.037	0.002	1.176	0.035	0.039	2.000	
Barium, total	mg/L	AP-4A	4	0.031	0.001	1.176	0.030	0.032	2.000	
Barium, total	mg/L	AP-4B	4	0.087	0.020	1.176	0.063	0.110	2.000	inc
Barium, total	mg/L	AP-4I	4	0.029	0.002	1.176	0.026	0.031	2.000	
Barium, total	mg/L	AP-5	4	0.027	0.008	1.176	0.017	0.037	2.000	
Barium, total	mg/L	AP-5A	4	0.028	0.005	1.176	0.023	0.034	2.000	
Barium, total	mg/L	AP-6A	4	0.028	0.002	1.176	0.025	0.031	2.000	
Barium, total	mg/L	AP-6B	4	0.034	0.004	1.176	0.029	0.038	2.000	
Barium, total	mg/L	AP-7	4	0.067	0.011	1.176	0.054	0.079	2.000	inc
Barium, total	mg/L	AP-8	4	0.016	0.001	1.176	0.014	0.018	2.000	
Beryllium, total	mg/L	AP-1R	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-2A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-2BO	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-3	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-3A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-4A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-4B	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-4I	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-5	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-5A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-6A	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-6B	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-7	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	AP-8	4	0.003	0.002	1.176	0.000	0.006	0.004	
Cadmium, total	mg/L	AP-1R	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-2A	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-2BO	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-3	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-3A	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	AP-4A	4	0.001	0.000	1.176	0.001	0.001	0.005	

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 ** - Significant Exceedance
 LCL = Lower Confidence Limit
 UCL = Upper Confidence Limit

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Cadmium, total	mg/L	AP-4B	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-4I	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-5	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-5A	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-6A	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-6B	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-7	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	AP-8	4	0.008	0.002	1.176	0.006	0.010	0.005	dec	**
Chromium, total	mg/L	AP-1R	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-2A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-2BO	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-3	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-3A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-4A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-4B	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-4I	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-5	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-5A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-6A	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-6B	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-7	4	0.005	0.000	1.176	0.005	0.005	0.100		
Chromium, total	mg/L	AP-8	4	0.005	0.000	1.176	0.005	0.005	0.100		
Cobalt, total	mg/L	AP-1R	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-2A	4	0.008	0.004	1.176	0.003	0.013	0.006		
Cobalt, total	mg/L	AP-2BO	4	0.003	0.000	1.176	0.002	0.003	0.006		
Cobalt, total	mg/L	AP-3	4	0.008	0.004	1.176	0.004	0.012	0.006		
Cobalt, total	mg/L	AP-3A	4	0.008	0.004	1.176	0.003	0.013	0.006		
Cobalt, total	mg/L	AP-4A	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-4B	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-4I	4	0.002	0.000	1.176	0.002	0.003	0.006		
Cobalt, total	mg/L	AP-5	4	0.002	0.000	1.176	0.001	0.003	0.006		
Cobalt, total	mg/L	AP-5A	4	0.008	0.005	1.176	0.002	0.013	0.006		
Cobalt, total	mg/L	AP-6A	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-6B	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-7	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	AP-8	4	0.418	0.180	1.176	0.205	0.630	0.006		**
Fluoride	mg/L	AP-1R	4	1.905	1.190	1.176	0.505	3.305	4.000		
Fluoride	mg/L	AP-2A	4	0.173	0.022	1.176	0.146	0.199	4.000		
Fluoride	mg/L	AP-2BO	4	0.300	0.000	1.176	0.300	0.300	4.000		
Fluoride	mg/L	AP-3	4	1.908	1.185	1.176	0.514	3.301	4.000		
Fluoride	mg/L	AP-3A	4	1.315	1.368	1.176	0.000	2.925	4.000		
Fluoride	mg/L	AP-4A	4	1.310	1.374	1.176	0.000	2.926	4.000		
Fluoride	mg/L	AP-4B	4	2.500	0.000	1.176	2.500	2.500	4.000		
Fluoride	mg/L	AP-4I	4	0.190	0.038	1.176	0.145	0.235	4.000		
Fluoride	mg/L	AP-5	4	0.768	1.155	1.176	0.000	2.126	4.000		
Fluoride	mg/L	AP-5A	4	1.902	1.195	1.176	0.497	3.308	4.000		
Fluoride	mg/L	AP-6A	4	0.300	0.000	1.176	0.300	0.300	4.000		
Fluoride	mg/L	AP-6B	4	1.250	0.000	1.176	1.250	1.250	4.000		
Fluoride	mg/L	AP-7	4	0.145	0.019	1.176	0.122	0.168	4.000		
Fluoride	mg/L	AP-8	4	0.820	0.546	1.176	0.177	1.463	4.000		
Lead, total	mg/L	AP-1R	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-2A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-2BO	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-3	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-3A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-4A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-4B	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-4I	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-5	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-5A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-6A	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-6B	4	0.005	0.000	1.176	0.005	0.005	0.048		

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 ** - Significant Exceedance
 LCL = Lower Confidence Limit
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Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Lead, total	mg/L	AP-7	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lead, total	mg/L	AP-8	4	0.005	0.000	1.176	0.005	0.005	0.048		
Lithium, total	mg/L	AP-1R	4	0.050	0.000	1.176	0.050	0.050	2.787		
Lithium, total	mg/L	AP-2A	4	0.079	0.010	1.176	0.068	0.091	2.787		
Lithium, total	mg/L	AP-2BO	4	0.050	0.000	1.176	0.050	0.050	2.787		
Lithium, total	mg/L	AP-3	4	0.050	0.000	1.176	0.050	0.050	2.787		
Lithium, total	mg/L	AP-3A	4	0.050	0.000	1.176	0.050	0.050	2.787		
Lithium, total	mg/L	AP-4A	4	0.048	0.011	1.176	0.035	0.061	2.787		
Lithium, total	mg/L	AP-4B	4	0.050	0.000	1.176	0.050	0.050	2.787		
Lithium, total	mg/L	AP-4I	4	0.045	0.011	1.176	0.032	0.057	2.787		
Lithium, total	mg/L	AP-5	4	0.031	0.013	1.176	0.016	0.047	2.787		
Lithium, total	mg/L	AP-5A	4	0.043	0.013	1.176	0.028	0.059	2.787		
Lithium, total	mg/L	AP-6A	4	0.050	0.000	1.176	0.050	0.050	2.787		
Lithium, total	mg/L	AP-6B	4	0.050	0.000	1.176	0.050	0.050	2.787		
Lithium, total	mg/L	AP-7	4	0.050	0.000	1.176	0.050	0.050	2.787		
Lithium, total	mg/L	AP-8	4	0.053	0.017	1.176	0.033	0.073	2.787		
Mercury, total	mg/L	AP-1R	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-2A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-2BO	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-3	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-3A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-4A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-4B	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-4I	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-5	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-5A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-6A	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-6B	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-7	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	AP-8	4	0.000	0.000	1.176	0.000	0.000	0.002		
Molybdenum, total	mg/L	AP-1R	4	0.015	0.001	1.176	0.014	0.017	0.660		
Molybdenum, total	mg/L	AP-2A	4	2.400	0.334	1.176	2.008	2.792	0.660	dec	**
Molybdenum, total	mg/L	AP-2BO	4	0.309	0.207	1.176	0.065	0.553	0.660		
Molybdenum, total	mg/L	AP-3	4	0.050	0.000	1.176	0.050	0.050	0.660		
Molybdenum, total	mg/L	AP-3A	4	0.695	0.103	1.176	0.575	0.816	0.660	dec	
Molybdenum, total	mg/L	AP-4A	4	0.233	0.021	1.176	0.209	0.258	0.660		
Molybdenum, total	mg/L	AP-4B	4	0.050	0.000	1.176	0.050	0.050	0.660		
Molybdenum, total	mg/L	AP-4I	4	0.130	0.039	1.176	0.084	0.176	0.660		
Molybdenum, total	mg/L	AP-5	4	0.145	0.065	1.176	0.069	0.221	0.660		
Molybdenum, total	mg/L	AP-5A	4	0.212	0.028	1.176	0.179	0.245	0.660		
Molybdenum, total	mg/L	AP-6A	4	0.050	0.000	1.176	0.050	0.050	0.660		
Molybdenum, total	mg/L	AP-6B	4	0.050	0.000	1.176	0.050	0.050	0.660		
Molybdenum, total	mg/L	AP-7	4	0.050	0.000	1.176	0.050	0.050	0.660		
Molybdenum, total	mg/L	AP-8	4	0.050	0.000	1.176	0.050	0.050	0.660		
Selenium, total	mg/L	AP-1R	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-2A	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-2BO	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-3	4	0.002	0.000	1.176	0.001	0.002	0.050		
Selenium, total	mg/L	AP-3A	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-4A	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-4B	4	0.010	0.005	1.176	0.004	0.015	0.050		
Selenium, total	mg/L	AP-4I	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-5	4	0.002	0.001	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-5A	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-6A	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-6B	4	0.002	0.001	1.176	0.001	0.003	0.050		
Selenium, total	mg/L	AP-7	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	AP-8	4	0.003	0.001	1.176	0.002	0.004	0.050		
Thallium, total	mg/L	AP-1R	4	0.001	0.000	1.176	0.001	0.001	0.002		
Thallium, total	mg/L	AP-2A	4	0.001	0.000	1.176	0.001	0.001	0.002		
Thallium, total	mg/L	AP-2BO	4	0.001	0.000	1.176	0.001	0.001	0.002		
Thallium, total	mg/L	AP-3	4	0.001	0.000	1.176	0.001	0.001	0.002		

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Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend
Thallium, total	mg/L	AP-3A	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	AP-4A	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	AP-4B	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	AP-4I	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	AP-5	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	AP-5A	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	AP-6A	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	AP-6B	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	AP-7	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	AP-8	4	0.001	0.000	1.176	0.001	0.001	0.002	
Total Radium	pCi/L	AP-1R	4	1.070	0.840	1.176	0.081	2.058	5.000	
Total Radium	pCi/L	AP-2A	4	2.335	2.445	1.176	0.000	5.211	5.000	
Total Radium	pCi/L	AP-2BO	4	1.479	0.728	1.176	0.623	2.334	5.000	
Total Radium	pCi/L	AP-3	4	1.098	0.955	1.176	0.000	2.221	5.000	
Total Radium	pCi/L	AP-3A	4	1.259	0.394	1.176	0.796	1.722	5.000	
Total Radium	pCi/L	AP-4A	4	1.440	0.376	1.176	0.998	1.882	5.000	
Total Radium	pCi/L	AP-4B	4	0.977	0.233	1.176	0.704	1.251	5.000	
Total Radium	pCi/L	AP-4I	4	1.096	0.795	1.176	0.161	2.030	5.000	
Total Radium	pCi/L	AP-5	4	1.105	0.738	1.176	0.237	1.973	5.000	
Total Radium	pCi/L	AP-5A	4	0.875	0.441	1.176	0.357	1.393	5.000	
Total Radium	pCi/L	AP-6A	4	1.015	0.631	1.176	0.272	1.758	5.000	
Total Radium	pCi/L	AP-6B	4	0.890	0.000	1.176	0.890	0.890	5.000	
Total Radium	pCi/L	AP-7	4	0.960	0.754	1.176	0.073	1.846	5.000	
Total Radium	pCi/L	AP-8	4	1.213	0.599	1.176	0.508	1.917	5.000	

* - Insufficient Data

** - Significant Exceedance

LCL = Lower Confidence Limit

UCL = Upper Confidence Limit