



2021 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM NO. 1

RWS I LANDFILL

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
Indianapolis, IN 46256

October 3, 2023



October 3, 2023

Atlas Project No. 170LF01503

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 – RWS I Landfill
Petersburg, Indiana
ATC Project No. 170LF01503**

Dear Mr. Heger:

The Restricted Waste Site (RWS) Type I Landfill 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 Landfill 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 RWS I Landfill 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 CCR RWS I Landfill 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 landfill groundwater monitoring system at the PGS consists of eight (8) monitoring wells: one (1) upgradient monitoring well MW-1, and seven (7) downgradient monitoring wells MW-2R, MW-3, MW-4C, MW-10, MW-11, MW-12, and MW-13. 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. Due to requirements contained in the Federal CCR Rule, monitoring wells MW-10 through MW-13 were installed in 2017 for the purpose of providing additional coverage around the perimeter of the planned landfill expansion footprint.

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.

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 well, 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 Appendix IV statistically evaluated parameters for the PGS Landfill. 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 well MW-1. 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** of this attachment.

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.

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 MW-2R, MW-3, MW-4C, MW-10, MW-11, MW-12, and MW-13 will be statistically compared to results from Monitoring Well MW-1.

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 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

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

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).

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;

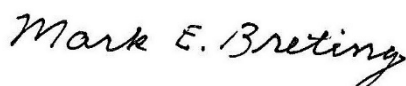
s/√m = standard error of the mean; and

\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



Mark E. Breting, L.P.G.
Senior Project Geologist



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

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

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

Attachment A: Groundwater Flow Direction and Rate

November 2020

Table 1
 Gauging Summary
 November 2, 2020
 Petersburg Generating Station - RWS Type I Landfill
 ATC Project No. 170LF00874

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-1	11/2/2020	9:54	31.34	528.11	496.77
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
MW-10	11/2/2020	9:20	40.44	502.38	461.94
MW-11	11/2/2020	9:40	38.23	517.51	479.28
MW-12	11/2/2020	12:32	31.18	517.64	486.46
MW-13	11/2/2020	9:59	14.77	480.97	466.20
Piezometers					
LW-1A	11/2/2020	12:35	15.28	504.40	489.12
LW-1B	11/2/2020	12:37	12.57	504.40	491.83
LW-6A	11/2/2020	12:17	44.57	518.90	474.33
LW-8A	11/2/2020	9:47	60.20	524.90	464.70
LW-8B	11/2/2020	9:46	31.69	524.90	493.21
LW-18	11/2/2020	9:36	46.39	510.70	464.31
LW-28A	11/2/2020	12:25	20.57	504.40	483.83
LW-28B	11/2/2020	12:26	17.36	504.40	487.04

TOC = top of casing
 SWE = Static Water Level
 DTW = Depth to Water
 NR = Not Recorded

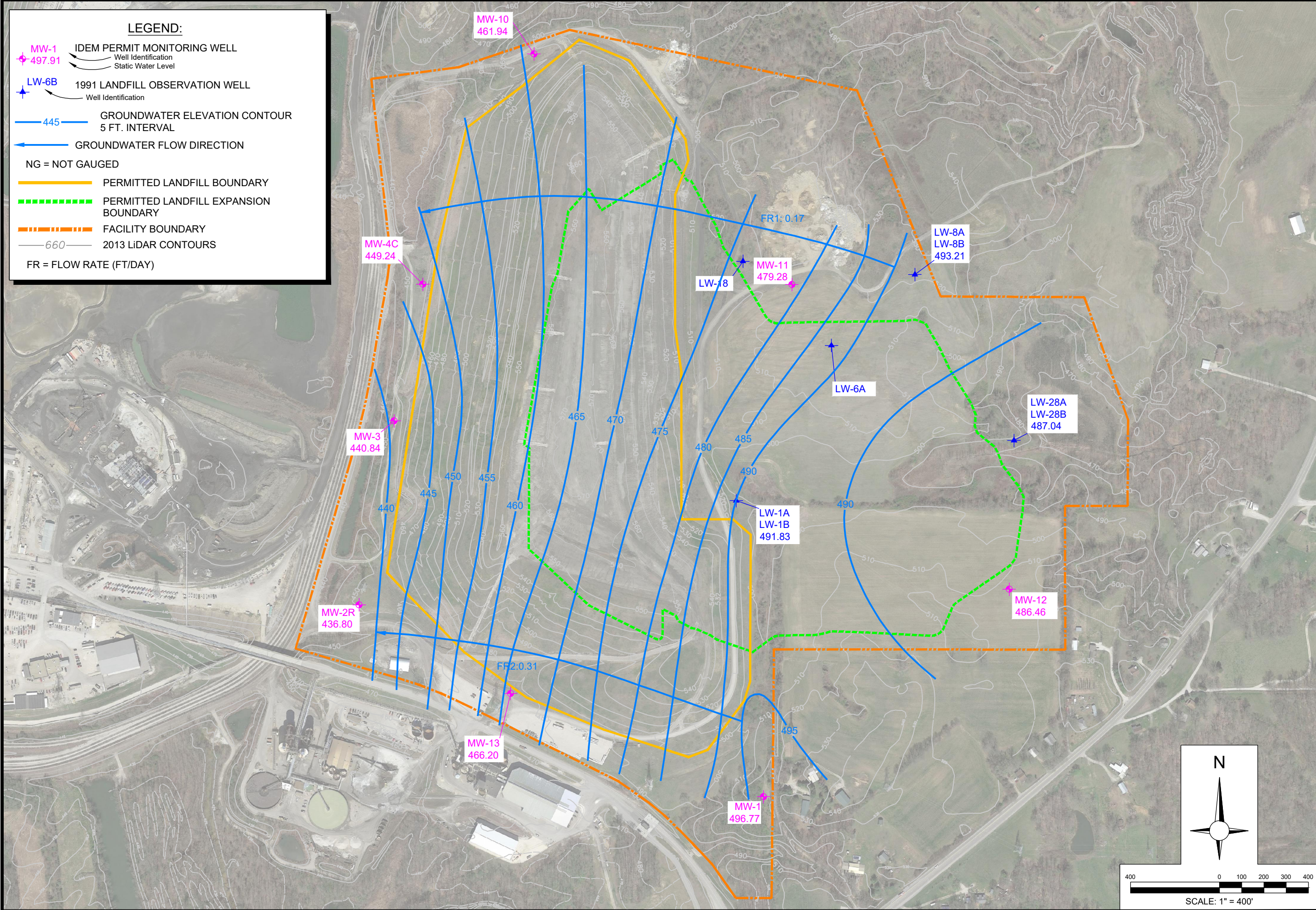
Flow Rate Calculations - November 2020
 AES Indiana Petersburg Generating Station - RWS I Landfill
 Petersburg, Indiana
 ATC Project No. 170LF01112

PETERSBURG LF - ZONE B FIGURE 1		RWS I LANDFILL	
11/2/2020	Flow Rate Line	FR1	FR2
$v = Q/n_e A^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	40	55
ΔL (ft)	Flow Line Length	2180	1700
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	3.3	3.3
I ($\Delta H/\Delta L$)		0.018	0.032
n_e (porosity, dimensionless)		0.35	0.35
v (ft/day)		0.17	0.31
PETERSBURG LF - ZONE A FIGURE 2			
11/2/2020	Flow Rate Line	FR1	FR2
$v = Q/n_e A^1 = KI/n_e$			
ΔH (ft)	Potentiometric surface hydraulic head change	20	
ΔL (ft)	Flow Line Length	760	
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	0.21	
I ($\Delta H/\Delta L$)		0.026	
n_e (porosity, dimensionless)		0.35	
v (ft/day)		0.016	

Notes

1 - Average linear velocity equation from Fetter, C.W., 1980, Applied Hydrogeology: Merrill Publishing Company, 592 p.

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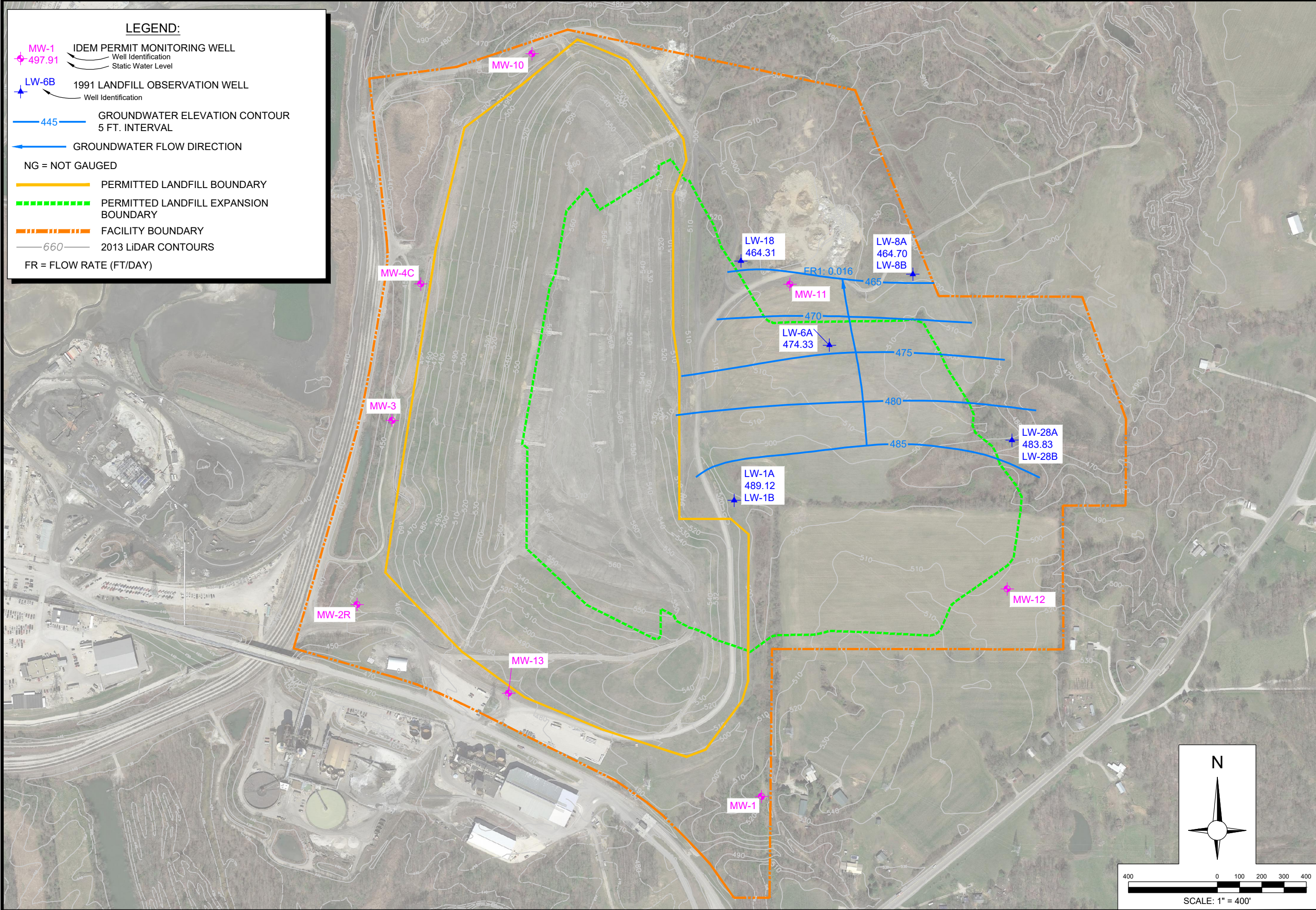
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Project Number:	170LF00874
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App'd Date:	



POTTERY STATION SURFACE MAP NOVEMBER 2, 2020 - ZONE B
 PETERSBURG STATION RWS LANDFILL
 AES INDIANA PETERSBURG GENERATING STATION
 6925 NORTH STATE ROAD 37
 PETERSBURG, INDIANA

Date:	3/22
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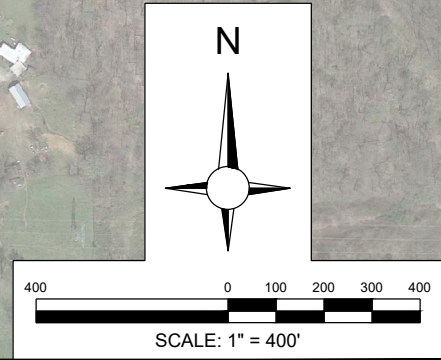


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Ckd. Date:	



POTTERY STATION SURFACE MAP NOVEMBER 2, 2020 - ZONE A
 PETERSBURG STATION RWS LANDFILL
 AES INDIANA PETERSBURG GENERATING STATION
 6925 NORTH STATE ROAD 37
 PETERSBURG, INDIANA

Date:	3/22
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Figure:	2



May 2021

Table 2
Gauging Summary
May 2, 2021
Petersburg Generating Station - RWS Type I Landfill
ATC Project No. 170LF01112

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-1	5/2/2021	12:08	31.50	528.11	496.61
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
MW-10	5/2/2021	9:35	38.58	502.38	463.80
MW-11	5/2/2021	9:58	30.70	517.51	486.81
MW-12	5/2/2021	10:13	29.08	517.64	488.56
MW-13	5/2/2021	10:45	12.85	480.97	468.12
Piezometers					
LW-1A	5/2/2021	10:17	16.17	504.40	488.23
LW-1B	5/2/2021	10:19	11.88	504.40	492.52
LW-6A	5/2/2021	10:03	43.72	518.90	475.18
LW-8A	5/2/2021	10:23	62.40	524.90	462.50
LW-8B	5/2/2021	10:25	31.71	524.90	493.19
LW-18	5/2/2021	9:55	48.03	510.70	462.67
LW-28A	5/2/2021	10:07	19.35	504.40	485.05
LW-28B	5/2/2021	10:08	16.89	504.40	487.51

TOC = top of casing
SWE = Static Water Level
DTW = Depth to Water
NR = Not Recorded

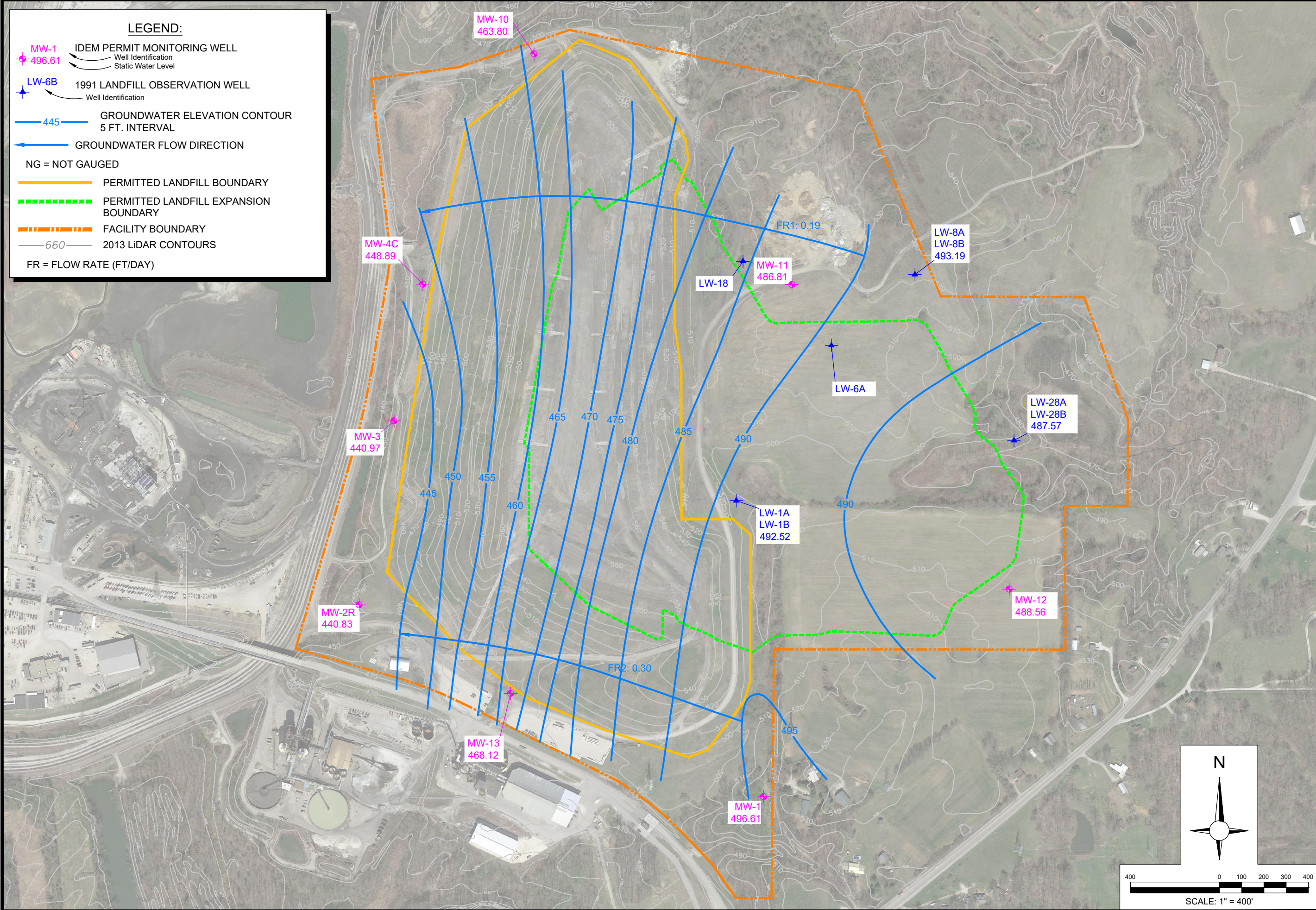
Flow Rate Calculations - May 2021
 AES Indiana Petersburg Generating Station - RWS I Landfill
 Petersburg, Indiana
 ATC Project No. 170LF01112

PETERSBURG LF - ZONE B FIGURE 1		RWS I LANDFILL	
5/2/2021	Flow Rate Line	FR1	FR2
$v = Q/n_e A^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	40	50
ΔL (ft)	Flow Line Length	2030	1590
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	3.3	3.3
I ($\Delta H/\Delta L$)		0.020	0.031
n_e (porosity, dimensionless)		0.35	0.35
v (ft/day)		0.19	0.30
PETERSBURG LF - ZONE A FIGURE 2			
5/2/2021	Flow Rate Line	FR1	FR2
$v = Q/n_e A^1 = KI/n_e$			
ΔH (ft)	Potentiometric surface hydraulic head change	20	
ΔL (ft)	Flow Line Length	750	
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	0.21	
I ($\Delta H/\Delta L$)		0.027	
n_e (porosity, dimensionless)		0.35	
v (ft/day)		0.016	

Notes

1 - Average linear velocity equation from Fetter, C.W., 1980, Applied Hydrogeology: Merrill Publishing Company, 592 p.

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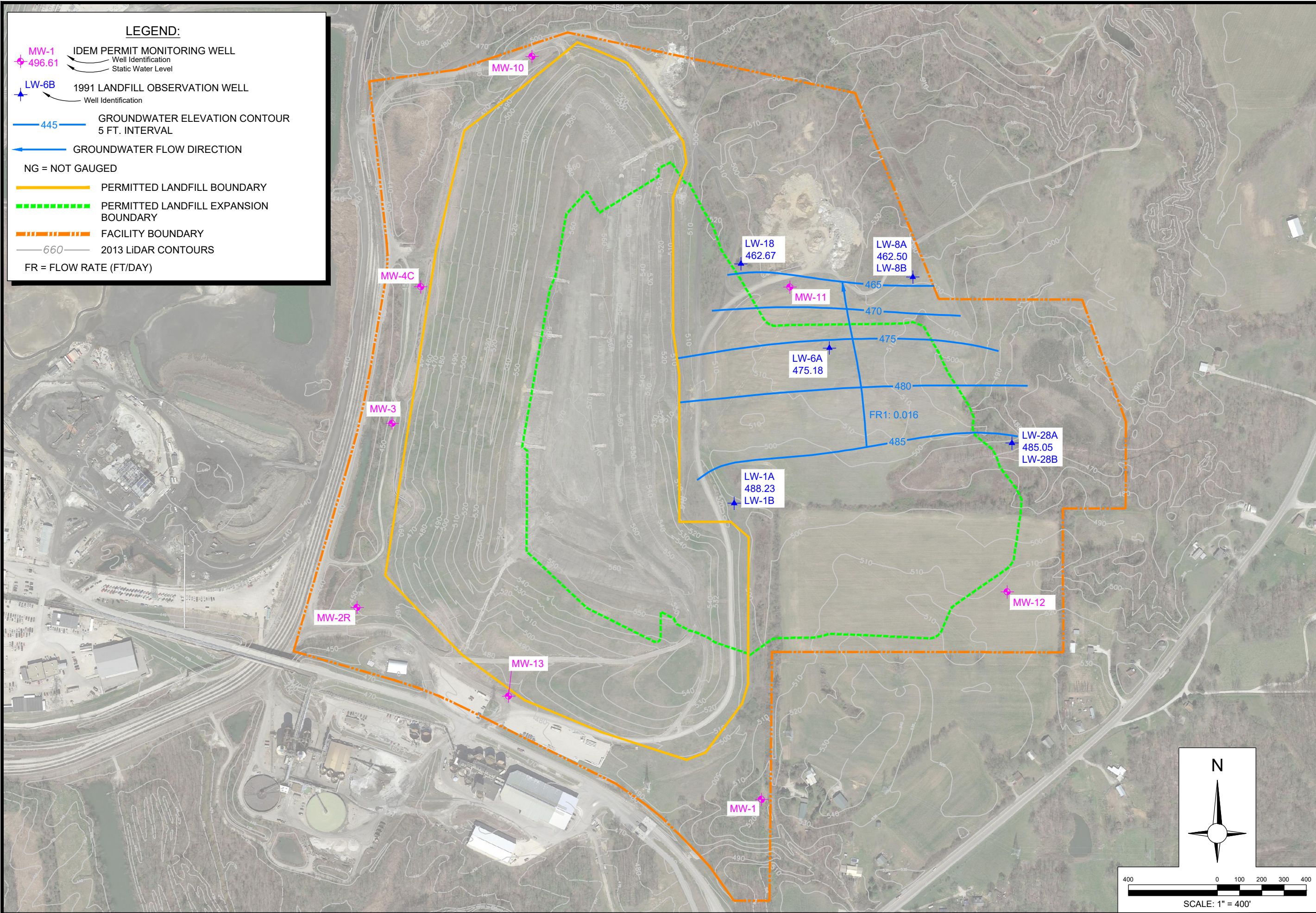
- ◆ MW-1 IDEM PERMIT MONITORING WELL
Well Identification
Static Water Level
- ◆ LW-6B 1991 LANDFILL OBSERVATION WELL
Well Identification
- 445 GROUNDWATER ELEVATION CONTOUR
5 FT. INTERVAL
- GROUNDWATER FLOW DIRECTION
- NG = NOT GAUGED
- PERMITTED LANDFILL BOUNDARY
- - - PERMITTED LANDFILL EXPANSION BOUNDARY
- - - FACILITY BOUNDARY
- 660 2013 LIDAR CONTOURS
- FR = FLOW RATE (FT/DAY)

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Project Number:	170LF0113	Drawing File:	SEE LOWER LEFT		

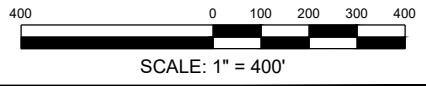
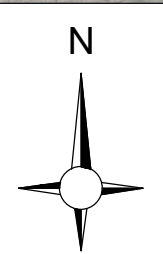
POTTERY SURFACE MAP MAY 2, 2021 - ZONE B
PETERSBURG STATION RWS LANDFILL
 AES INDIANA PETERSBURG GENERATING STATION
 6925 NORTH STATE ROAD 37
 PETERSBURG, INDIANA

Date:	3/22
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- LEGEND:**
- ◆ MW-1 IDEM PERMIT MONITORING WELL
Well Identification
Static Water Level
 - ◆ LW-6B 1991 LANDFILL OBSERVATION WELL
Well Identification
 - 445 — GROUNDWATER ELEVATION CONTOUR
5 FT. INTERVAL
 - GROUNDWATER FLOW DIRECTION
 - NG = NOT GAUGED
 - PERMITTED LANDFILL BOUNDARY
 - - - PERMITTED LANDFILL EXPANSION BOUNDARY
 - - - FACILITY BOUNDARY
 - 660 — 2013 LIDAR CONTOURS
 - FR = FLOW RATE (FT/DAY)



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POTTERY STATION SURFACE MAP MAY 2, 2021 - ZONE A
 POTTERY STATION RWS LANDFILL
 AES INDIANA PETERSBURG GENERATING STATION
 6925 NORTH STATE ROAD 37
 PETERSBURG, INDIANA

Date:	3/22
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Figure:	2

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

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

REPORT OF LABORATORY ANALYSIS

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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

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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

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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

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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

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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

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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

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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 Result	MS Spike Conc.	MSD Spike Conc.								
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	

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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	

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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	

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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	

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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	

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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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WO#: 50272328



50272328

CHAIN-OF-CUSTODY / Analytical Request Document

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

Se
Re

Project Information:

Section C

Invoice Information:

Page: 1 Of 1

Company: AES/IPL Petersburg	Report To: Teague, Wil	Attention:
Address: 6925 IN-57	Copy To:	Company Name:
Petersburg, IN 47567		Address:
Email: wil.teague@aes.com	Purchase Order #:	Pace Quote:
Phone: (812)354-8801 Fax:	Project Name: IDEM - CCR Sampling Profile 2 Report 1	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 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	Preservatives										Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)																		
						START		END			# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test	Y/N	IN TDS/pH	IN Chloride, Fluoride, Sulfate	IN Metals, Total	IN Rad-226	IN Rad-228																							
						DATE	TIME	DATE	TIME																																								
1	MW-2R			WT		11-3-20	1110																		X	X	X	X	X												001								
2	MW-3			WT		11-3-20	1234																		X	X	X	X	X														002						
3	MW-4C			WT		11-3-20	1408																		X	X	X	X	X															003					
4	DUP 1			WT		11-3-20																			X	X	X	X	X															004					
5	MSD			WT		11-3-20	1443																		X	X	X	X	X																007				
6	MS			WT		11-3-20	1430																		X	X	X	X	X																006				
7	Field Blank 1			WT		11-3-20	1223																		X	X	X	X	X																005				
8	Extra			WT																					X	X	X	X	X																				
9																																																	
10																																																	
11																																																	
12																																																	
ADDITIONAL COMMENTS				RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS																																					
				<i>RPJ JRC</i>		11-5-20	1010	<i>Jay Williams</i>		11-5	10:10																																						
				<i>Jay Williams FPL</i>		11-5	12:30	<i>John L</i>		11/5/20	12:30	<i>See Samr</i>																																					

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: <i>Tenny Barrett</i>	
SIGNATURE of SAMPLER: <i>Tenny Barrett</i>	DATE Signed: <i>11-5-20</i>
TEMP in C	Received on Ice (Y/N)
	Custody Sealed (Y/N)
	Cooper (Y/N)
	Sample Integrity (Y/N)



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: 55C 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.	<input checked="" type="checkbox"/>		
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			
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

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	1	1											5	✓		
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

February 05, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: Landfill - CCR Profile 2 Rep 2
Pace Project No.: 50272332

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: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

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: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50272332001	MW-1	Water	11/03/20 09:47	11/05/20 12:30
50272332002	MW-10	Water	11/04/20 09:29	11/05/20 12:30
50272332003	MW-11	Water	11/04/20 10:22	11/05/20 12:30
50272332004	MW-12	Water	11/04/20 11:14	11/05/20 12:30
50272332005	MW-13	Water	11/04/20 12:30	11/05/20 12:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50272332001	MW-1	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
50272332002	MW-10	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
50272332003	MW-11	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
50272332004	MW-12	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
50272332005	MW-13	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

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SAMPLE ANALYTE COUNT

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

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

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272332001	MW-1					
EPA 9056	Chloride	4.7	mg/L	0.25	11/14/20 22:28	
EPA 9056	Fluoride	0.14	mg/L	0.10	11/14/20 22:28	
EPA 9056	Sulfate	191	mg/L	2.5	11/14/20 22:43	
EPA 6010	Barium	41.3	ug/L	10.0	11/11/20 14:04	
EPA 6010	Calcium	127000	ug/L	1000	11/11/20 14:04	
EPA 903.1	Radium-226	0.495 ± 0.393 (0.511)	pCi/L		12/02/20 13:10	
EPA 904.0	Radium-228	C:NA T:83% 0.633 ± 0.578 (1.19)	pCi/L		12/01/20 13:54	
		C:65% T:80%				
Total Radium Calculation	Total Radium	1.13 ± 0.971 (1.70)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	580	mg/L	10.0	11/09/20 16:23	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/06/20 15:05	H3
50272332002	MW-10					
EPA 9056	Chloride	99.5	mg/L	25.0	11/14/20 23:34	
EPA 9056	Fluoride	0.52	mg/L	0.10	11/14/20 23:17	
EPA 9056	Sulfate	1040	mg/L	25.0	11/14/20 23:34	
EPA 6010	Barium	69.8	ug/L	10.0	11/11/20 14:07	
EPA 6010	Boron	25600	ug/L	100	11/11/20 14:07	
EPA 6010	Calcium	466000	ug/L	5000	11/11/20 15:01	
EPA 6010	Lithium	40.0	ug/L	20.0	11/11/20 14:07	
EPA 6010	Molybdenum	14.9	ug/L	10.0	11/11/20 14:07	
EPA 6020	Arsenic	104	ug/L	1.0	11/10/20 13:17	
EPA 6020	Beryllium	0.51	ug/L	0.20	11/10/20 02:56	
EPA 6020	Cobalt	3.5	ug/L	1.0	11/10/20 13:17	
EPA 903.1	Radium-226	0.737 ± 0.395 (0.143)	pCi/L		12/02/20 13:10	
EPA 904.0	Radium-228	C:NA T:84% 0.419 ± 0.474 (0.991)	pCi/L		12/01/20 13:54	
		C:65% T:74%				
Total Radium Calculation	Total Radium	1.16 ± 0.869 (1.13)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	2220	mg/L	40.0	11/11/20 09:30	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/06/20 15:28	H3
50272332003	MW-11					
EPA 9056	Chloride	1.7	mg/L	0.25	11/15/20 00:24	
EPA 9056	Fluoride	0.16	mg/L	0.10	11/15/20 00:24	
EPA 9056	Sulfate	407	mg/L	25.0	11/15/20 00:40	
EPA 6010	Barium	89.2	ug/L	10.0	11/11/20 14:09	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272332003	MW-11					
EPA 6010	Boron	1060	ug/L	100	11/11/20 14:09	
EPA 6010	Calcium	156000	ug/L	1000	11/11/20 14:09	
EPA 6010	Lead	10.0	ug/L	10.0	11/11/20 14:09	
EPA 6020	Arsenic	10.7	ug/L	1.0	11/10/20 17:49	
EPA 6020	Beryllium	0.89	ug/L	0.20	11/10/20 03:02	
EPA 6020	Cobalt	3.1	ug/L	1.0	11/10/20 17:49	
EPA 6020	Selenium	2.5	ug/L	1.0	11/10/20 17:49	
EPA 903.1	Radium-226	0.589 ± 0.531 (0.817)	pCi/L		12/02/20 13:10	
EPA 904.0	Radium-228	C:NA T:88% 0.750 ± 0.504 (0.960) C:64% T:80%	pCi/L		12/01/20 13:54	
Total Radium Calculation	Total Radium	1.34 ± 1.04 (1.78)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	776	mg/L	20.0	11/11/20 09:30	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/06/20 15:33	H3
50272332004	MW-12					
EPA 9056	Chloride	10.7	mg/L	0.25	11/15/20 00:56	
EPA 9056	Fluoride	0.15	mg/L	0.10	11/15/20 00:56	
EPA 9056	Sulfate	15.3	mg/L	0.25	11/15/20 00:56	
EPA 6010	Barium	31.3	ug/L	10.0	11/11/20 14:11	
EPA 6010	Calcium	50800	ug/L	1000	11/11/20 14:11	
EPA 903.1	Radium-226	0.299 ± 0.242 (0.135)	pCi/L		12/02/20 13:25	
EPA 904.0	Radium-228	C:NA T:88% 0.536 ± 0.470 (0.954) C:67% T:86%	pCi/L		12/01/20 13:54	
Total Radium Calculation	Total Radium	0.835 ± 0.712 (1.09)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	225	mg/L	10.0	11/11/20 09:30	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/06/20 15:36	H3
50272332005	MW-13					
EPA 9056	Chloride	11.5	mg/L	2.5	11/16/20 08:57	
EPA 9056	Fluoride	0.80	mg/L	0.10	11/15/20 01:11	
EPA 9056	Sulfate	1490	mg/L	25.0	11/15/20 01:30	
EPA 6010	Barium	25.0	ug/L	10.0	11/11/20 14:14	
EPA 6010	Boron	2530	ug/L	100	11/11/20 14:14	
EPA 6010	Calcium	435000	ug/L	5000	11/11/20 15:04	
EPA 6010	Lithium	238	ug/L	20.0	11/11/20 14:14	
EPA 6010	Molybdenum	76.2	ug/L	10.0	11/11/20 14:14	
EPA 6020	Selenium	4.7	ug/L	1.0	11/10/20 13:39	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50272332005	MW-13					
EPA 903.1	Radium-226	0.360 ± 0.253 (0.122) C:NA T:88%	pCi/L		12/02/20 13:25	
EPA 904.0	Radium-228	0.0511 ± 0.438 (1.01) C:63% T:86%	pCi/L		12/01/20 13:54	
Total Radium Calculation	Total Radium	0.411 ± 0.691 (1.13)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	2280	mg/L	40.0	11/11/20 09:31	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/06/20 15:39	H3

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ANALYTICAL RESULTS

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Sample: MW-1	Lab ID: 50272332001	Collected: 11/03/20 09:47	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	4.7	mg/L	0.25	1		11/14/20 22:28	16887-00-6	
Fluoride	0.14	mg/L	0.10	1		11/14/20 22:28	16984-48-8	
Sulfate	191	mg/L	2.5	10		11/14/20 22:43	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	41.3	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:04	7440-39-3	
Boron	ND	ug/L	100	1	11/09/20 13:26	11/11/20 14:04	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/11/20 14:04	7440-43-9	
Calcium	127000	ug/L	1000	1	11/09/20 13:26	11/11/20 14:04	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:04	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/09/20 13:26	11/11/20 14:04	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:04	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	11/08/20 12:46	11/10/20 13:13	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:13	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/20 12:46	11/10/20 02:51	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:13	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:13	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 02:51	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	580	mg/L	10.0	1		11/09/20 16:23		
4500H+ pH, Electrometric								
Analytical Method: SM 4500-H+B								
Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	7.5	Std. Units	0.10	1		11/06/20 15:05		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Sample: MW-10	Lab ID: 50272332002	Collected: 11/04/20 09:29	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	99.5	mg/L	25.0	100		11/14/20 23:34	16887-00-6	
Fluoride	0.52	mg/L	0.10	1		11/14/20 23:17	16984-48-8	
Sulfate	1040	mg/L	25.0	100		11/14/20 23:34	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	69.8	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:07	7440-39-3	
Boron	25600	ug/L	100	1	11/09/20 13:26	11/11/20 14:07	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/11/20 14:07	7440-43-9	
Calcium	466000	ug/L	5000	5	11/09/20 13:26	11/11/20 15:01	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:07	7439-92-1	
Lithium	40.0	ug/L	20.0	1	11/09/20 13:26	11/11/20 14:07	7439-93-2	
Molybdenum	14.9	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:07	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	11/08/20 12:46	11/10/20 13:17	7440-36-0	
Arsenic	104	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:17	7440-38-2	
Beryllium	0.51	ug/L	0.20	1	11/08/20 12:46	11/10/20 02:56	7440-41-7	
Cobalt	3.5	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:17	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:17	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 02:56	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2220	mg/L	40.0	1		11/11/20 09:30		
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 15:28		H3

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ANALYTICAL RESULTS

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Sample: MW-11	Lab ID: 50272332003	Collected: 11/04/20 10:22	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	1.7	mg/L	0.25	1		11/15/20 00:24	16887-00-6	
Fluoride	0.16	mg/L	0.10	1		11/15/20 00:24	16984-48-8	
Sulfate	407	mg/L	25.0	100		11/15/20 00:40	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	89.2	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:09	7440-39-3	
Boron	1060	ug/L	100	1	11/09/20 13:26	11/11/20 14:09	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/11/20 14:09	7440-43-9	
Calcium	156000	ug/L	1000	1	11/09/20 13:26	11/11/20 14:09	7440-70-2	
Lead	10.0	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:09	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/09/20 13:26	11/11/20 14:09	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:09	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	11/08/20 12:46	11/10/20 17:49	7440-36-0	
Arsenic	10.7	ug/L	1.0	1	11/08/20 12:46	11/10/20 17:49	7440-38-2	
Beryllium	0.89	ug/L	0.20	1	11/08/20 12:46	11/10/20 03:02	7440-41-7	
Cobalt	3.1	ug/L	1.0	1	11/08/20 12:46	11/10/20 17:49	7440-48-4	
Selenium	2.5	ug/L	1.0	1	11/08/20 12:46	11/10/20 17:49	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:02	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	776	mg/L	20.0	1		11/11/20 09:30		
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		11/06/20 15:33		H3

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ANALYTICAL RESULTS

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Sample: MW-12	Lab ID: 50272332004	Collected: 11/04/20 11:14	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	10.7	mg/L	0.25	1		11/15/20 00:56	16887-00-6	
Fluoride	0.15	mg/L	0.10	1		11/15/20 00:56	16984-48-8	
Sulfate	15.3	mg/L	0.25	1		11/15/20 00:56	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	31.3	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:11	7440-39-3	
Boron	ND	ug/L	100	1	11/09/20 13:26	11/11/20 14:11	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/11/20 14:11	7440-43-9	
Calcium	50800	ug/L	1000	1	11/09/20 13:26	11/11/20 14:11	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:11	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/09/20 13:26	11/11/20 14:11	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:11	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	11/08/20 12:46	11/10/20 13:30	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:30	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/20 12:46	11/10/20 03:07	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:30	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:30	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:07	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	225	mg/L	10.0	1		11/11/20 09:30		
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		11/06/20 15:36		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Sample: MW-13	Lab ID: 50272332005	Collected: 11/04/20 12:30	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	11.5	mg/L	2.5	10		11/16/20 08:57	16887-00-6	
Fluoride	0.80	mg/L	0.10	1		11/15/20 01:11	16984-48-8	
Sulfate	1490	mg/L	25.0	100		11/15/20 01:30	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	25.0	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:14	7440-39-3	
Boron	2530	ug/L	100	1	11/09/20 13:26	11/11/20 14:14	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:26	11/11/20 14:14	7440-43-9	
Calcium	435000	ug/L	5000	5	11/09/20 13:26	11/11/20 15:04	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:14	7439-92-1	
Lithium	238	ug/L	20.0	1	11/09/20 13:26	11/11/20 14:14	7439-93-2	
Molybdenum	76.2	ug/L	10.0	1	11/09/20 13:26	11/11/20 14:14	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	11/08/20 12:46	11/10/20 13:39	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:39	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/20 12:46	11/10/20 03:12	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:39	7440-48-4	
Selenium	4.7	ug/L	1.0	1	11/08/20 12:46	11/10/20 13:39	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:12	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2280	mg/L	40.0	1		11/11/20 09:31		
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		11/06/20 15:39		H3

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QUALITY CONTROL DATA

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

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: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

METHOD BLANK: 2735465 Matrix: Water
 Associated Lab Samples: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50272328003 Result	Spike Conc.	Spike Conc.	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: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

QC Batch:	591414	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

METHOD BLANK: 2728311 Matrix: Water

Associated Lab Samples: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

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: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

QC Batch: 591608 Analysis Method: EPA 6020
 QC Batch Method: EPA 200.2 Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

METHOD BLANK: 2729815 Matrix: Water
 Associated Lab Samples: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/09/20 14:54	
Arsenic	ug/L	ND	1.0	11/09/20 14:54	
Beryllium	ug/L	ND	0.20	11/09/20 14:54	
Cobalt	ug/L	ND	1.0	11/09/20 14:54	
Selenium	ug/L	ND	1.0	11/09/20 14:54	
Thallium	ug/L	ND	1.0	11/09/20 14:54	

LABORATORY CONTROL SAMPLE: 2729816

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.0	100	80-120	
Arsenic	ug/L	40	37.9	95	80-120	
Beryllium	ug/L	40	39.9	100	80-120	
Cobalt	ug/L	40	40.2	101	80-120	
Selenium	ug/L	40	40.0	100	80-120	
Thallium	ug/L	40	40.4	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2729817 2729818

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		50272229005	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec					
Antimony	ug/L	<1.0	40	40	38.9	39.0	97	98	75-125	0	20		
Arsenic	ug/L	8.6	40	40	44.4	44.6	89	90	75-125	1	20		
Beryllium	ug/L	<0.20	40	40	38.1	38.4	95	96	75-125	1	20		
Cobalt	ug/L	<1.0	40	40	36.8	37.2	92	93	75-125	1	20		
Selenium	ug/L	<1.0	40	40	36.4	36.0	91	90	75-125	1	20		
Thallium	ug/L	<1.0	40	40	41.3	41.7	103	104	75-125	1	20		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

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: 50272332001

METHOD BLANK: 2730437

Matrix: Water

Associated Lab Samples: 50272332001

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: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

QC Batch: 592253

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272332002, 50272332003, 50272332004, 50272332005

METHOD BLANK: 2732281

Matrix: Water

Associated Lab Samples: 50272332002, 50272332003, 50272332004, 50272332005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/11/20 09:24	

LABORATORY CONTROL SAMPLE: 2732282

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	274	91	80-120	

SAMPLE DUPLICATE: 2732283

Parameter	Units	50272276004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	364	360	1	10	

SAMPLE DUPLICATE: 2732284

Parameter	Units	50272332004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	225	214	5	10	

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QUALITY CONTROL DATA

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

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: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

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: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Sample: MW-1 **Lab ID: 50272332001** Collected: 11/03/20 09:47 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	0.495 ± 0.393 (0.511) C:NA T:83%	pCi/L	12/02/20 13:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.633 ± 0.578 (1.19) C:65% T:80%	pCi/L	12/01/20 13:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.13 ± 0.971 (1.70)	pCi/L	12/02/20 15:44	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Sample: MW-10 **Lab ID: 50272332002** Collected: 11/04/20 09:29 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	0.737 ± 0.395 (0.143) C:NA T:84%	pCi/L	12/02/20 13:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.419 ± 0.474 (0.991) C:65% T:74%	pCi/L	12/01/20 13:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.16 ± 0.869 (1.13)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Sample: MW-11 **Lab ID: 50272332003** Collected: 11/04/20 10:22 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	0.589 ± 0.531 (0.817) C:NA T:88%	pCi/L	12/02/20 13:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.750 ± 0.504 (0.960) C:64% T:80%	pCi/L	12/01/20 13:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.34 ± 1.04 (1.78)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Sample: MW-12 **Lab ID: 50272332004** Collected: 11/04/20 11:14 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	0.299 ± 0.242 (0.135) C:NA T:88%	pCi/L	12/02/20 13:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.536 ± 0.470 (0.954) C:67% T:86%	pCi/L	12/01/20 13:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.835 ± 0.712 (1.09)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-13 Lab ID: 50272332005 Collected: 11/04/20 12:30 Received: 11/05/20 12:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.360 ± 0.253 (0.122) C:NA T:88%	pCi/L	12/02/20 13:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0511 ± 0.438 (1.01) C:63% T:86%	pCi/L	12/01/20 13:54	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.411 ± 0.691 (1.13)	pCi/L	12/02/20 15:44	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

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: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

METHOD BLANK: 2042816 Matrix: Water

Associated Lab Samples: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

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	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

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: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

METHOD BLANK: 2042815

Matrix: Water

Associated Lab Samples: 50272332001, 50272332002, 50272332003, 50272332004, 50272332005

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	

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QUALIFIERS

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Landfill - CCR Profile 2 Rep 2

Pace Project No.: 50272332

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50272332001	MW-1	EPA 9056	592861		
50272332002	MW-10	EPA 9056	592861		
50272332003	MW-11	EPA 9056	592861		
50272332004	MW-12	EPA 9056	592861		
50272332005	MW-13	EPA 9056	592861		
50272332001	MW-1	EPA 3010	591414	EPA 6010	592369
50272332002	MW-10	EPA 3010	591414	EPA 6010	592369
50272332003	MW-11	EPA 3010	591414	EPA 6010	592369
50272332004	MW-12	EPA 3010	591414	EPA 6010	592369
50272332005	MW-13	EPA 3010	591414	EPA 6010	592369
50272332001	MW-1	EPA 200.2	591608	EPA 6020	591704
50272332002	MW-10	EPA 200.2	591608	EPA 6020	591704
50272332003	MW-11	EPA 200.2	591608	EPA 6020	591704
50272332004	MW-12	EPA 200.2	591608	EPA 6020	591704
50272332005	MW-13	EPA 200.2	591608	EPA 6020	591704
50272332001	MW-1	EPA 903.1	422648		
50272332002	MW-10	EPA 903.1	422648		
50272332003	MW-11	EPA 903.1	422648		
50272332004	MW-12	EPA 903.1	422648		
50272332005	MW-13	EPA 903.1	422648		
50272332001	MW-1	EPA 904.0	422649		
50272332002	MW-10	EPA 904.0	422649		
50272332003	MW-11	EPA 904.0	422649		
50272332004	MW-12	EPA 904.0	422649		
50272332005	MW-13	EPA 904.0	422649		
50272332001	MW-1	Total Radium Calculation	425524		
50272332002	MW-10	Total Radium Calculation	425524		
50272332003	MW-11	Total Radium Calculation	425524		
50272332004	MW-12	Total Radium Calculation	425524		
50272332005	MW-13	Total Radium Calculation	425524		
50272332001	MW-1	SM 2540C	591776		
50272332002	MW-10	SM 2540C	592253		
50272332003	MW-11	SM 2540C	592253		
50272332004	MW-12	SM 2540C	592253		
50272332005	MW-13	SM 2540C	592253		
50272332001	MW-1	SM 4500-H+B	591486		
50272332002	MW-10	SM 4500-H+B	591486		
50272332003	MW-11	SM 4500-H+B	591486		
50272332004	MW-12	SM 4500-H+B	591486		
50272332005	MW-13	SM 4500-H+B	591486		

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WO# : 50272332



50272332

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section
Request

Information:

Section C

Invoice Information:

Page : 1 Of 1

Company: AES/IPL Petersburg	Report To: Teague, Wil	Attention:
Address: 6925 IN-57	Copy To:	Company Name:
Petersburg, IN 47567	Purchase Order #:	Address:
Email: wil.teague@aes.com	Project Name: Landfill - CCR Profile 2 Report 2	Pace Quote:
Phone: (812)354-8801 Fax:	Project #:	Pace Project Manager: donna.spyker@pacelabs.com,
Requested Due Date:		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 Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	COLLECTED		# OF CONTAINERS	Preservatives								Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)						
				START			END		Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test	Y/N													
				DATE	TIME		DATE	TIME										IN TDS/pH	IN Chloride, Fluoride, Sulfate	IN Metals, Total	IN Rad-226	IN Rad-228									
1	MW-1	WT		11-3-20	0947											X	X	X	X	X											001
2	MW-10	WT		11-4-20	0929											X	X	X	X	X											002
3	MW-11	WT		11-4-20	1027											X	X	X	X	X											003
4	MW-12	WT		11-4-20	1114											X	X	X	X	X											004
5	MW-13	WT		11-4-20	1230											X	X	X	X	X											005
6	Extra	WT														X	X	X	X	X											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	T. I. Z. + IPL	11-5-20	1010	Jay Williams	11-5-20	10-10	
	Jay Williams IPL	11-5	12:30	T. I. Z. +	11/5/20	1230	53g

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Initialed (Y/N)
PRINT Name of SAMPLER:	DATE Signed: 11-5-2020					
SIGNATURE of SAMPLER: T. I. Z. +						



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: mm 11/5/20 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: 556 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.	<input checked="" type="checkbox"/>		
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 (>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:		<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 1.0/0.9 2.2/2.1 1.4/1.3 1.7/1.0 1.0/0.9 1.8/1.7 1.4/1.3

Sample Container Count

Sample Line Item	WGFU	R	SBS DI BK Kit	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	1	1										5	✓		
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

February 05, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR Sampling Profile 2 Rep 3
Pace Project No.: 50272334

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: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

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 2 Rep 3

Pace Project No.: 50272334

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50272334001	MW-14	Water	11/04/20 13:52	11/05/20 12:30
50272334002	MW-15	Water	11/04/20 14:37	11/05/20 12:30
50272334003	MW-16	Water	11/04/20 15:19	11/05/20 12:30
50272334004	DUP3	Water	11/04/20 08:00	11/05/20 12:30
50272334005	Field Blank 3	Water	11/04/20 14:30	11/05/20 12:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50272334001	MW-14	EPA 9056	HBS	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
50272334002	MW-15	SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	HBS	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
50272334003	MW-16	SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	HBS	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
50272334004	DUP3	Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	MMS	1	PASI-I
		SM 4500-H+B	TPD	1	PASI-I
		EPA 9056	HBS	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA
50272334005	Field Blank 3	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	HBS	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		

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

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

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 2 Rep 3

Pace Project No.: 50272334

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272334001	MW-14					
EPA 9056	Chloride	5.2	mg/L	0.25	11/13/20 18:46	
EPA 9056	Sulfate	269	mg/L	25.0	11/13/20 19:03	
EPA 6010	Barium	66.9	ug/L	10.0	11/13/20 01:23	
EPA 6010	Boron	746	ug/L	100	11/13/20 01:23	
EPA 6010	Calcium	181000	ug/L	1000	11/13/20 01:23	
EPA 6020	Arsenic	2.9	ug/L	1.0	11/10/20 03:29	
EPA 6020	Cobalt	1.4	ug/L	1.0	11/10/20 03:29	
EPA 903.1	Radium-226	0.287 ± 0.298 (0.444)	pCi/L		12/02/20 13:10	
EPA 904.0	Radium-228	C:NA T:87% 0.0792 ± 0.487 (1.11)	pCi/L		12/01/20 13:53	
		C:64% T:76%				
Total Radium Calculation	Total Radium	0.366 ± 0.785 (1.55)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	750	mg/L	10.0	11/11/20 09:31	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/06/20 15:43	H3
50272334002	MW-15					
EPA 9056	Chloride	94.6	mg/L	2.5	11/13/20 19:36	
EPA 9056	Sulfate	974	mg/L	25.0	11/13/20 19:53	
EPA 6010	Barium	89.3	ug/L	10.0	11/13/20 01:26	
EPA 6010	Boron	1640	ug/L	100	11/13/20 01:26	
EPA 6010	Calcium	306000	ug/L	5000	11/13/20 01:35	
EPA 6010	Lithium	844	ug/L	20.0	11/13/20 01:26	
EPA 6010	Molybdenum	76.6	ug/L	10.0	11/13/20 01:26	
EPA 903.1	Radium-226	1.02 ± 0.513 (0.559)	pCi/L		12/02/20 13:10	
EPA 904.0	Radium-228	C:NA T:90% 0.898 ± 0.543 (1.02)	pCi/L		12/01/20 13:53	
		C:68% T:76%				
Total Radium Calculation	Total Radium	1.92 ± 1.06 (1.58)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	1680	mg/L	20.0	11/11/20 09:32	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/06/20 15:48	H3
50272334003	MW-16					
EPA 9056	Chloride	62.4	mg/L	2.5	11/13/20 20:27	
EPA 9056	Sulfate	1690	mg/L	25.0	11/13/20 20:43	
EPA 6010	Barium	75.9	ug/L	10.0	11/13/20 01:28	
EPA 6010	Boron	3170	ug/L	100	11/13/20 01:28	
EPA 6010	Calcium	405000	ug/L	5000	11/13/20 01:37	
EPA 6010	Lithium	2470	ug/L	20.0	11/13/20 01:28	
EPA 6010	Molybdenum	521	ug/L	10.0	11/13/20 01:28	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50272334003	MW-16					
EPA 6020	Arsenic	3.4	ug/L	1.0	11/10/20 17:36	
EPA 6020	Cobalt	1.0	ug/L	1.0	11/10/20 17:36	
EPA 903.1	Radium-226	0.971 ± 0.501 (0.555)	pCi/L		12/02/20 13:10	
EPA 904.0	Radium-228	C:NA T:93% 1.62 ± 0.730 (1.26)	pCi/L		12/01/20 13:54	
		C:64% T:80%				
Total Radium Calculation	Total Radium	2.59 ± 1.23 (1.82)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	2530	mg/L	40.0	11/11/20 09:32	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/06/20 15:51	H3
50272334004	DUP3					
EPA 9056	Chloride	5.2	mg/L	0.25	11/14/20 01:29	
EPA 9056	Sulfate	269	mg/L	25.0	11/14/20 02:03	
EPA 6010	Barium	65.6	ug/L	10.0	11/13/20 01:30	
EPA 6010	Boron	729	ug/L	100	11/13/20 01:30	
EPA 6010	Calcium	178000	ug/L	1000	11/13/20 01:30	
EPA 6020	Arsenic	3.1	ug/L	1.0	11/10/20 03:45	
EPA 6020	Cobalt	1.5	ug/L	1.0	11/10/20 03:45	
EPA 903.1	Radium-226	0.200 ± 0.229 (0.135)	pCi/L		12/02/20 13:10	
EPA 904.0	Radium-228	C:NA T:87% 0.814 ± 0.581 (1.14)	pCi/L		12/01/20 13:53	
		C:64% T:83%				
Total Radium Calculation	Total Radium	1.01 ± 0.810 (1.28)	pCi/L		12/02/20 15:44	
SM 2540C	Total Dissolved Solids	739	mg/L	10.0	11/11/20 09:32	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/06/20 15:25	H3
50272334005	Field Blank 3					
EPA 903.1	Radium-226	0.252 ± 0.232 (0.137)	pCi/L		12/02/20 13:10	
EPA 904.0	Radium-228	C:NA T:80% 0.366 ± 0.510 (1.10)	pCi/L		12/01/20 13:53	
		C:68% T:75%				
Total Radium Calculation	Total Radium	0.618 ± 0.742 (1.24)	pCi/L		12/02/20 15:44	
SM 4500-H+B	pH at 25 Degrees C	5.7	Std. Units	0.10	11/06/20 15:46	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Sample: MW-14	Lab ID: 50272334001	Collected: 11/04/20 13:52	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	5.2	mg/L	0.25	1		11/13/20 18:46	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/20 18:46	16984-48-8	
Sulfate	269	mg/L	25.0	100		11/13/20 19:03	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	66.9	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:23	7440-39-3	
Boron	746	ug/L	100	1	11/09/20 13:49	11/13/20 01:23	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:49	11/13/20 01:23	7440-43-9	
Calcium	181000	ug/L	1000	1	11/09/20 13:49	11/13/20 01:23	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:23	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/09/20 13:49	11/13/20 01:23	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:23	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	11/08/20 12:46	11/10/20 03:29	7440-36-0	
Arsenic	2.9	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:29	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/20 12:46	11/10/20 03:29	7440-41-7	
Cobalt	1.4	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:29	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:29	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:29	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	750	mg/L	10.0	1		11/11/20 09:31		
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		11/06/20 15:43		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Sample: MW-15	Lab ID: 50272334002	Collected: 11/04/20 14:37	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	94.6	mg/L	2.5	10		11/13/20 19:36	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/20 19:19	16984-48-8	
Sulfate	974	mg/L	25.0	100		11/13/20 19:53	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	89.3	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:26	7440-39-3	
Boron	1640	ug/L	100	1	11/09/20 13:49	11/13/20 01:26	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:49	11/13/20 01:26	7440-43-9	
Calcium	306000	ug/L	5000	5	11/09/20 13:49	11/13/20 01:35	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:26	7439-92-1	
Lithium	844	ug/L	20.0	1	11/09/20 13:49	11/13/20 01:26	7439-93-2	
Molybdenum	76.6	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:26	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	11/08/20 12:46	11/10/20 03:34	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:34	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/20 12:46	11/10/20 03:34	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:34	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:34	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:34	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1680	mg/L	20.0	1		11/11/20 09:32		
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		11/06/20 15:48		H3

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Sample: MW-16	Lab ID: 50272334003	Collected: 11/04/20 15:19	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	62.4	mg/L	2.5	10		11/13/20 20:27	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/20 20:10	16984-48-8	
Sulfate	1690	mg/L	25.0	100		11/13/20 20:43	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	75.9	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:28	7440-39-3	
Boron	3170	ug/L	100	1	11/09/20 13:49	11/13/20 01:28	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:49	11/13/20 01:28	7440-43-9	
Calcium	405000	ug/L	5000	5	11/09/20 13:49	11/13/20 01:37	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:28	7439-92-1	
Lithium	2470	ug/L	20.0	1	11/09/20 13:49	11/13/20 01:28	7439-93-2	
Molybdenum	521	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:28	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	11/08/20 12:46	11/10/20 03:39	7440-36-0	
Arsenic	3.4	ug/L	1.0	1	11/08/20 12:46	11/10/20 17:36	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/20 12:46	11/10/20 03:39	7440-41-7	
Cobalt	1.0	ug/L	1.0	1	11/08/20 12:46	11/10/20 17:36	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 17:36	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:39	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2530	mg/L	40.0	1		11/11/20 09:32		
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		11/06/20 15:51		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Sample: DUP3	Lab ID: 50272334004	Collected: 11/04/20 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	5.2	mg/L	0.25	1		11/14/20 01:29	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/14/20 01:29	16984-48-8	
Sulfate	269	mg/L	25.0	100		11/14/20 02:03	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	65.6	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:30	7440-39-3	
Boron	729	ug/L	100	1	11/09/20 13:49	11/13/20 01:30	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:49	11/13/20 01:30	7440-43-9	
Calcium	178000	ug/L	1000	1	11/09/20 13:49	11/13/20 01:30	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:30	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/09/20 13:49	11/13/20 01:30	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:30	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	11/08/20 12:46	11/10/20 03:45	7440-36-0	
Arsenic	3.1	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:45	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/20 12:46	11/10/20 03:45	7440-41-7	
Cobalt	1.5	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:45	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:45	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:45	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	739	mg/L	10.0	1		11/11/20 09:32		
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		11/06/20 15:25		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Sample: Field Blank 3	Lab ID: 50272334005	Collected: 11/04/20 14:30	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 02:19	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/14/20 02:19	16984-48-8	
Sulfate	ND	mg/L	0.25	1		11/14/20 02:19	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 13:49	11/13/20 01:33	7440-39-3	
Boron	ND	ug/L	100	1	11/09/20 13:49	11/13/20 01:33	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/20 13:49	11/13/20 01:33	7440-43-9	
Calcium	ND	ug/L	1000	1	11/09/20 13:49	11/13/20 01:33	7440-70-2	
Lead	ND	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:33	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/09/20 13:49	11/13/20 01:33	7439-93-2	
Molybdenum	ND	ug/L	10.0	1	11/09/20 13:49	11/13/20 01:33	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	11/08/20 12:46	11/10/20 03:50	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:50	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/20 12:46	11/10/20 03:50	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:50	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:50	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/20 12:46	11/10/20 03:50	7440-28-0	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	1		11/11/20 09:33		PL
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		11/06/20 15:46		H3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

QC Batch:	592969	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

METHOD BLANK: 2736160 Matrix: Water

Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/13/20 18:12	
Fluoride	mg/L	ND	0.10	11/13/20 18:12	
Sulfate	mg/L	ND	0.25	11/13/20 18:12	

LABORATORY CONTROL SAMPLE: 2736161

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	0.45	91	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2736162 2736163

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50273152001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	76.9	12.5	12.5	92.0	91.8	120	119	80-120	0	15		
Fluoride	mg/L	0.51	0.5	0.5	1.0	1.0	100	101	80-120	0	15		
Sulfate	mg/L	554	250	250	828	825	109	108	80-120	0	15		

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 2 Rep 3
Pace Project No.: 50272334

QC Batch: 591415 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

METHOD BLANK: 2728316 Matrix: Water
Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	11/13/20 00:30	
Boron	ug/L	ND	100	11/13/20 00:30	
Cadmium	ug/L	ND	2.0	11/13/20 00:30	
Calcium	ug/L	ND	1000	11/13/20 00:30	
Lead	ug/L	ND	10.0	11/13/20 00:30	
Lithium	ug/L	ND	20.0	11/13/20 00:30	
Molybdenum	ug/L	ND	10.0	11/13/20 00:30	

LABORATORY CONTROL SAMPLE: 2728317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	991	99	80-120	
Boron	ug/L	1000	971	97	80-120	
Cadmium	ug/L	1000	973	97	80-120	
Calcium	ug/L	10000	9780	98	80-120	
Lead	ug/L	1000	970	97	80-120	
Lithium	ug/L	1000	993	99	80-120	
Molybdenum	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2728318 2728319

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50272303003 Result	Spike Conc.	Spike Conc.	MS Result						
Barium	ug/L	26.8	1000	1000	996	1020	97	100	75-125	3	20
Boron	ug/L	21.8J	1000	1000	990	1010	97	99	75-125	2	20
Cadmium	ug/L	ND	1000	1000	962	992	96	99	75-125	3	20
Calcium	ug/L	58900	10000	10000	67400	68100	85	92	75-125	1	20
Lead	ug/L	ND	1000	1000	950	980	95	98	75-125	3	20
Lithium	ug/L	9.3J	1000	1000	990	1020	98	101	75-125	3	20
Molybdenum	ug/L	1.3J	1000	1000	1010	1040	101	104	75-125	3	20

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

QC Batch: 591608

Analysis Method: EPA 6020

QC Batch Method: EPA 200.2

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

METHOD BLANK: 2729815

Matrix: Water

Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/09/20 14:54	
Arsenic	ug/L	ND	1.0	11/09/20 14:54	
Beryllium	ug/L	ND	0.20	11/09/20 14:54	
Cobalt	ug/L	ND	1.0	11/09/20 14:54	
Selenium	ug/L	ND	1.0	11/09/20 14:54	
Thallium	ug/L	ND	1.0	11/09/20 14:54	

LABORATORY CONTROL SAMPLE: 2729816

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.0	100	80-120	
Arsenic	ug/L	40	37.9	95	80-120	
Beryllium	ug/L	40	39.9	100	80-120	
Cobalt	ug/L	40	40.2	101	80-120	
Selenium	ug/L	40	40.0	100	80-120	
Thallium	ug/L	40	40.4	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2729817 2729818

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
Antimony	ug/L	<1.0	40	40	38.9	39.0	97	98	75-125	0	20
Arsenic	ug/L	8.6	40	40	44.4	44.6	89	90	75-125	1	20
Beryllium	ug/L	<0.20	40	40	38.1	38.4	95	96	75-125	1	20
Cobalt	ug/L	<1.0	40	40	36.8	37.2	92	93	75-125	1	20
Selenium	ug/L	<1.0	40	40	36.4	36.0	91	90	75-125	1	20
Thallium	ug/L	<1.0	40	40	41.3	41.7	103	104	75-125	1	20

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

QC Batch:	592253	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

METHOD BLANK: 2732281 Matrix: Water
Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/11/20 09:24	

LABORATORY CONTROL SAMPLE: 2732282

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	274	91	80-120	

SAMPLE DUPLICATE: 2732283

Parameter	Units	50272276004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	364	360	1	10	

SAMPLE DUPLICATE: 2732284

Parameter	Units	50272332004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	225	214	5	10	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

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: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

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: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Sample: MW-14 **Lab ID: 50272334001** Collected: 11/04/20 13:52 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	0.287 ± 0.298 (0.444) C:NA T:87%	pCi/L	12/02/20 13:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.0792 ± 0.487 (1.11) C:64% T:76%	pCi/L	12/01/20 13:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.366 ± 0.785 (1.55)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Sample: MW-15 **Lab ID: 50272334002** Collected: 11/04/20 14:37 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	1.02 ± 0.513 (0.559) C:NA T:90%	pCi/L	12/02/20 13:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.898 ± 0.543 (1.02) C:68% T:76%	pCi/L	12/01/20 13:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.92 ± 1.06 (1.58)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Sample: MW-16 **Lab ID: 50272334003** Collected: 11/04/20 15:19 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	0.971 ± 0.501 (0.555) C:NA T:93%	pCi/L	12/02/20 13:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.62 ± 0.730 (1.26) C:64% T:80%	pCi/L	12/01/20 13:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.59 ± 1.23 (1.82)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Sample: DUP3 **Lab ID: 50272334004** Collected: 11/04/20 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	0.200 ± 0.229 (0.135) C:NA T:87%	pCi/L	12/02/20 13:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.814 ± 0.581 (1.14) C:64% T:83%	pCi/L	12/01/20 13:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.01 ± 0.810 (1.28)	pCi/L	12/02/20 15:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: Field Blank 3						
Lab ID: 50272334005						
Collected: 11/04/20 14:30						
Received: 11/05/20 12:30						
Matrix: Water						
PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.252 ± 0.232 (0.137) C:NA T:80%	pCi/L	12/02/20 13:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.366 ± 0.510 (1.10) C:68% T:75%	pCi/L	12/01/20 13:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.618 ± 0.742 (1.24)	pCi/L	12/02/20 15:44	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

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: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

METHOD BLANK: 2042816

Matrix: Water

Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

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	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

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: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

METHOD BLANK: 2042815

Matrix: Water

Associated Lab Samples: 50272334001, 50272334002, 50272334003, 50272334004, 50272334005

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	

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QUALIFIERS

Project: CCR Sampling Profile 2 Rep 3

Pace Project No.: 50272334

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.

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 Sampling Profile 2 Rep 3

Pace Project No.: 50272334

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50272334001	MW-14	EPA 9056	592969		
50272334002	MW-15	EPA 9056	592969		
50272334003	MW-16	EPA 9056	592969		
50272334004	DUP3	EPA 9056	592969		
50272334005	Field Blank 3	EPA 9056	592969		
50272334001	MW-14	EPA 3010	591415	EPA 6010	592808
50272334002	MW-15	EPA 3010	591415	EPA 6010	592808
50272334003	MW-16	EPA 3010	591415	EPA 6010	592808
50272334004	DUP3	EPA 3010	591415	EPA 6010	592808
50272334005	Field Blank 3	EPA 3010	591415	EPA 6010	592808
50272334001	MW-14	EPA 200.2	591608	EPA 6020	591704
50272334002	MW-15	EPA 200.2	591608	EPA 6020	591704
50272334003	MW-16	EPA 200.2	591608	EPA 6020	591704
50272334004	DUP3	EPA 200.2	591608	EPA 6020	591704
50272334005	Field Blank 3	EPA 200.2	591608	EPA 6020	591704
50272334001	MW-14	EPA 903.1	422648		
50272334002	MW-15	EPA 903.1	422648		
50272334003	MW-16	EPA 903.1	422648		
50272334004	DUP3	EPA 903.1	422648		
50272334005	Field Blank 3	EPA 903.1	422648		
50272334001	MW-14	EPA 904.0	422649		
50272334002	MW-15	EPA 904.0	422649		
50272334003	MW-16	EPA 904.0	422649		
50272334004	DUP3	EPA 904.0	422649		
50272334005	Field Blank 3	EPA 904.0	422649		
50272334001	MW-14	Total Radium Calculation	425524		
50272334002	MW-15	Total Radium Calculation	425524		
50272334003	MW-16	Total Radium Calculation	425524		
50272334004	DUP3	Total Radium Calculation	425524		
50272334005	Field Blank 3	Total Radium Calculation	425524		
50272334001	MW-14	SM 2540C	592253		
50272334002	MW-15	SM 2540C	592253		
50272334003	MW-16	SM 2540C	592253		
50272334004	DUP3	SM 2540C	592253		
50272334005	Field Blank 3	SM 2540C	592253		
50272334001	MW-14	SM 4500-H+B	591486		
50272334002	MW-15	SM 4500-H+B	591486		
50272334003	MW-16	SM 4500-H+B	591486		
50272334004	DUP3	SM 4500-H+B	591486		
50272334005	Field Blank 3	SM 4500-H+B	591486		

REPORT OF LABORATORY ANALYSIS

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WO# : 50272334



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section C	Invoice Information:	Page : 1 Of 1
Company: AES/IPL Petersburg	Report To: Teague, WII	Attention:
Address: 6925 IN-57	Copy To:	Company Name:
Petersburg, IN 47567	Purchase Order #:	Address:
Email: wil.teague@aes.com	Project Name: CCR Sampling Profile 2 Report 3	Pace Quote:
Phone: (812)354-8801 Fax:	Pace Project Manager: donna.spyker@pacelabs.com,	State / Location
Requested Due Date:	Project #:	Pace Profile #: 8296/3

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Other OT Tissue TS	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)						
				START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	IN TDS/pH			IN Chloride, Fluoride, Sulfate	IN Metals, Total	IN Rad-226	IN Rad-228		
				DATE	TIME	DATE	TIME																				
1	MW-14	WT		11-4-20	1352															X	X	X	X	X		001	
2	MW-15	WT		11-4-20	1437															X	X	X	X	X		002	
3	MW-16	WT		11-4-20	1519															X	X	X	X	X		003	
4	DUP3	WT		11-4-20																X	X	X	X	X		004	
5	Field Blank 3	WT		11-4-20	1436															X	X	X	X	X		005	
6	Extra	WT																		X	X	X	X	X			
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	REINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Jay Williams IPL	11-5-20	10:10	Jay Williams	11-5	10:10	
	Jay Williams	11-5	12:30		11/5/20	12:30	SSS SCUR

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Copper (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Terry Barnett	SIGNATURE of SAMPLER: [Signature]					
DATE Signed: 11-5-20						



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: ms 1/15/20 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: Wet Blue None

Cooler Temperature: 5.5°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.		<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: HNO3 (<u>5</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 1.0/0.9 2.2/2.1 1.4/1.3 1.7/1.0 1.0/0.9 1.8/1.7 1.4/1.3

Sample Container Count

Sample Line Item	WGUFU	R	SBS DI BK Kit	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	-	-	-															5	✓		
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

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

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
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

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
		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)	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)	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	

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					
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

REPORT OF LABORATORY ANALYSIS

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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

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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

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ANALYTICAL RESULTS

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				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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

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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	

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 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
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	

LABORATORY CONTROL SAMPLE: 2732380

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	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2732381 2732382

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result								
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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REPORT OF LABORATORY ANALYSIS

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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	

REPORT OF LABORATORY ANALYSIS

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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

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:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
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

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-201 Lab ID: 50272614007 Collected: 11/06/20 12:36 Received: 11/09/20 12:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.258 ± 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

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:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	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:	422662	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: 50272614003, 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010

METHOD BLANK: 2042849 Matrix: Water

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

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.249 ± 0.260 (0.366) C:NA T:74%	pCi/L	12/02/20 16:22	

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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: 422664

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: 50272614003, 50272614004, 50272614005, 50272614006, 50272614007, 50272614008, 50272614009, 50272614010

METHOD BLANK: 2042855

Matrix: Water

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

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.429 ± 0.453 (0.941) C:61% T:79%	pCi/L	12/01/20 11:42	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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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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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: Company: AES/IPL Petersburg Address: 6925 IN-57 Petersburg, IN 47567 Email: wil.teague@aes.com Phone: (812)354-8801 Fax: Requested Due Date:	Section B Required Project Information: Report To: Teague, Wil Copy To: Purchase Order #: Project Name: CCR Sampling Profile 2 Report 5 Project #:	Section C Invoice Information: Attention: Company Name: Address: Pace Quote: Pace Project Manager: donna.spyker@pacelabs.com, Pace Profile #: 8296/3	Page: 1 Of 1
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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	# OF CONTAINERS	Preservatives							Analyses Test Y/N	Requested Analysis Filtered (Y/N)						Resi									
						DATE	TIME	DATE	TIME			Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol		Other	IN TDS/pH	IN Chloride, Fluoride, Sulfate	IN Metals, Total	IN Rad-226	IN Rad-238		IN Rad-235								
1	AP-9A	WT		WT		11-6-20	1621				5	2	3						X	X	X	X	X												001
2	AP-10A	WT		WT		11-6-20	1472				5	2	3						X	X	X	X	X												002
3	MW-19A	WT		WT		11-6-20	0939				5	2	3						X	X	X	X	X												003
4	MW-19I	WT		WT		11-6-20	1021				5	2	3						X	X	X	X	X												004
5	MW-19B	WT		WT		11-6-20	1058				5	2	3						X	X	X	X	X												005
6	MW-20A	WT		WT		11-6-20	1151				5	2	3						X	X	X	X	X												006
7	MW-20I	WT		WT		11-6-20	1231				5	2	3						X	X	X	X	X												007
8	MW-20B	WT		WT		11-6-20	1326				5	2	3						X	X	X	X	X												008
9	DUP 4	WT		WT		11-6-20	-				5	2	3						X	X	X	X	X												009
10	Field Blank 4	WT		WT		11-6-20	1210				5	2	3						X	X	X	X	X												010

WO# : 50272614

50272614

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	TJ Barnett IPC	11-9-20	1010	Jon Williams	11-9	10:00	
	Jon Williams	11-9	12:37	JJ	11/9/20	1230	1.9 Y Y Y
							1.7
							2.3

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Terry Barnett
 SIGNATURE of SAMPLER: Terry Barnett DATE Signed: 11-9-20



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	
																														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		
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

February 04, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR Sampling Profile 3 Report2
Pace Project No.: 50274162

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 010421. 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 Report2

Pace Project No.: 50274162

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 Report2
Pace Project No.: 50274162

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50274162001	MW-22	Water	11/24/20 10:40	11/24/20 13:30
50274162002	MW-23	Water	11/24/20 10:00	11/24/20 13:30
50274162003	MW-24	Water	11/24/20 08:45	11/24/20 13:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50274162001	MW-22	EPA 9056	NPW	3	PASI-I
		EPA 6010	KJE	11	PASI-I
		EPA 6010	KJE	4	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 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
		50274162002	MW-23	EPA 9056	NPW
EPA 6010	KJE			11	PASI-I
EPA 6010	KJE			4	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 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
50274162003	MW-24			EPA 9056	NPW
		EPA 6010	KJE	11	PASI-I
		EPA 6010	KJE	4	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 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

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50274162001	MW-22					
EPA 9056	Chloride	196	mg/L	25.0	12/10/20 07:46	
EPA 9056	Fluoride	0.15	mg/L	0.10	12/10/20 07:30	
EPA 9056	Sulfate	1650	mg/L	25.0	12/10/20 07:46	
EPA 6010	Barium	116	ug/L	10.0	12/07/20 12:09	
EPA 6010	Boron	2550	ug/L	100	12/07/20 12:09	
EPA 6010	Calcium	356000	ug/L	5000	12/07/20 12:52	
EPA 6010	Lithium	3480	ug/L	20.0	12/07/20 12:09	
EPA 6010	Magnesium	28900	ug/L	1000	12/07/20 12:09	
EPA 6010	Manganese	2290	ug/L	10.0	12/07/20 12:09	
EPA 6010	Molybdenum	285	ug/L	10.0	12/07/20 12:09	
EPA 6010	Potassium	374000	ug/L	5000	12/07/20 12:52	
EPA 6010	Sodium	317000	ug/L	5000	12/07/20 12:52	
EPA 6010	Lithium, Dissolved	3620	ug/L	20.0	12/02/20 12:56	
EPA 6010	Manganese, Dissolved	2130	ug/L	10.0	12/02/20 12:56	
EPA 6010	Molybdenum, Dissolved	269	ug/L	10.0	12/02/20 12:56	
EPA 6020	Arsenic	5.6	ug/L	1.0	12/01/20 20:40	
EPA 6020	Cobalt	2.8	ug/L	1.0	12/01/20 20:40	
EPA 6020	Selenium	1.3	ug/L	1.0	12/01/20 20:40	
EPA 903.1	Radium-226	0.776 ± 0.663 (0.924)	pCi/L		12/18/20 14:52	
EPA 904.0	Radium-228	C:NA T:84% 1.97 ± 0.681 (1.01) C:79% T:78%	pCi/L		12/17/20 14:36	
Total Radium Calculation	Total Radium	2.75 ± 1.34 (1.93)	pCi/L		12/18/20 16:17	
SM 2320B	Alkalinity, Total as CaCO3	339	mg/L	2.0	12/04/20 10:21	
SM 2540C	Total Dissolved Solids	2890	mg/L	40.0	11/25/20 14:14	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/25/20 13:57	H3
SM 5310C	Total Organic Carbon	5.2	mg/L	1.0	12/09/20 08:40	
50274162002	MW-23					
EPA 9056	Chloride	11.4	mg/L	2.5	12/10/20 08:19	
EPA 9056	Fluoride	0.20	mg/L	0.10	12/10/20 08:02	
EPA 9056	Sulfate	43.3	mg/L	2.5	12/10/20 08:19	
EPA 6010	Barium	52.3	ug/L	10.0	12/07/20 12:11	
EPA 6010	Boron	109	ug/L	100	12/07/20 12:11	
EPA 6010	Calcium	64600	ug/L	1000	12/07/20 12:11	
EPA 6010	Magnesium	18000	ug/L	1000	12/07/20 12:11	
EPA 6010	Manganese	247	ug/L	10.0	12/07/20 12:11	
EPA 6010	Potassium	2420	ug/L	1000	12/07/20 12:11	
EPA 6010	Sodium	14100	ug/L	1000	12/07/20 12:11	
EPA 6010	Manganese, Dissolved	101	ug/L	10.0	12/02/20 12:58	
EPA 6020	Arsenic	3.9	ug/L	1.0	12/01/20 20:44	
EPA 6020	Beryllium	0.26	ug/L	0.20	12/01/20 20:44	
EPA 6020	Cobalt	2.3	ug/L	1.0	12/01/20 20:44	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50274162002	MW-23					
EPA 6020	Selenium	2.3	ug/L	1.0	12/01/20 20:44	
EPA 903.1	Radium-226	-0.139 ± 1.03 (1.84) C:NA T:58%	pCi/L		12/18/20 14:52	
EPA 904.0	Radium-228	0.628 ± 0.569 (1.16) C:77% T:64%	pCi/L		12/17/20 14:36	
Total Radium Calculation	Total Radium	0.628 ± 1.60 (3.00)	pCi/L		12/18/20 16:17	
SM 2320B	Alkalinity, Total as CaCO3	154	mg/L	2.0	12/04/20 10:21	
SM 2540C	Total Dissolved Solids	249	mg/L	10.0	11/25/20 14:15	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	11/25/20 13:58	H3
50274162003	MW-24					
EPA 9056	Chloride	96.7	mg/L	2.5	12/10/20 08:51	
EPA 9056	Sulfate	1010	mg/L	25.0	12/10/20 09:08	
EPA 6010	Barium	45.9	ug/L	10.0	12/07/20 12:13	
EPA 6010	Boron	999	ug/L	100	12/07/20 12:13	
EPA 6010	Calcium	309000	ug/L	5000	12/07/20 12:54	
EPA 6010	Lithium	1600	ug/L	20.0	12/07/20 12:13	
EPA 6010	Magnesium	39900	ug/L	1000	12/07/20 12:13	
EPA 6010	Manganese	1150	ug/L	10.0	12/07/20 12:13	
EPA 6010	Molybdenum	270	ug/L	10.0	12/07/20 12:13	
EPA 6010	Potassium	153000	ug/L	5000	12/07/20 12:54	
EPA 6010	Sodium	95500	ug/L	1000	12/07/20 12:13	
EPA 6010	Iron, Dissolved	114	ug/L	100	12/02/20 13:00	
EPA 6010	Lithium, Dissolved	1600	ug/L	20.0	12/02/20 13:00	
EPA 6010	Manganese, Dissolved	1060	ug/L	10.0	12/02/20 13:00	
EPA 6010	Molybdenum, Dissolved	253	ug/L	10.0	12/02/20 13:00	
EPA 6020	Cobalt	2.7	ug/L	1.0	12/01/20 20:57	
EPA 903.1	Radium-226	0.766 ± 0.629 (0.838) C:NA T:77%	pCi/L		12/18/20 14:52	
EPA 904.0	Radium-228	0.468 ± 0.531 (1.12) C:75% T:75%	pCi/L		12/17/20 14:36	
Total Radium Calculation	Total Radium	1.23 ± 1.16 (1.96)	pCi/L		12/18/20 16:17	
SM 2320B	Alkalinity, Total as CaCO3	169	mg/L	2.0	12/04/20 10:21	
SM 2540C	Total Dissolved Solids	1770	mg/L	20.0	11/25/20 14:15	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/25/20 14:00	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Sample: MW-22	Lab ID: 50274162001	Collected: 11/24/20 10:40	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	196	mg/L	25.0	100		12/10/20 07:46	16887-00-6	
Fluoride	0.15	mg/L	0.10	1		12/10/20 07:30	16984-48-8	
Sulfate	1650	mg/L	25.0	100		12/10/20 07:46	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	116	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:09	7440-39-3	
Boron	2550	ug/L	100	1	12/06/20 13:49	12/07/20 12:09	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/06/20 13:49	12/07/20 12:09	7440-43-9	
Calcium	356000	ug/L	5000	5	12/06/20 13:49	12/07/20 12:52	7440-70-2	
Lead	ND	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:09	7439-92-1	
Lithium	3480	ug/L	20.0	1	12/06/20 13:49	12/07/20 12:09	7439-93-2	
Magnesium	28900	ug/L	1000	1	12/06/20 13:49	12/07/20 12:09	7439-95-4	
Manganese	2290	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:09	7439-96-5	
Molybdenum	285	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:09	7439-98-7	
Potassium	374000	ug/L	5000	5	12/06/20 13:49	12/07/20 12:52	7440-09-7	
Sodium	317000	ug/L	5000	5	12/06/20 13:49	12/07/20 12:52	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 12:56	7439-89-6	
Lithium, Dissolved	3620	ug/L	20.0	1	12/01/20 13:41	12/02/20 12:56	7439-93-2	
Manganese, Dissolved	2130	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:56	7439-96-5	
Molybdenum, Dissolved	269	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:56	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	11/30/20 08:20	12/01/20 20:40	7440-36-0	
Arsenic	5.6	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:40	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/30/20 08:20	12/01/20 20:40	7440-41-7	
Cobalt	2.8	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:40	7440-48-4	
Selenium	1.3	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:40	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:40	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	339	mg/L	2.0	1		12/04/20 10:21		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2890	mg/L	40.0	1		11/25/20 14:14		
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		11/25/20 13:57		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Sample: MW-22		Lab ID: 50274162001		Collected: 11/24/20 10:40	Received: 11/24/20 13:30	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		11/25/20 11:43	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	5.2	mg/L	1.0	1		12/09/20 08:40	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Sample: MW-23	Lab ID: 50274162002	Collected: 11/24/20 10:00	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	11.4	mg/L	2.5	10		12/10/20 08:19	16887-00-6	
Fluoride	0.20	mg/L	0.10	1		12/10/20 08:02	16984-48-8	
Sulfate	43.3	mg/L	2.5	10		12/10/20 08:19	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	52.3	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:11	7440-39-3	
Boron	109	ug/L	100	1	12/06/20 13:49	12/07/20 12:11	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/06/20 13:49	12/07/20 12:11	7440-43-9	
Calcium	64600	ug/L	1000	1	12/06/20 13:49	12/07/20 12:11	7440-70-2	
Lead	ND	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:11	7439-92-1	
Lithium	ND	ug/L	20.0	1	12/06/20 13:49	12/07/20 12:11	7439-93-2	
Magnesium	18000	ug/L	1000	1	12/06/20 13:49	12/07/20 12:11	7439-95-4	
Manganese	247	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:11	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:11	7439-98-7	
Potassium	2420	ug/L	1000	1	12/06/20 13:49	12/07/20 12:11	7440-09-7	
Sodium	14100	ug/L	1000	1	12/06/20 13:49	12/07/20 12:11	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 12:58	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	1	12/01/20 13:41	12/02/20 12:58	7439-93-2	
Manganese, Dissolved	101	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:58	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	12/01/20 13:41	12/02/20 12:58	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	11/30/20 08:20	12/01/20 20:44	7440-36-0	
Arsenic	3.9	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:44	7440-38-2	
Beryllium	0.26	ug/L	0.20	1	11/30/20 08:20	12/01/20 20:44	7440-41-7	
Cobalt	2.3	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:44	7440-48-4	
Selenium	2.3	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:44	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:44	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	154	mg/L	2.0	1		12/04/20 10:21		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	249	mg/L	10.0	1		11/25/20 14:15		
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		11/25/20 13:58		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Sample: MW-23		Lab ID: 50274162002		Collected: 11/24/20 10:00	Received: 11/24/20 13:30	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		11/25/20 11:43	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 08:59	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Sample: MW-24	Lab ID: 50274162003	Collected: 11/24/20 08:45	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	96.7	mg/L	2.5	10		12/10/20 08:51	16887-00-6	
Fluoride	ND	mg/L	0.10	1		12/10/20 08:35	16984-48-8	
Sulfate	1010	mg/L	25.0	100		12/10/20 09:08	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	45.9	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:13	7440-39-3	
Boron	999	ug/L	100	1	12/06/20 13:49	12/07/20 12:13	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/06/20 13:49	12/07/20 12:13	7440-43-9	
Calcium	309000	ug/L	5000	5	12/06/20 13:49	12/07/20 12:54	7440-70-2	
Lead	ND	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:13	7439-92-1	
Lithium	1600	ug/L	20.0	1	12/06/20 13:49	12/07/20 12:13	7439-93-2	
Magnesium	39900	ug/L	1000	1	12/06/20 13:49	12/07/20 12:13	7439-95-4	
Manganese	1150	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:13	7439-96-5	
Molybdenum	270	ug/L	10.0	1	12/06/20 13:49	12/07/20 12:13	7439-98-7	
Potassium	153000	ug/L	5000	5	12/06/20 13:49	12/07/20 12:54	7440-09-7	
Sodium	95500	ug/L	1000	1	12/06/20 13:49	12/07/20 12:13	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	114	ug/L	100	1	12/01/20 13:41	12/02/20 13:00	7439-89-6	
Lithium, Dissolved	1600	ug/L	20.0	1	12/01/20 13:41	12/02/20 13:00	7439-93-2	
Manganese, Dissolved	1060	ug/L	10.0	1	12/01/20 13:41	12/02/20 13:00	7439-96-5	
Molybdenum, Dissolved	253	ug/L	10.0	1	12/01/20 13:41	12/02/20 13:00	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	11/30/20 08:20	12/01/20 20:57	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:57	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/30/20 08:20	12/01/20 20:57	7440-41-7	
Cobalt	2.7	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:57	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:57	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/30/20 08:20	12/01/20 20:57	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	169	mg/L	2.0	1		12/04/20 10:21		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1770	mg/L	20.0	1		11/25/20 14:15		
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		11/25/20 14:00		H3

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Sample: MW-24		Lab ID: 50274162003		Collected: 11/24/20 08:45	Received: 11/24/20 13:30	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		11/25/20 11:43	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 09:19	7440-44-0	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

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: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2754381 Matrix: Water

Associated Lab Samples: 50274162001, 50274162002, 50274162003

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	50273916009		2754384		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result								
Chloride	mg/L	29.4	12.5	12.5	42.3	42.5	104	105	80-120	0	15		
Fluoride	mg/L	0.16	0.5	0.5	0.62	0.62	93	93	80-120	0	15		
Sulfate	mg/L	677	250	250	894	889	87	85	80-120	1	15		

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2
Pace Project No.: 50274162

QC Batch: 596085 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2749134 Matrix: Water
Associated Lab Samples: 50274162001, 50274162002, 50274162003

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

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

Parameter	Units	2749136		2749137		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50274159003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
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 Report2

Pace Project No.: 50274162

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: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2746899 Matrix: Water

Associated Lab Samples: 50274162001, 50274162002, 50274162003

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

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

QC Batch: 595479

Analysis Method: EPA 6020

QC Batch Method: EPA 200.2

Analysis Description: 6020 MET

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2746990

Matrix: Water

Associated Lab Samples: 50274162001, 50274162002, 50274162003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	12/01/20 19:14	
Arsenic	ug/L	ND	1.0	12/01/20 19:14	
Beryllium	ug/L	ND	0.20	12/01/20 19:14	
Cobalt	ug/L	ND	1.0	12/01/20 19:14	
Selenium	ug/L	ND	1.0	12/01/20 19:14	
Thallium	ug/L	ND	1.0	12/01/20 19:14	

LABORATORY CONTROL SAMPLE: 2746991

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.3	103	80-120	
Arsenic	ug/L	40	38.8	97	80-120	
Beryllium	ug/L	40	39.2	98	80-120	
Cobalt	ug/L	40	41.3	103	80-120	
Selenium	ug/L	40	40.0	100	80-120	
Thallium	ug/L	40	40.8	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2746992 2746993

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50273938002 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	41.5	41.2	103	103	75-125	1	20
Arsenic	ug/L	1.4	40	40	39.9	40.0	96	96	75-125	0	20
Beryllium	ug/L	ND	40	40	39.8	40.0	99	100	75-125	1	20
Cobalt	ug/L	25.3	40	40	63.6	63.7	96	96	75-125	0	20
Selenium	ug/L	ND	40	40	39.8	40.7	99	101	75-125	2	20
Thallium	ug/L	ND	40	40	40.7	40.6	102	101	75-125	0	20

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

QC Batch: 596249	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2749820 Matrix: Water

Associated Lab Samples: 50274162001, 50274162002, 50274162003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	12/04/20 10:21	

LABORATORY CONTROL SAMPLE: 2749821

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: 2749822

Parameter	Units	50274346005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	274	283	3	20	

SAMPLE DUPLICATE: 2749823

Parameter	Units	50274208003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	327	330	1	20	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

QC Batch: 595262

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2746106

Matrix: Water

Associated Lab Samples: 50274162001, 50274162002, 50274162003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/25/20 14:12	

LABORATORY CONTROL SAMPLE: 2746107

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	260	87	80-120	

SAMPLE DUPLICATE: 2746108

Parameter	Units	50274241008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	898	882	2	10	

SAMPLE DUPLICATE: 2746109

Parameter	Units	50274224005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1180	1190	1	10	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

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: 50274162001, 50274162002, 50274162003

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 Report2

Pace Project No.: 50274162

QC Batch: 595230

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: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2745856

Matrix: Water

Associated Lab Samples: 50274162001, 50274162002, 50274162003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/25/20 11:43	

LABORATORY CONTROL SAMPLE: 2745857

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: 2745858 2745859

Parameter	Units	50274208001		2745859		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	0.22	0.19	43	38	90-110	11	20 M3

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50274162

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: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2753925

Matrix: Water

Associated Lab Samples: 50274162001, 50274162002, 50274162003

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 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	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 Report2

Pace Project No.: 50274162

Sample: MW-22 **Lab ID: 50274162001** Collected: 11/24/20 10:40 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	0.776 ± 0.663 (0.924) C:NA T:84%	pCi/L	12/18/20 14:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.97 ± 0.681 (1.01) C:79% T:78%	pCi/L	12/17/20 14:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.75 ± 1.34 (1.93)	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 Report2

Pace Project No.: 50274162

Sample: MW-23 **Lab ID: 50274162002** Collected: 11/24/20 10:00 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	-0.139 ± 1.03 (1.84) C:NA T:58%	pCi/L	12/18/20 14:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.628 ± 0.569 (1.16) C:77% T:64%	pCi/L	12/17/20 14:36	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.628 ± 1.60 (3.00)	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 Report2

Pace Project No.: 50274162

Sample: MW-24 **Lab ID: 50274162003** Collected: 11/24/20 08:45 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	0.766 ± 0.629 (0.838) C:NA T:77%	pCi/L	12/18/20 14:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.468 ± 0.531 (1.12) C:75% T:75%	pCi/L	12/17/20 14:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.23 ± 1.16 (1.96)	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 Report2

Pace Project No.: 50274162

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: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2056178

Matrix: Water

Associated Lab Samples: 50274162001, 50274162002, 50274162003

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 Report2

Pace Project No.: 50274162

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: 50274162001, 50274162002, 50274162003

METHOD BLANK: 2056177 Matrix: Water

Associated Lab Samples: 50274162001, 50274162002, 50274162003

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 Report2

Pace Project No.: 50274162

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.

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

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 Report2
Pace Project No.: 50274162

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50274162001	MW-22	EPA 9056	597158		
50274162002	MW-23	EPA 9056	597158		
50274162003	MW-24	EPA 9056	597158		
50274162001	MW-22	EPA 3010	596085	EPA 6010	596703
50274162002	MW-23	EPA 3010	596085	EPA 6010	596703
50274162003	MW-24	EPA 3010	596085	EPA 6010	596703
50274162001	MW-22	EPA 3010	595439	EPA 6010	596010
50274162002	MW-23	EPA 3010	595439	EPA 6010	596010
50274162003	MW-24	EPA 3010	595439	EPA 6010	596010
50274162001	MW-22	EPA 200.2	595479	EPA 6020	595619
50274162002	MW-23	EPA 200.2	595479	EPA 6020	595619
50274162003	MW-24	EPA 200.2	595479	EPA 6020	595619
50274162001	MW-22	EPA 903.1	425511		
50274162002	MW-23	EPA 903.1	425511		
50274162003	MW-24	EPA 903.1	425511		
50274162001	MW-22	EPA 904.0	425512		
50274162002	MW-23	EPA 904.0	425512		
50274162003	MW-24	EPA 904.0	425512		
50274162001	MW-22	Total Radium Calculation	427843		
50274162002	MW-23	Total Radium Calculation	427843		
50274162003	MW-24	Total Radium Calculation	427843		
50274162001	MW-22	SM 2320B	596249		
50274162002	MW-23	SM 2320B	596249		
50274162003	MW-24	SM 2320B	596249		
50274162001	MW-22	SM 2540C	595262		
50274162002	MW-23	SM 2540C	595262		
50274162003	MW-24	SM 2540C	595262		
50274162001	MW-22	SM 4500-H+B	595284		
50274162002	MW-23	SM 4500-H+B	595284		
50274162003	MW-24	SM 4500-H+B	595284		
50274162001	MW-22	SM 4500-S2-D	595230		
50274162002	MW-23	SM 4500-S2-D	595230		
50274162003	MW-24	SM 4500-S2-D	595230		
50274162001	MW-22	SM 5310C	597026		
50274162002	MW-23	SM 5310C	597026		
50274162003	MW-24	SM 5310C	597026		

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WO#: 50274162



50274162

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
Requester Information:

Section C
Invoice Information:

Page: 1 Of 1

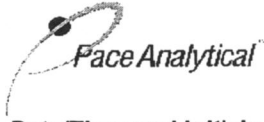
Company: AES/IPL Petersburg	Report To: Teague, Wil	Attention:
Address: 6925 IN-57	Copy To:	Company Name:
Petersburg, IN 47567		Address:
Email: wil.teague@aes.com	Purchase Order #:	Pace Quote:
Phone: (812)354-8801 Fax:	Project Name: CCR Sampling Profile 3 Report 2	Pace Project Manager: donna.spyker@pacelabs.com,
Requested Due Date:	Project #:	Pace Profile #: 8296/5

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE DRINKING Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Other OT Tissue TS	COLLECTED START DATE TIME END DATE TIME	PRESERVATIVES Unpreserved H2SO4 HNO3 HCl NaOH Na2S2O3 Methanol Other	ANALYSES TEST Y/N	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)							
						Requested Analysis Filtered (Y/N)																			
						IN TDS/pH	IN Chloride, Fluoride, Sulfate	IN Metals, Total	IN Metals, Field Filtered	IN Rad-226	IN Rad-228	IN TOC by 5310	IN Sulfide	IN Alkalinity	IN	IN	IN		IN						
1	MW-22	WT	11/24/20 1040			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	001
2	MW-23	WT	↓ 1000			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	002
3	MW-24	WT	✓ 845			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	003
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS											
		Kendra Rung		11/24/20		130		W. H. H. H.		11-24-20		1330		3.4 Y Y Y											
														4.7											
														2.6											
														2.4											

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER: Kendra Rung		DATE Signed: 11/24/20	
SIGNATURE of SAMPLER: <i>Kendra Rung</i>			

TEMP in C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples in Contact (Y/N)



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 A B C D E F

Ice Type: Wet Blue None

Cooler Temperature: 4.4/3.9, 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) 3.9/2.7

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 (<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"/>		
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)		<input checked="" type="checkbox"/>				

COMMENTS:

Sample Container Count

Sample Line Item	WGFLU	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
WGFLU	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

December 2020

January 04, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR Sampling Profile 3 Report2
Pace Project No.: 50276176

Dear Wil Teague:


Enclosed are the analytical results for sample(s) received by the laboratory on December 18, 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

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 Report2

Pace Project No.: 50276176

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 Report2

Pace Project No.: 50276176

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50276176001	MW-22	Water	12/17/20 12:45	12/18/20 10:45
50276176002	MW-23	Water	12/16/20 13:40	12/18/20 10:45
50276176003	MW-24	Water	12/17/20 12:10	12/18/20 10:45
50276176004	LB-2	Water	12/17/20 13:50	12/18/20 10:45
50276176005	LB-3	Water	12/17/20 13:15	12/18/20 10:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50276176001	MW-22	EPA 9056	HBS	3	PASI-I
		EPA 6010	RAM	11	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		SM 2320B	DAS	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	ZM	1	PASI-I
50276176002	MW-23	EPA 9056	HBS	3	PASI-I
		EPA 6010	RAM	11	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		SM 2320B	DAS	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	ZM	1	PASI-I
50276176003	MW-24	EPA 9056	HBS	3	PASI-I
		EPA 6010	RAM	11	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		SM 2320B	DAS	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	ZM	1	PASI-I
50276176004	LB-2	EPA 9056	HBS	3	PASI-I
		EPA 6010	RAM	11	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		SM 2320B	DAS	1	PASI-I
		SM 2540C	MMS	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-H+B	TPD	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50276176005	LB-3	EPA 9056	HBS	3	PASI-I
		EPA 6010	RAM	11	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 7470	ILP	1	PASI-I
		SM 2320B	DAS	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	ZM	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50276176001	MW-22					
EPA 9056	Chloride	185	mg/L	25.0	12/22/20 02:05	
EPA 9056	Sulfate	1590	mg/L	25.0	12/22/20 02:05	
EPA 6010	Barium	114	ug/L	10.0	12/28/20 12:30	
EPA 6010	Boron	2450	ug/L	100	12/28/20 12:30	
EPA 6010	Calcium	353000	ug/L	5000	12/28/20 13:13	
EPA 6010	Chromium	13.8	ug/L	10.0	12/28/20 12:30	
EPA 6010	Lithium	3540	ug/L	20.0	12/28/20 12:30	
EPA 6010	Magnesium	25200	ug/L	1000	12/28/20 12:30	
EPA 6010	Molybdenum	329	ug/L	10.0	12/28/20 12:30	
EPA 6010	Potassium	368000	ug/L	5000	12/28/20 13:13	
EPA 6010	Sodium	288000	ug/L	5000	12/28/20 13:13	
EPA 6010	Iron, Dissolved	3840	ug/L	100	12/23/20 23:50	
EPA 6010	Lithium, Dissolved	4080	ug/L	20.0	12/23/20 23:50	
EPA 6010	Manganese, Dissolved	2560	ug/L	10.0	12/23/20 23:50	
EPA 6010	Molybdenum, Dissolved	205	ug/L	10.0	12/23/20 23:50	
EPA 6020	Arsenic	9.1	ug/L	1.0	12/23/20 05:26	
EPA 6020	Beryllium	0.95	ug/L	0.40	12/23/20 03:47	
EPA 6020	Cobalt	4.5	ug/L	1.0	12/23/20 05:26	
EPA 6020	Selenium	1.2	ug/L	1.0	12/23/20 05:26	
SM 2320B	Alkalinity, Total as CaCO3	331	mg/L	2.0	12/22/20 12:31	
SM 2540C	Total Dissolved Solids	3000	mg/L	40.0	12/18/20 16:50	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	12/18/20 12:56	H3
SM 5310C	Total Organic Carbon	4.3	mg/L	1.0	12/23/20 16:34	
50276176002	MW-23					
EPA 9056	Chloride	9.8	mg/L	0.25	12/22/20 02:21	
EPA 9056	Fluoride	0.18	mg/L	0.10	12/22/20 02:21	
EPA 9056	Sulfate	29.3	mg/L	2.5	12/22/20 02:38	
EPA 6010	Barium	42.0	ug/L	10.0	12/28/20 12:32	
EPA 6010	Calcium	67400	ug/L	1000	12/28/20 12:32	
EPA 6010	Magnesium	19000	ug/L	1000	12/28/20 12:32	
EPA 6010	Potassium	1880	ug/L	1000	12/28/20 12:32	
EPA 6010	Sodium	7000	ug/L	1000	12/28/20 12:32	
EPA 6010	Manganese, Dissolved	22.7	ug/L	10.0	12/24/20 00:05	
EPA 6020	Arsenic	2.2	ug/L	1.0	12/23/20 05:36	
EPA 6020	Cobalt	1.5	ug/L	1.0	12/23/20 05:36	
SM 2320B	Alkalinity, Total as CaCO3	152	mg/L	2.0	12/22/20 12:31	
SM 2540C	Total Dissolved Solids	234	mg/L	10.0	12/18/20 16:50	
SM 4500-H+B	pH at 25 Degrees C	7.9	Std. Units	0.10	12/18/20 12:57	H3
50276176003	MW-24					
EPA 9056	Chloride	92.2	mg/L	2.5	12/22/20 03:43	
EPA 9056	Sulfate	994	mg/L	25.0	12/22/20 03:59	
EPA 6010	Barium	43.9	ug/L	10.0	12/28/20 12:35	
EPA 6010	Boron	929	ug/L	100	12/28/20 12:35	
EPA 6010	Calcium	308000	ug/L	5000	12/28/20 13:15	
EPA 6010	Lithium	1550	ug/L	20.0	12/28/20 12:35	
EPA 6010	Magnesium	37500	ug/L	1000	12/28/20 12:35	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50276176003	MW-24					
EPA 6010	Molybdenum	252	ug/L	10.0	12/28/20 12:35	
EPA 6010	Potassium	144000	ug/L	5000	12/28/20 13:15	
EPA 6010	Sodium	93900	ug/L	1000	12/28/20 12:35	
EPA 6010	Iron, Dissolved	102	ug/L	100	12/24/20 00:07	
EPA 6010	Lithium, Dissolved	1580	ug/L	20.0	12/24/20 00:07	
EPA 6010	Manganese, Dissolved	1080	ug/L	10.0	12/24/20 00:07	
EPA 6010	Molybdenum, Dissolved	264	ug/L	10.0	12/24/20 00:07	
EPA 6020	Cobalt	2.6	ug/L	1.0	12/23/20 04:06	
SM 2320B	Alkalinity, Total as CaCO3	170	mg/L	2.0	12/22/20 12:31	
SM 2540C	Total Dissolved Solids	1770	mg/L	20.0	12/18/20 16:51	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	12/18/20 12:59	H3
50276176004	LB-2					
EPA 9056	Chloride	364	mg/L	25.0	12/22/20 04:48	
EPA 9056	Sulfate	1240	mg/L	25.0	12/22/20 04:48	
EPA 6010	Barium	1970	ug/L	10.0	12/28/20 12:37	
EPA 6010	Boron	4810	ug/L	100	12/28/20 12:37	
EPA 6010	Cadmium	12.5	ug/L	2.0	12/28/20 12:37	
EPA 6010	Calcium	3180000	ug/L	25000	12/28/20 13:30	
EPA 6010	Chromium	507	ug/L	10.0	12/28/20 12:37	
EPA 6010	Lead	520	ug/L	10.0	12/28/20 12:37	
EPA 6010	Lithium	5020	ug/L	20.0	12/28/20 12:37	
EPA 6010	Magnesium	166000	ug/L	1000	12/28/20 12:37	
EPA 6010	Molybdenum	4550	ug/L	10.0	12/28/20 12:37	
EPA 6010	Potassium	704000	ug/L	10000	12/28/20 13:17	
EPA 6010	Sodium	366000	ug/L	10000	12/28/20 13:17	
EPA 6010	Iron, Dissolved	4580	ug/L	100	12/24/20 00:09	
EPA 6010	Lithium, Dissolved	5230	ug/L	20.0	12/24/20 00:09	
EPA 6010	Manganese, Dissolved	103	ug/L	10.0	12/24/20 00:09	
EPA 6010	Molybdenum, Dissolved	8430	ug/L	10.0	12/24/20 00:09	
EPA 6020	Arsenic	890	ug/L	50.0	12/23/20 04:25	
EPA 6020	Beryllium	132	ug/L	1.0	12/23/20 06:33	
EPA 6020	Cobalt	233	ug/L	10.0	12/23/20 06:09	
EPA 6020	Selenium	81.2	ug/L	50.0	12/23/20 04:25	
EPA 6020	Thallium	31.3	ug/L	5.0	12/23/20 06:33	
EPA 7470	Mercury	2.4	ug/L	2.0	12/23/20 11:52	
SM 2320B	Alkalinity, Total as CaCO3	440	mg/L	2.0	12/22/20 12:31	
SM 2540C	Total Dissolved Solids	2670	mg/L	333	12/18/20 16:51	
SM 4500-H+B	pH at 25 Degrees C	11.2	Std. Units	0.10	12/18/20 13:01	H3,PO
50276176005	LB-3					
EPA 9056	Chloride	120	mg/L	25.0	12/22/20 05:37	
EPA 9056	Sulfate	2030	mg/L	25.0	12/22/20 05:37	
EPA 6010	Barium	674	ug/L	10.0	12/28/20 12:39	
EPA 6010	Boron	5370	ug/L	100	12/28/20 12:39	
EPA 6010	Cadmium	7.2	ug/L	2.0	12/28/20 12:39	
EPA 6010	Calcium	2320000	ug/L	25000	12/28/20 13:32	
EPA 6010	Chromium	266	ug/L	10.0	12/28/20 12:39	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50276176005	LB-3					
EPA 6010	Lead	122	ug/L	10.0	12/28/20 12:39	
EPA 6010	Lithium	10100	ug/L	20.0	12/28/20 12:39	
EPA 6010	Magnesium	71900	ug/L	1000	12/28/20 12:39	
EPA 6010	Molybdenum	11300	ug/L	10.0	12/28/20 12:39	
EPA 6010	Potassium	437000	ug/L	10000	12/28/20 13:19	
EPA 6010	Sodium	285000	ug/L	10000	12/28/20 13:19	
EPA 6010	Lithium, Dissolved	10200	ug/L	20.0	12/24/20 00:12	
EPA 6010	Manganese, Dissolved	27.8	ug/L	10.0	12/24/20 00:12	
EPA 6010	Molybdenum, Dissolved	11900	ug/L	10.0	12/24/20 00:12	
EPA 6020	Antimony	11.2	ug/L	5.0	12/23/20 06:00	
EPA 6020	Arsenic	314	ug/L	5.0	12/23/20 06:00	
EPA 6020	Beryllium	67.5	ug/L	1.0	12/23/20 06:00	
EPA 6020	Cobalt	43.0	ug/L	5.0	12/23/20 06:00	
EPA 6020	Selenium	26.0	ug/L	5.0	12/23/20 06:00	
EPA 6020	Thallium	19.2	ug/L	5.0	12/23/20 06:00	
SM 2320B	Alkalinity, Total as CaCO ₃	194	mg/L	2.0	12/22/20 12:31	
SM 2540C	Total Dissolved Solids	3660	mg/L	200	12/18/20 16:51	
SM 4500-H+B	pH at 25 Degrees C	10.7	Std. Units	0.10	12/18/20 13:02	H3,PO

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: MW-22	Lab ID: 50276176001	Collected: 12/17/20 12:45	Received: 12/18/20 10:45	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	185	mg/L	25.0	100		12/22/20 02:05	16887-00-6	
Fluoride	ND	mg/L	0.10	1		12/22/20 01:49	16984-48-8	
Sulfate	1590	mg/L	25.0	100		12/22/20 02:05	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	114	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:30	7440-39-3	
Boron	2450	ug/L	100	1	12/24/20 13:25	12/28/20 12:30	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/24/20 13:25	12/28/20 12:30	7440-43-9	
Calcium	353000	ug/L	5000	5	12/24/20 13:25	12/28/20 13:13	7440-70-2	
Chromium	13.8	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:30	7440-47-3	
Lead	ND	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:30	7439-92-1	
Lithium	3540	ug/L	20.0	1	12/24/20 13:25	12/28/20 12:30	7439-93-2	
Magnesium	25200	ug/L	1000	1	12/24/20 13:25	12/28/20 12:30	7439-95-4	
Molybdenum	329	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:30	7439-98-7	
Potassium	368000	ug/L	5000	5	12/24/20 13:25	12/28/20 13:13	7440-09-7	
Sodium	288000	ug/L	5000	5	12/24/20 13:25	12/28/20 13:13	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	3840	ug/L	100	1	12/23/20 06:13	12/23/20 23:50	7439-89-6	
Lithium, Dissolved	4080	ug/L	20.0	1	12/23/20 06:13	12/23/20 23:50	7439-93-2	
Manganese, Dissolved	2560	ug/L	10.0	1	12/23/20 06:13	12/23/20 23:50	7439-96-5	
Molybdenum, Dissolved	205	ug/L	10.0	1	12/23/20 06:13	12/23/20 23:50	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	12/21/20 12:30	12/23/20 05:26	7440-36-0	
Arsenic	9.1	ug/L	1.0	1	12/21/20 12:30	12/23/20 05:26	7440-38-2	
Beryllium	0.95	ug/L	0.40	2	12/21/20 12:30	12/23/20 03:47	7440-41-7	
Cobalt	4.5	ug/L	1.0	1	12/21/20 12:30	12/23/20 05:26	7440-48-4	
Selenium	1.2	ug/L	1.0	1	12/21/20 12:30	12/23/20 05:26	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/21/20 12:30	12/23/20 05:26	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	12/22/20 21:27	12/23/20 11:45	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	331	mg/L	2.0	1		12/22/20 12:31		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	3000	mg/L	40.0	1		12/18/20 16:50		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: MW-22		Lab ID: 50276176001		Collected: 12/17/20 12:45	Received: 12/18/20 10:45	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	7.2	Std. Units	0.10	1		12/18/20 12:56		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		12/18/20 15:04	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	4.3	mg/L	1.0	1		12/23/20 16:34	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: MW-23	Lab ID: 50276176002	Collected: 12/16/20 13:40	Received: 12/18/20 10:45	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	9.8	mg/L	0.25	1		12/22/20 02:21	16887-00-6	
Fluoride	0.18	mg/L	0.10	1		12/22/20 02:21	16984-48-8	
Sulfate	29.3	mg/L	2.5	10		12/22/20 02:38	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	42.0	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:32	7440-39-3	
Boron	ND	ug/L	100	1	12/24/20 13:25	12/28/20 12:32	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/24/20 13:25	12/28/20 12:32	7440-43-9	
Calcium	67400	ug/L	1000	1	12/24/20 13:25	12/28/20 12:32	7440-70-2	
Chromium	ND	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:32	7440-47-3	
Lead	ND	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:32	7439-92-1	
Lithium	ND	ug/L	20.0	1	12/24/20 13:25	12/28/20 12:32	7439-93-2	
Magnesium	19000	ug/L	1000	1	12/24/20 13:25	12/28/20 12:32	7439-95-4	
Molybdenum	ND	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:32	7439-98-7	
Potassium	1880	ug/L	1000	1	12/24/20 13:25	12/28/20 12:32	7440-09-7	
Sodium	7000	ug/L	1000	1	12/24/20 13:25	12/28/20 12:32	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	12/23/20 06:13	12/24/20 00:05	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	1	12/23/20 06:13	12/24/20 00:05	7439-93-2	
Manganese, Dissolved	22.7	ug/L	10.0	1	12/23/20 06:13	12/24/20 00:05	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	12/23/20 06:13	12/24/20 00:05	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	12/21/20 12:30	12/23/20 05:36	7440-36-0	
Arsenic	2.2	ug/L	1.0	1	12/21/20 12:30	12/23/20 05:36	7440-38-2	
Beryllium	ND	ug/L	0.20	1	12/21/20 12:30	12/23/20 05:36	7440-41-7	
Cobalt	1.5	ug/L	1.0	1	12/21/20 12:30	12/23/20 05:36	7440-48-4	
Selenium	ND	ug/L	1.0	1	12/21/20 12:30	12/23/20 05:36	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/21/20 12:30	12/23/20 05:36	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	12/22/20 21:27	12/23/20 11:47	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	152	mg/L	2.0	1		12/22/20 12:31		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	234	mg/L	10.0	1		12/18/20 16:50		

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: MW-23		Lab ID: 50276176002		Collected: 12/16/20 13:40	Received: 12/18/20 10:45	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	7.9	Std. Units	0.10	1		12/18/20 12:57		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		12/18/20 15:04	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	1.0	1		12/23/20 16:52	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: MW-24	Lab ID: 50276176003	Collected: 12/17/20 12:10	Received: 12/18/20 10:45	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	92.2	mg/L	2.5	10		12/22/20 03:43	16887-00-6	
Fluoride	ND	mg/L	0.10	1		12/22/20 03:27	16984-48-8	
Sulfate	994	mg/L	25.0	100		12/22/20 03:59	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	43.9	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:35	7440-39-3	
Boron	929	ug/L	100	1	12/24/20 13:25	12/28/20 12:35	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/24/20 13:25	12/28/20 12:35	7440-43-9	
Calcium	308000	ug/L	5000	5	12/24/20 13:25	12/28/20 13:15	7440-70-2	
Chromium	ND	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:35	7440-47-3	
Lead	ND	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:35	7439-92-1	
Lithium	1550	ug/L	20.0	1	12/24/20 13:25	12/28/20 12:35	7439-93-2	
Magnesium	37500	ug/L	1000	1	12/24/20 13:25	12/28/20 12:35	7439-95-4	
Molybdenum	252	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:35	7439-98-7	
Potassium	144000	ug/L	5000	5	12/24/20 13:25	12/28/20 13:15	7440-09-7	
Sodium	93900	ug/L	1000	1	12/24/20 13:25	12/28/20 12:35	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	102	ug/L	100	1	12/23/20 06:13	12/24/20 00:07	7439-89-6	
Lithium, Dissolved	1580	ug/L	20.0	1	12/23/20 06:13	12/24/20 00:07	7439-93-2	
Manganese, Dissolved	1080	ug/L	10.0	1	12/23/20 06:13	12/24/20 00:07	7439-96-5	
Molybdenum, Dissolved	264	ug/L	10.0	1	12/23/20 06:13	12/24/20 00:07	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	12/21/20 12:30	12/23/20 04:06	7440-36-0	
Arsenic	ND	ug/L	1.0	1	12/21/20 12:30	12/23/20 04:06	7440-38-2	
Beryllium	ND	ug/L	0.20	1	12/21/20 12:30	12/23/20 04:06	7440-41-7	
Cobalt	2.6	ug/L	1.0	1	12/21/20 12:30	12/23/20 04:06	7440-48-4	
Selenium	ND	ug/L	1.0	1	12/21/20 12:30	12/23/20 04:06	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/21/20 12:30	12/23/20 04:06	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	12/22/20 21:27	12/23/20 11:50	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	170	mg/L	2.0	1		12/22/20 12:31		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	1770	mg/L	20.0	1		12/18/20 16:51		

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: MW-24		Lab ID: 50276176003		Collected: 12/17/20 12:10	Received: 12/18/20 10:45	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		12/18/20 12:59		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		12/18/20 15:04	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	1.0	1		12/23/20 17:12	7440-44-0	

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: LB-2	Lab ID: 50276176004	Collected: 12/17/20 13:50	Received: 12/18/20 10:45	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	364	mg/L	25.0	100		12/22/20 04:48	16887-00-6	
Fluoride	ND	mg/L	0.10	1		12/22/20 04:15	16984-48-8	
Sulfate	1240	mg/L	25.0	100		12/22/20 04:48	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	1970	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:37	7440-39-3	
Boron	4810	ug/L	100	1	12/24/20 13:25	12/28/20 12:37	7440-42-8	
Cadmium	12.5	ug/L	2.0	1	12/24/20 13:25	12/28/20 12:37	7440-43-9	
Calcium	3180000	ug/L	25000	25	12/24/20 13:25	12/28/20 13:30	7440-70-2	
Chromium	507	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:37	7440-47-3	
Lead	520	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:37	7439-92-1	
Lithium	5020	ug/L	20.0	1	12/24/20 13:25	12/28/20 12:37	7439-93-2	
Magnesium	166000	ug/L	1000	1	12/24/20 13:25	12/28/20 12:37	7439-95-4	
Molybdenum	4550	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:37	7439-98-7	
Potassium	704000	ug/L	10000	10	12/24/20 13:25	12/28/20 13:17	7440-09-7	
Sodium	366000	ug/L	10000	10	12/24/20 13:25	12/28/20 13:17	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Iron, Dissolved	4580	ug/L	100	1	12/23/20 06:13	12/24/20 00:09	7439-89-6	
Lithium, Dissolved	5230	ug/L	20.0	1	12/23/20 06:13	12/24/20 00:09	7439-93-2	
Manganese, Dissolved	103	ug/L	10.0	1	12/23/20 06:13	12/24/20 00:09	7439-96-5	
Molybdenum, Dissolved	8430	ug/L	10.0	1	12/23/20 06:13	12/24/20 00:09	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	5.0	1	12/21/20 12:30	12/23/20 06:33	7440-36-0	
Arsenic	890	ug/L	50.0	10	12/21/20 12:30	12/23/20 04:25	7440-38-2	
Beryllium	132	ug/L	1.0	1	12/21/20 12:30	12/23/20 06:33	7440-41-7	
Cobalt	233	ug/L	10.0	2	12/21/20 12:30	12/23/20 06:09	7440-48-4	
Selenium	81.2	ug/L	50.0	10	12/21/20 12:30	12/23/20 04:25	7782-49-2	
Thallium	31.3	ug/L	5.0	1	12/21/20 12:30	12/23/20 06:33	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	2.4	ug/L	2.0	1	12/22/20 21:27	12/23/20 11:52	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	440	mg/L	2.0	1		12/22/20 12:31		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	2670	mg/L	333	1		12/18/20 16:51		

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: LB-2		Lab ID: 50276176004		Collected: 12/17/20 13:50	Received: 12/18/20 10:45	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	11.2	Std. Units	0.10	1		12/18/20 13:01		H3,PO
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		12/18/20 15:04	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	100	100		12/23/20 17:31	7440-44-0	D3,P4

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: LB-3	Lab ID: 50276176005	Collected: 12/17/20 13:15	Received: 12/18/20 10:45	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	120	mg/L	25.0	100		12/22/20 05:37	16887-00-6	
Fluoride	ND	mg/L	0.10	1		12/22/20 05:04	16984-48-8	
Sulfate	2030	mg/L	25.0	100		12/22/20 05:37	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	674	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:39	7440-39-3	
Boron	5370	ug/L	100	1	12/24/20 13:25	12/28/20 12:39	7440-42-8	
Cadmium	7.2	ug/L	2.0	1	12/24/20 13:25	12/28/20 12:39	7440-43-9	
Calcium	2320000	ug/L	25000	25	12/24/20 13:25	12/28/20 13:32	7440-70-2	
Chromium	266	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:39	7440-47-3	
Lead	122	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:39	7439-92-1	
Lithium	10100	ug/L	20.0	1	12/24/20 13:25	12/28/20 12:39	7439-93-2	
Magnesium	71900	ug/L	1000	1	12/24/20 13:25	12/28/20 12:39	7439-95-4	
Molybdenum	11300	ug/L	10.0	1	12/24/20 13:25	12/28/20 12:39	7439-98-7	
Potassium	437000	ug/L	10000	10	12/24/20 13:25	12/28/20 13:19	7440-09-7	
Sodium	285000	ug/L	10000	10	12/24/20 13:25	12/28/20 13:19	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	12/23/20 06:13	12/24/20 00:12	7439-89-6	
Lithium, Dissolved	10200	ug/L	20.0	1	12/23/20 06:13	12/24/20 00:12	7439-93-2	
Manganese, Dissolved	27.8	ug/L	10.0	1	12/23/20 06:13	12/24/20 00:12	7439-96-5	
Molybdenum, Dissolved	11900	ug/L	10.0	1	12/23/20 06:13	12/24/20 00:12	7439-98-7	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Antimony	11.2	ug/L	5.0	1	12/21/20 12:30	12/23/20 06:00	7440-36-0	
Arsenic	314	ug/L	5.0	1	12/21/20 12:30	12/23/20 06:00	7440-38-2	
Beryllium	67.5	ug/L	1.0	1	12/21/20 12:30	12/23/20 06:00	7440-41-7	
Cobalt	43.0	ug/L	5.0	1	12/21/20 12:30	12/23/20 06:00	7440-48-4	
Selenium	26.0	ug/L	5.0	1	12/21/20 12:30	12/23/20 06:00	7782-49-2	
Thallium	19.2	ug/L	5.0	1	12/21/20 12:30	12/23/20 06:00	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	12/22/20 21:27	12/23/20 11:54	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	194	mg/L	2.0	1		12/22/20 12:31		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	3660	mg/L	200	1		12/18/20 16:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Sample: LB-3		Lab ID: 50276176005		Collected: 12/17/20 13:15	Received: 12/18/20 10:45	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	10.7	Std. Units	0.10	1		12/18/20 13:02		H3,PO
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		12/18/20 15:04	18496-25-8	
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	4.0	4		12/24/20 08:55	7440-44-0	D3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

QC Batch:	599203	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

METHOD BLANK: 2765038 Matrix: Water
Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	12/21/20 18:13	
Fluoride	mg/L	ND	0.10	12/21/20 18:13	
Sulfate	mg/L	ND	0.25	12/21/20 18:13	

LABORATORY CONTROL SAMPLE: 2765039

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	0.51	102	80-120	
Sulfate	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765040 2765041

Parameter	Units	50275631011		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result							
Chloride	mg/L	106	12.5	12.5	121	121	116	116	80-120	0	15			
Fluoride	mg/L	0.56	0.5	0.5	1.1	1.1	100	98	80-120	1	15			
Sulfate	mg/L	39.2	25	25	64.5	64.7	102	102	80-120	0	15			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765042 2765043

Parameter	Units	50275741002		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result							
Chloride	mg/L	28.1	12.5	12.5	40.5	40.5	100	100	80-120	0	15			
Fluoride	mg/L	0.058J	0.5	0.5	0.44	0.44	76	76	80-120	0	15	M3		
Sulfate	mg/L	1.3	2.5	2.5	3.8	3.8	99	99	80-120	0	15			

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

QC Batch: 599444	Analysis Method: EPA 7470
QC Batch Method: EPA 7470	Analysis Description: 7470 Mercury
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

METHOD BLANK: 2765909 Matrix: Water

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	12/23/20 10:56	

LABORATORY CONTROL SAMPLE: 2765910

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765911 2765912

Parameter	Units	50275915002 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	5.1	5.1	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

QC Batch: 599358

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

METHOD BLANK: 2765486

Matrix: Water

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	12/28/20 11:51	
Boron	ug/L	ND	100	12/28/20 11:51	
Cadmium	ug/L	ND	2.0	12/28/20 11:51	
Calcium	ug/L	ND	1000	12/28/20 11:51	
Chromium	ug/L	ND	10.0	12/28/20 11:51	
Lead	ug/L	ND	10.0	12/28/20 11:51	
Lithium	ug/L	ND	20.0	12/28/20 11:51	
Magnesium	ug/L	ND	1000	12/28/20 11:51	
Molybdenum	ug/L	ND	10.0	12/28/20 11:51	
Potassium	ug/L	ND	1000	12/28/20 11:51	
Sodium	ug/L	ND	1000	12/28/20 11:51	

LABORATORY CONTROL SAMPLE: 2765487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	80-120	
Boron	ug/L	1000	996	100	80-120	
Cadmium	ug/L	1000	981	98	80-120	
Calcium	ug/L	10000	10300	103	80-120	
Chromium	ug/L	1000	1030	103	80-120	
Lead	ug/L	1000	964	96	80-120	
Lithium	ug/L	1000	998	100	80-120	
Magnesium	ug/L	10000	9510	95	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	
Potassium	ug/L	10000	10300	103	80-120	
Sodium	ug/L	10000	10100	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765488 2765489

Parameter	Units	50275782006		MS		MSD		% Rec		Max		Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Barium	ug/L	162	1000	1000	1140	1170	98	101	75-125	3	20	
Boron	ug/L	ND	1000	1000	1080	1100	101	103	75-125	2	20	
Cadmium	ug/L	ND	1000	1000	969	995	97	99	75-125	3	20	
Calcium	ug/L	102000	10000	10000	111000	113000	87	105	75-125	2	20	
Chromium	ug/L	ND	1000	1000	983	1010	98	101	75-125	3	20	
Lead	ug/L	ND	1000	1000	902	929	90	93	75-125	3	20	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765488												2765489											
Parameter	Units	50275782006 Result	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual									
			Spike Conc.	Spike Conc.																			
Lithium	ug/L	ND	1000	1000	982	1020	97	101	75-125	3	20												
Magnesium	ug/L	34500	10000	10000	43600	44200	91	98	75-125	2	20												
Molybdenum	ug/L	ND	1000	1000	1010	1040	101	104	75-125	3	20												
Potassium	ug/L	1700	10000	10000	11900	12200	102	105	75-125	2	20												
Sodium	ug/L	119000	10000	10000	127000	130000	80	108	75-125	2	20												

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

QC Batch:	599074	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

METHOD BLANK: 2764415 Matrix: Water
Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	12/23/20 22:05	
Lithium, Dissolved	ug/L	ND	20.0	12/23/20 22:05	
Manganese, Dissolved	ug/L	ND	10.0	12/23/20 22:05	
Molybdenum, Dissolved	ug/L	ND	10.0	12/23/20 22:05	

LABORATORY CONTROL SAMPLE: 2764416

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9620	96	80-120	
Lithium, Dissolved	ug/L	1000	987	99	80-120	
Manganese, Dissolved	ug/L	1000	962	96	80-120	
Molybdenum, Dissolved	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764417 2764418

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50275782006 Result	Spike Conc.	Spike Conc.	Result						
Iron, Dissolved	ug/L	ND	10000	10000	9910	9860	99	98	75-125	0	20
Lithium, Dissolved	ug/L	ND	1000	1000	1030	1020	102	101	75-125	1	20
Manganese, Dissolved	ug/L	75.2	1000	1000	1050	1050	98	97	75-125	1	20
Molybdenum, Dissolved	ug/L	ND	1000	1000	1050	1050	105	104	75-125	1	20

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

QC Batch:	599102	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

METHOD BLANK: 2764502 Matrix: Water

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	12/22/20 18:47	
Arsenic	ug/L	ND	1.0	12/22/20 18:47	
Beryllium	ug/L	ND	0.20	12/22/20 18:47	
Cobalt	ug/L	ND	1.0	12/22/20 18:47	
Selenium	ug/L	ND	1.0	12/22/20 18:47	
Thallium	ug/L	ND	1.0	12/22/20 18:47	

LABORATORY CONTROL SAMPLE: 2764503

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	43.4	108	80-120	
Arsenic	ug/L	40	37.8	95	80-120	
Beryllium	ug/L	40	40.9	102	80-120	
Cobalt	ug/L	40	40.9	102	80-120	
Selenium	ug/L	40	39.5	99	80-120	
Thallium	ug/L	40	40.9	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764504 2764505

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50276052001 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	45.1	49.2	113	123	75-125	9	20
Arsenic	ug/L	10.2	40	40	47.3	48.1	93	95	75-125	2	20
Beryllium	ug/L	ND	40	40	40.3	44.1	101	110	75-125	9	20
Cobalt	ug/L	ND	40	40	39.1	42.8	97	106	75-125	9	20
Selenium	ug/L	ND	40	40	38.4	37.9	96	95	75-125	1	20
Thallium	ug/L	ND	40	40	43.4	47.2	108	118	75-125	8	20

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2
Pace Project No.: 50276176

QC Batch: 599139 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

METHOD BLANK: 2764658 Matrix: Water
Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	12/22/20 12:31	

LABORATORY CONTROL SAMPLE: 2764659

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: 2764661

Parameter	Units	50275741002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	210	211	0	20	

SAMPLE DUPLICATE: 2765423

Parameter	Units	50276176001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	331	334	1	20	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

QC Batch:	598929	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

METHOD BLANK: 2763325 Matrix: Water
Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	12/18/20 16:46	

LABORATORY CONTROL SAMPLE: 2763326

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	283	94	80-120	

SAMPLE DUPLICATE: 2763327

Parameter	Units	50275874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	700	703	0	10	

SAMPLE DUPLICATE: 2763328

Parameter	Units	50276176002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	234	242	3	10	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

QC Batch: 598918

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: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

SAMPLE DUPLICATE: 2763229

Parameter	Units	50276174001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.7	6.7	0	2	H3

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

QC Batch: 598845 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: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

METHOD BLANK: 2762866 Matrix: Water
 Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	12/18/20 15:04	

LABORATORY CONTROL SAMPLE: 2762867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.49	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2762868 2762869

Parameter	Units	2762868		2762869		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		50276007001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Sulfide	mg/L	ND	0.5	0.5	0.61	0.57	108	101	90-110	6	20	

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QUALITY CONTROL DATA

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

QC Batch: 599510	Analysis Method: SM 5310C
QC Batch Method: SM 5310C	Analysis Description: 5310C Total Organic Carbon
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

METHOD BLANK: 2766226 Matrix: Water
Associated Lab Samples: 50276176001, 50276176002, 50276176003, 50276176004, 50276176005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	12/23/20 15:42	

LABORATORY CONTROL SAMPLE: 2766227

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: 2766228 2766229

Parameter	Units	50275740022 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	10.3	10.2	94	92	80-120	2	20	

MATRIX SPIKE SAMPLE: 2766230

Parameter	Units	50275740024 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	10.4	95	80-120	

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QUALIFIERS

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

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.

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.

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

P4 Sample field preservation does not meet EPA or method recommendations for this analysis.

PO The reported result is outside the range of the pH buffer solutions used to check the calibration of the pH meter.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50276176001	MW-22	EPA 9056	599203		
50276176002	MW-23	EPA 9056	599203		
50276176003	MW-24	EPA 9056	599203		
50276176004	LB-2	EPA 9056	599203		
50276176005	LB-3	EPA 9056	599203		
50276176001	MW-22	EPA 3010	599358	EPA 6010	600004
50276176002	MW-23	EPA 3010	599358	EPA 6010	600004
50276176003	MW-24	EPA 3010	599358	EPA 6010	600004
50276176004	LB-2	EPA 3010	599358	EPA 6010	600004
50276176005	LB-3	EPA 3010	599358	EPA 6010	600004
50276176001	MW-22	EPA 3010	599074	EPA 6010	599797
50276176002	MW-23	EPA 3010	599074	EPA 6010	599797
50276176003	MW-24	EPA 3010	599074	EPA 6010	599797
50276176004	LB-2	EPA 3010	599074	EPA 6010	599797
50276176005	LB-3	EPA 3010	599074	EPA 6010	599797
50276176001	MW-22	EPA 200.2	599102	EPA 6020	599297
50276176002	MW-23	EPA 200.2	599102	EPA 6020	599297
50276176003	MW-24	EPA 200.2	599102	EPA 6020	599297
50276176004	LB-2	EPA 200.2	599102	EPA 6020	599297
50276176005	LB-3	EPA 200.2	599102	EPA 6020	599297
50276176001	MW-22	EPA 7470	599444	EPA 7470	599581
50276176002	MW-23	EPA 7470	599444	EPA 7470	599581
50276176003	MW-24	EPA 7470	599444	EPA 7470	599581
50276176004	LB-2	EPA 7470	599444	EPA 7470	599581
50276176005	LB-3	EPA 7470	599444	EPA 7470	599581
50276176001	MW-22	SM 2320B	599139		
50276176002	MW-23	SM 2320B	599139		
50276176003	MW-24	SM 2320B	599139		
50276176004	LB-2	SM 2320B	599139		
50276176005	LB-3	SM 2320B	599139		
50276176001	MW-22	SM 2540C	598929		
50276176002	MW-23	SM 2540C	598929		
50276176003	MW-24	SM 2540C	598929		
50276176004	LB-2	SM 2540C	598929		
50276176005	LB-3	SM 2540C	598929		
50276176001	MW-22	SM 4500-H+B	598918		
50276176002	MW-23	SM 4500-H+B	598918		
50276176003	MW-24	SM 4500-H+B	598918		
50276176004	LB-2	SM 4500-H+B	598918		
50276176005	LB-3	SM 4500-H+B	598918		
50276176001	MW-22	SM 4500-S2-D	598845		
50276176002	MW-23	SM 4500-S2-D	598845		
50276176003	MW-24	SM 4500-S2-D	598845		
50276176004	LB-2	SM 4500-S2-D	598845		
50276176005	LB-3	SM 4500-S2-D	598845		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Sampling Profile 3 Report2

Pace Project No.: 50276176

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50276176001	MW-22	SM 5310C	599510		
50276176002	MW-23	SM 5310C	599510		
50276176003	MW-24	SM 5310C	599510		
50276176004	LB-2	SM 5310C	599510		
50276176005	LB-3	SM 5310C	599510		

REPORT OF LABORATORY ANALYSIS

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WO#: 50276176



50276176

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: ATC Group Services	Report To: Rob Duncan	Attention:
Address: 7989 Centerpoint Drive	Copy To:	Company Name:
Indianapolis, IN 46256		Address:
Email: robert.duncan@atcgs.com	Purchase Order #:	Pace Quote:
Phone: 649-2936 Fax:	Project Name: CCR Sampling Profile 3 Report 2	Pace Project Manager: donna.spyker@pacelabs.com,
Requested Due Date:	Project #:	Pace Profile #: 8296/5

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 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								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 Metals, Field Filtered	IN TOC by 5310	IN Sulfide	IN Alkalinity		
						DATE	TIME	DATE	TIME																				
1	MW-22	WT						12-17-20	12:45	7	X	X	X	X							X	X	X	X	X	X	X		
2	MW-23	WT						12-16-20	13:40	7	X	X	X	X							X	X	X	X	X	X	X		
3	MW-24	WT						12-17-20	12:10	7	X	X	X	X							X	X	X	X	X	X	X		
4	LB-2	WT						12-17-20	13:50	7	X	X	X	X							X	X	X	X	X	X	X		
5	LB-3	WT						12-17-20	13:15	7	X	X	X	X							X	X	X	X	X	X	X		
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
TAT ASAP	Andy Jaskowick	12-18-20	10:45	W. [Signature]	12-18-20	10:45	2.3 Y N Y

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:	SIGNATURE of SAMPLER:					
	Andy Jaskowick					
	[Signature]					
DATE Signed:						



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: WS 12-18-20 1130

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: 24/23
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: <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): <u>1 day</u>	✓		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

BP3U, AG3S - 7
BP3F - ✓

Sample Line Item	WGFLU	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	WT	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		
WGFLU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic		
JGFLU	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

March 2021

April 07, 2021

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

RE: Project: IPL Petersburg LW-2
Pace Project No.: 50281349

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on March 04, 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: IPL Petersburg LW-2

Pace Project No.: 50281349

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: IPL Petersburg LW-2
Pace Project No.: 50281349

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50281349001	LW-2	Water	03/04/21 11:43	03/04/21 16:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50281349001	LW-2	EPA 9056	HBS	3	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6010	JDG	4	PASI-I
		EPA 6020	RAM	7	PASI-I
		EPA 6020	CAW	7	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	OAS	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: IPL Petersburg LW-2

Pace Project No.: 50281349

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50281349001	LW-2					
EPA 9056	Chloride	0.94	mg/L	0.25	03/11/21 13:46	
EPA 9056	Fluoride	0.13	mg/L	0.10	03/11/21 13:46	
EPA 9056	Sulfate	150	mg/L	2.5	03/11/21 01:42	
EPA 6010	Barium	123	ug/L	10.0	03/15/21 23:32	
EPA 6010	Calcium	103000	ug/L	1000	03/15/21 23:32	
EPA 6010	Barium, Dissolved	118	ug/L	10.0	03/16/21 09:17	
EPA 6010	Calcium, Dissolved	99200	ug/L	1000	03/16/21 09:17	
EPA 6020	Arsenic	3.3	ug/L	1.0	03/09/21 02:16	
EPA 6020	Cobalt	4.6	ug/L	1.0	03/09/21 02:16	
EPA 6020	Molybdenum	3.9	ug/L	1.0	03/09/21 02:16	
EPA 6020	Arsenic, Dissolved	3.2	ug/L	1.0	03/09/21 06:49	
EPA 6020	Cobalt, Dissolved	3.2	ug/L	1.0	03/09/21 06:49	
EPA 6020	Molybdenum, Dissolved	3.9	ug/L	1.0	03/09/21 06:49	
EPA 903.1	Radium-226	1.05 ± 0.693 (0.928)	pCi/L		03/24/21 12:02	
EPA 904.0	Radium-228	C:NA T:83% 0.609 ± 0.412 (0.798)	pCi/L		03/24/21 16:41	
		C:86% T:83%				
Total Radium Calculation	Total Radium	1.66 ± 1.11 (1.73)	pCi/L		03/27/21 10:16	
SM 2540C	Total Dissolved Solids	483	mg/L	10.0	03/06/21 14:29	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

Sample: LW-2	Lab ID: 50281349001	Collected: 03/04/21 11:43	Received: 03/04/21 16:15	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	0.94	mg/L	0.25	1		03/11/21 13:46	16887-00-6	
Fluoride	0.13	mg/L	0.10	1		03/11/21 13:46	16984-48-8	
Sulfate	150	mg/L	2.5	10		03/11/21 01:42	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium	123	ug/L	10.0	1	03/10/21 06:00	03/15/21 23:32	7440-39-3	
Boron	ND	ug/L	100	1	03/10/21 06:00	03/15/21 23:32	7440-42-8	
Calcium	103000	ug/L	1000	1	03/10/21 06:00	03/15/21 23:32	7440-70-2	
Lithium	ND	ug/L	20.0	1	03/10/21 06:00	03/15/21 23:32	7439-93-2	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Barium, Dissolved	118	ug/L	10.0	1	03/12/21 05:55	03/16/21 09:17	7440-39-3	
Boron, Dissolved	ND	ug/L	100	1	03/12/21 05:55	03/16/21 09:17	7440-42-8	
Calcium, Dissolved	99200	ug/L	1000	1	03/12/21 05:55	03/16/21 09:17	7440-70-2	
Lithium, Dissolved	ND	ug/L	20.0	1	03/12/21 05:55	03/16/21 09:17	7439-93-2	
6020 MET ICPMS								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Arsenic	3.3	ug/L	1.0	1	03/07/21 08:15	03/09/21 02:16	7440-38-2	
Beryllium	ND	ug/L	0.20	1	03/07/21 08:15	03/09/21 12:24	7440-41-7	
Cadmium	ND	ug/L	0.20	1	03/07/21 08:15	03/09/21 02:16	7440-43-9	
Cobalt	4.6	ug/L	1.0	1	03/07/21 08:15	03/09/21 02:16	7440-48-4	
Lead	ND	ug/L	1.0	1	03/07/21 08:15	03/09/21 02:16	7439-92-1	
Molybdenum	3.9	ug/L	1.0	1	03/07/21 08:15	03/09/21 02:16	7439-98-7	
Selenium	ND	ug/L	1.0	1	03/07/21 08:15	03/09/21 02:16	7782-49-2	
6020 MET ICPMS, Dissolved								
Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
Pace Analytical Services - Indianapolis								
Arsenic, Dissolved	3.2	ug/L	1.0	1	03/08/21 09:55	03/09/21 06:49	7440-38-2	
Beryllium, Dissolved	ND	ug/L	0.20	1	03/08/21 09:55	03/09/21 06:49	7440-41-7	
Cadmium, Dissolved	ND	ug/L	0.20	1	03/08/21 09:55	03/09/21 06:49	7440-43-9	
Cobalt, Dissolved	3.2	ug/L	1.0	1	03/08/21 09:55	03/09/21 06:49	7440-48-4	
Lead, Dissolved	ND	ug/L	1.0	1	03/08/21 09:55	03/09/21 06:49	7439-92-1	
Molybdenum, Dissolved	3.9	ug/L	1.0	1	03/08/21 09:55	03/09/21 06:49	7439-98-7	
Selenium, Dissolved	ND	ug/L	1.0	1	03/08/21 09:55	03/09/21 06:49	7782-49-2	
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	483	mg/L	10.0	1		03/06/21 14:29		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

QC Batch: 609445

Analysis Method: EPA 9056

QC Batch Method: EPA 9056

Analysis Description: 9056 IC Anions

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50281349001

METHOD BLANK: 2808635

Matrix: Water

Associated Lab Samples: 50281349001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	03/10/21 12:08	
Fluoride	mg/L	ND	0.10	03/10/21 12:08	
Sulfate	mg/L	ND	0.25	03/10/21 12:08	

LABORATORY CONTROL SAMPLE: 2808636

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: 2808637 2808638

Parameter	Units	50280794001		2808637		2808638		% 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	13.7	12.5	12.5	26.4	26.4	102	102	80-120	0	15		
Fluoride	mg/L	ND	0.5	0.5	0.48	0.50	90	94	80-120	4	15		
Sulfate	mg/L	25.5	25	25	50.2	50.1	99	98	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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

QC Batch: 608709

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50281349001

METHOD BLANK: 2805168

Matrix: Water

Associated Lab Samples: 50281349001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	03/15/21 22:10	
Boron	ug/L	ND	100	03/15/21 22:10	
Calcium	ug/L	ND	1000	03/15/21 22:10	
Lithium	ug/L	ND	20.0	03/15/21 22:10	

LABORATORY CONTROL SAMPLE: 2805169

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	962	96	80-120	
Boron	ug/L	1000	979	98	80-120	
Calcium	ug/L	10000	10200	102	80-120	
Lithium	ug/L	1000	969	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2805170 2805171

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50281299003 Result	Spike Conc.	Spike Conc.	Result						
Barium	ug/L	112	1000	1000	1130	1110	102	100	75-125	2	20
Boron	ug/L	289	1000	1000	1360	1330	107	105	75-125	2	20
Calcium	ug/L	162000	10000	10000	174000	172000	128	109	75-125	1	20 P6
Lithium	ug/L	ND	1000	1000	1050	1020	104	102	75-125	2	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

QC Batch: 609627

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET Dissolved

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50281349001

METHOD BLANK: 2809639

Matrix: Water

Associated Lab Samples: 50281349001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium, Dissolved	ug/L	ND	10.0	03/16/21 09:13	
Boron, Dissolved	ug/L	ND	100	03/16/21 09:13	
Calcium, Dissolved	ug/L	ND	1000	03/16/21 09:13	
Lithium, Dissolved	ug/L	ND	20.0	03/16/21 09:13	

LABORATORY CONTROL SAMPLE: 2809640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium, Dissolved	ug/L	1000	963	96	80-120	
Boron, Dissolved	ug/L	1000	1020	102	80-120	
Calcium, Dissolved	ug/L	10000	10100	101	80-120	
Lithium, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2809641 2809642

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Spike Conc.	Result	Result						
Barium, Dissolved	ug/L	312	1000	1000	1250	1260	94	95	75-125	1	20
Boron, Dissolved	ug/L	ND	1000	1000	1110	1120	102	103	75-125	0	20
Calcium, Dissolved	ug/L	243000	10000	10000	250000	251000	74	79	75-125	0	20 E,P6
Lithium, Dissolved	ug/L	ND	1000	1000	993	1000	98	99	75-125	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2809643 2809644

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Spike Conc.	Result	Result						
Barium, Dissolved	ug/L	0.079 mg/L	1000	1000	1040	1040	96	96	75-125	0	20
Boron, Dissolved	ug/L	3.4 mg/L	1000	1000	4440	4490	107	113	75-125	1	20
Calcium, Dissolved	ug/L	132 mg/L	10000	10000	145000	144000	125	116	75-125	1	20
Lithium, Dissolved	ug/L	ND	1000	1000	1010	1010	100	100	75-125	0	20

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QUALITY CONTROL DATA

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

Parameter	Units	2809645		2809646		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50281196004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Barium, Dissolved	ug/L	0.054 mg/L	1000	1000	997	1020	94	97	75-125	3	20		
Boron, Dissolved	ug/L	14.8 mg/L	1000	1000	15900	15500	105	71	75-125	2	20	P6	
Calcium, Dissolved	ug/L	178 mg/L	10000	10000	185000	180000	70	20	75-125	3	20	P6	
Lithium, Dissolved	ug/L	ND	1000	1000	996	1020	99	102	75-125	3	20		

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QUALITY CONTROL DATA

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

QC Batch:	608642	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50281349001

METHOD BLANK: 2804824 Matrix: Water

Associated Lab Samples: 50281349001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	03/09/21 00:01	
Beryllium	ug/L	ND	0.20	03/09/21 00:01	
Cadmium	ug/L	ND	0.20	03/09/21 00:01	
Cobalt	ug/L	ND	1.0	03/09/21 00:01	
Lead	ug/L	ND	1.0	03/09/21 00:01	
Molybdenum	ug/L	ND	1.0	03/09/21 00:01	
Selenium	ug/L	ND	1.0	03/09/21 00:01	

LABORATORY CONTROL SAMPLE: 2804825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	37.2	93	80-120	
Beryllium	ug/L	40	39.0	98	80-120	
Cadmium	ug/L	40	38.0	95	80-120	
Cobalt	ug/L	40	40.7	102	80-120	
Lead	ug/L	40	40.8	102	80-120	
Molybdenum	ug/L	40	40.0	100	80-120	
Selenium	ug/L	40	39.0	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2804826 2804827

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50281115001 Result	Spike Conc.	Spike Conc.	Result								
Arsenic	ug/L	ND	40	40	35.1	35.2	87	87	75-125	0	20		
Beryllium	ug/L	ND	40	40	35.9	36.4	90	91	75-125	1	20		
Cadmium	ug/L	ND	40	40	35.6	35.6	89	89	75-125	0	20		
Cobalt	ug/L	0.0010 mg/L	40	40	37.8	37.9	92	92	75-125	0	20		
Lead	ug/L	ND	40	40	40.9	41.0	102	102	75-125	0	20		
Molybdenum	ug/L	ND	40	40	41.0	40.7	102	102	75-125	1	20		
Selenium	ug/L	ND	40	40	33.5	33.9	84	85	75-125	1	20		

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QUALITY CONTROL DATA

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

QC Batch: 608908

Analysis Method: EPA 6020

QC Batch Method: EPA 200.2

Analysis Description: 6020 MET Dissolved

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50281349001

METHOD BLANK: 2806607

Matrix: Water

Associated Lab Samples: 50281349001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	1.0	03/09/21 05:03	
Beryllium, Dissolved	ug/L	ND	0.20	03/09/21 05:03	
Cadmium, Dissolved	ug/L	ND	0.20	03/09/21 05:03	
Cobalt, Dissolved	ug/L	ND	1.0	03/09/21 05:03	
Lead, Dissolved	ug/L	ND	1.0	03/09/21 05:03	
Molybdenum, Dissolved	ug/L	ND	1.0	03/09/21 05:03	
Selenium, Dissolved	ug/L	ND	1.0	03/09/21 05:03	

LABORATORY CONTROL SAMPLE: 2806608

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	36.5	91	80-120	
Beryllium, Dissolved	ug/L	40	36.5	91	80-120	
Cadmium, Dissolved	ug/L	40	38.2	95	80-120	
Cobalt, Dissolved	ug/L	40	40.0	100	80-120	
Lead, Dissolved	ug/L	40	38.7	97	80-120	
Molybdenum, Dissolved	ug/L	40	37.9	95	80-120	
Selenium, Dissolved	ug/L	40	38.1	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2806609 2806610

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50281472001 Result	Spike Conc.	Spike Conc.	Result						
Arsenic, Dissolved	ug/L	0.0018 mg/L	40	40	37.9	37.7	90	90	75-125	0	20
Beryllium, Dissolved	ug/L	ND	40	40	36.5	36.5	91	91	75-125	0	20
Cadmium, Dissolved	ug/L	ND	40	40	37.7	38.0	94	95	75-125	1	20
Cobalt, Dissolved	ug/L	ND	40	40	38.8	38.9	97	97	75-125	0	20
Lead, Dissolved	ug/L	ND	40	40	40.0	40.0	100	100	75-125	0	20
Molybdenum, Dissolved	ug/L	0.0059 mg/L	40	40	45.0	44.9	98	97	75-125	0	20
Selenium, Dissolved	ug/L	ND	40	40	36.0	36.2	90	91	75-125	1	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

QC Batch: 608879	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50281349001

METHOD BLANK: 2806310 Matrix: Water

Associated Lab Samples: 50281349001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	03/06/21 14:27	

LABORATORY CONTROL SAMPLE: 2806311

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	293	98	80-120	

SAMPLE DUPLICATE: 2806312

Parameter	Units	50281468003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1570	1560	1	10	

SAMPLE DUPLICATE: 2806313

Parameter	Units	50281468004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	954	962	1	10	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

Sample: LW-2 **Lab ID: 50281349001** Collected: 03/04/21 11:43 Received: 03/04/21 16:15 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	1.05 ± 0.693 (0.928) C:NA T:83%	pCi/L	03/24/21 12:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.609 ± 0.412 (0.798) C:86% T:83%	pCi/L	03/24/21 16:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.66 ± 1.11 (1.73)	pCi/L	03/27/21 10:16	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

QC Batch: 438162

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: 50281349001

METHOD BLANK: 2115331

Matrix: Water

Associated Lab Samples: 50281349001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.174 ± 0.270 (0.652) C:NA T:95%	pCi/L	03/24/21 12:02	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

QC Batch: 438163

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: 50281349001

METHOD BLANK: 2115332

Matrix: Water

Associated Lab Samples: 50281349001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.925 ± 0.371 (0.584) C:85% T:89%	pCi/L	03/24/21 13:19	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: IPL Petersburg LW-2

Pace Project No.: 50281349

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.

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: IPL Petersburg LW-2

Pace Project No.: 50281349

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50281349001	LW-2	EPA 9056	609445		
50281349001	LW-2	EPA 3010	608709	EPA 6010	610324
50281349001	LW-2	EPA 3010	609627	EPA 6010	610354
50281349001	LW-2	EPA 200.2	608642	EPA 6020	608921
50281349001	LW-2	EPA 200.2	608908	EPA 6020	609045
50281349001	LW-2	EPA 903.1	438162		
50281349001	LW-2	EPA 904.0	438163		
50281349001	LW-2	Total Radium Calculation	440751		
50281349001	LW-2	SM 2540C	608879		

REPORT OF LABORATORY ANALYSIS

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WO#: 50281349



50281349



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A

Required Client Information:

Company: ATC Group Services
Address: 7988 Centerpoint Drive
Indianapolis, IN 46256
Email: robert.duncan@atcgs.com
Phone: 317-649-2936
Requested Due Date:

Required Project Information:

Report To: Rob Duncan
Copy To: Mark Breting
Purchase Order #:
Project Name: IPL Petersburg LW-2
Project #:

Section C

Invoice Information:

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

Main data table with columns: ITEM #, SAMPLE ID, MATRIX CODE, SAMPLE TYPE, COLLECTED (START/END), PRESERVATIVES, ANALYSES TEST (Metals, TDS, etc.), REQUESTED ANALYSIS FILTERED (Y/N), RESIDUAL CHLORINE (Y/N)

Table with columns: ADDITIONAL COMMENTS, RELINQUISHED BY / AFFILIATION, DATE, TIME, ACCEPTED BY / AFFILIATION, DATE, TIME, SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Colton Palmer
SIGNATURE of SAMPLER: [Signature]
DATE Signed: 03/04/21



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: QJR 3/4/21 1640

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: 3.3/2.4°C
 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> H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) 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)	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)		n/d	Trip Blank Custody Seals?:			/

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																																
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

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) C:68% T:85%	pCi/L		06/10/21 11:16	
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		

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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.	Result								
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 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	5.2	99	103	75-125	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859167 2859168

Parameter	Units	50286993003 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	4.9	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 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	10500	10600	105	105	75-125	0	20		
Barium	ug/L	37.3	1000	1000	1070	1090	104	105	75-125	2	20		
Boron	ug/L	1270	1000	1000	2370	2390	111	113	75-125	1	20		
Cadmium	ug/L	ND	1000	1000	1040	1050	104	105	75-125	1	20		
Calcium	ug/L	481000	10000	10000	489000	502000	80	203	75-125	2	20 P6		
Chromium	ug/L	ND	1000	1000	1010	1000	101	100	75-125	1	20		
Iron	ug/L	ND	10000	10000	10100	10100	100	101	75-125	1	20		
Lead	ug/L	ND	1000	1000	994	999	99	100	75-125	1	20		
Lithium	ug/L	1820	1000	1000	3040	3090	121	127	75-125	2	20 M0		
Magnesium	ug/L	7360	10000	10000	17300	17400	99	101	75-125	1	20		
Manganese	ug/L	913	1000	1000	1940	1960	102	105	75-125	1	20		
Molybdenum	ug/L	532	1000	1000	1610	1630	108	110	75-125	1	20		
Potassium	ug/L	253000	10000	10000	266000	271000	134	182	75-125	2	20 P6		
Silica	ug/L	8620	10700	10700	19600	19800	103	104		1	N2		
Sodium	ug/L	105000	10000	10000	118000	121000	139	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 CaCO ₃	mg/L	ND	2.0	05/12/21 15:31	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	2.0	05/12/21 15:31	
Alkalinity,Carbonate (CaCO ₃)	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 CaCO ₃	mg/L	50	47.2	94	90-110	

SAMPLE DUPLICATE: 2858323

Parameter	Units	50286944002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	74.9	73.8	1	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	74.9	73.8	1	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2858324

Parameter	Units	50286934012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	297	306	3	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	297	306	3	20	
Alkalinity,Carbonate (CaCO ₃)	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
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		2860756		2860757		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec					
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		2860758		2860759		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec					
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	2862587		2862588		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50286944002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
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 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	10.4	10.3	98	97	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862578 2862579

Parameter	Units	50286949010 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	9.1	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

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch:	449080	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: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007, 50286944008, 50286944009

METHOD BLANK: 2167351 Matrix: Water

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007, 50286944008, 50286944009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.375 ± 0.296 (0.582) C:72% T:89%	pCi/L	06/10/21 11:20	

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 - RADIOCHEMISTRY

Project: IDEM- CCR Profile 1 Report 2

Pace Project No.: 50286944

QC Batch: 449079

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: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007, 50286944008, 50286944009

METHOD BLANK: 2167350

Matrix: Water

Associated Lab Samples: 50286944001, 50286944002, 50286944003, 50286944004, 50286944007, 50286944008, 50286944009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0328 ± 0.290 (0.630) C:NA T:88%	pCi/L	06/11/21 11:56	

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 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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WO#: 50286944



50286944

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section C

Page: 1 Of 1

Client Information: Company: AES/IPL Petersburg; Address: 6925 IN-57; Petersburg, IN 47567; Email: wil.teague@aes.com; Phone: (812)354-8801; Fax: [blank]; Requested Due Date: [blank]

Required Project Information: Report To: Teague, Wil; Copy To: [blank]; Purchase Order #: [blank]; Project Name: IDEM - CCR Sampling Profile 2 Report 1; Project #: [blank]

Invoice Information: Attention: [blank]; Company Name: [blank]; Address: [blank]; Pace Quote: [blank]; Pace Project Manager: Hayden Putt; Pace Profile #: 8296/6 (some bottles shared with P1R1 COC)

Regulatory Agency: [blank]

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 DW WT WW P SL OL WP AR OT TS	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES								ANALYSES TEST Y/N	REQUESTED ANALYSIS FILTERED (Y/N)												RESIDUAL CHLORINE (Y/N)												
				START				END		Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3		Methanol	Other	TDS	(Cl, F, SO4, NO2, NO3) IC	Metals, Total*	Metals Diss. Field Filtered**	Rad-228	Rad-226	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide		Phosphate											
				DATE	TIME			DATE	TIME																						Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	MW-2R	WT		5-5-21	1010		11	3	3	4	1																														001
2	MW-3	WT		5-5-21	1117		11	3	3	4	1																														002
3	MW-4C	WT		5-5-21	1355		11	3	3	4	1																														003
4	DUP 1	WT		5-5-21	1142		11	3	3	4	1																													004	
5	MSD	WT		5-5-21	1228		11	3	3	4	1																													005	
6	MS	WT		5-5-21	1215		11	3	3	4	1																													006	
7	Field Blank 1	WT		5-5-21	1125		9	3	2	3	1																													007	
8																																									
9																																									
10																																									
11																																									
12																																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Metals: 6010 (Al, Ba, B, Cd, Cr, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	<i>John Oliver</i>	5-7-21	0915	<i>John Williams</i>	5/7	9:15	
6020 (Be, Co, As, Se, Sb, Tl), 7470 (Hg)	<i>John Williams</i>	5-7	11:40	<i>Marcia Bennett</i>	5/7/21	1140	1.8°C Y Y Y
** Dissolved FF 6010 (Mo, Mn)							2.1°C
Alkalinity = (Total, Bicarb & Carb)							0.9°C

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: *Nick Doerger*

SIGNATURE of SAMPLER: *Nick Doerger*

DATE Signed: *5-5-21*

TEMP in C: Received on Ice (Y/N) Custody Sealed (Y/N) Cooler (Y/N) Samples Intact (Y/N)

1.2, 0.9°C, 1.2°C, 0.1°C, 1.0°C



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)			<u>/</u>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<u>/</u>
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?			<u>/</u>
Extra labels on Terracore Vials? (soils only)		<input checked="" type="checkbox"/>	Trip Blank Custody Seals?:			<u>/</u>

COMMENTS: some samples ran 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

Sample Container Count

Sample Line Item	WGFU	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	1	2	1	1	1		1				WT	✓	✓	
2																													
3																													
4																													
5																													
6																													
7												1			2	1	2	1			1								
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		
WGFU	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 Prof 2 R2
Pace Project No.: 50286945

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 Sampling Prof 2 R2
Pace Project No.: 50286945

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 Prof 2 R2

Pace Project No.: 50286945

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50286945001	MW-1	Water	05/05/21 16:02	05/07/21 11:40
50286945002	MW-10	Water	05/05/21 17:25	05/07/21 11:40
50286945003	MW-11	Water	05/06/21 08:45	05/07/21 11:40
50286945004	MW-12	Water	05/06/21 10:00	05/07/21 11:40
50286945005	MW-13	Water	05/06/21 11:12	05/07/21 11:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50286945001	MW-1	EPA 9056	RMR	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	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		
		50286945002	MW-10	EPA 9056	RMR	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	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		
50286945003	MW-11			EPA 9056	RMR	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 Sampling Prof 2 R2

Pace Project No.: 50286945

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50286945004	MW-12	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	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	ZM	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	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	RMK	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	ZM	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		
50286945005	MW-13	EPA 9056	RMR	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	MK1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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	ZM	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 Prof 2 R2

Pace Project No.: 50286945

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50286945001	MW-1					
EPA 9056	Chloride	5.9	mg/L	0.25	05/22/21 20:45	
EPA 9056	Fluoride	0.10	mg/L	0.10	05/22/21 20:45	
EPA 9056	Sulfate	214	mg/L	2.5	05/22/21 21:01	
EPA 6010	Barium	52.2	ug/L	10.0	05/20/21 11:03	
EPA 6010	Boron	146	ug/L	100	05/20/21 11:03	
EPA 6010	Calcium	153000	ug/L	1000	05/20/21 11:03	
EPA 6010	Magnesium	41100	ug/L	1000	05/20/21 11:03	
EPA 6010	Potassium	1350	ug/L	1000	05/20/21 11:03	
EPA 6010	Silica	21600	ug/L	450	05/20/21 11:03	N2
EPA 6010	Sodium	3740	ug/L	1000	05/20/21 11:03	
EPA 903.1	Radium-226	-0.280 ± 0.397 (0.932) C:NA T:95%	pCi/L		06/17/21 13:05	
EPA 904.0	Radium-228	-0.297 ± 0.270 (0.706) C:72% T:88%	pCi/L		06/15/21 14:42	
Total Radium Calculation	Total Radium	0.000 ± 0.667 (1.64)	pCi/L		06/17/21 16:21	
SM 2320B	Alkalinity, Total as CaCO3	304	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	304	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	639	mg/L	10.0	05/10/21 17:13	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/10/21 14:00	H3
EPA 353.2	Nitrogen, Nitrate	5.9	mg/L	0.50	05/07/21 17:13	H3
50286945002	MW-10					
EPA 9056	Chloride	104	mg/L	2.5	05/22/21 21:34	
EPA 9056	Fluoride	0.42	mg/L	0.10	05/22/21 21:17	
EPA 9056	Sulfate	1460	mg/L	25.0	05/22/21 21:50	
EPA 6010	Aluminum	6720	ug/L	200	05/20/21 11:05	
EPA 6010	Barium	120	ug/L	10.0	05/20/21 11:05	
EPA 6010	Boron	36300	ug/L	100	05/20/21 11:05	
EPA 6010	Calcium	646000	ug/L	5000	05/20/21 11:32	
EPA 6010	Chromium	11.1	ug/L	10.0	05/20/21 11:05	
EPA 6010	Iron	38900	ug/L	100	05/20/21 11:05	
EPA 6010	Lead	10.5	ug/L	10.0	05/20/21 11:05	
EPA 6010	Lithium	40.9	ug/L	20.0	05/20/21 11:05	
EPA 6010	Magnesium	101000	ug/L	1000	05/20/21 11:05	
EPA 6010	Manganese	3650	ug/L	10.0	05/20/21 11:05	
EPA 6010	Molybdenum	27.5	ug/L	10.0	05/20/21 11:05	
EPA 6010	Potassium	40800	ug/L	1000	05/20/21 11:05	
EPA 6010	Silica	40300	ug/L	450	05/20/21 11:05	N2
EPA 6010	Sodium	82200	ug/L	1000	05/20/21 11:05	
EPA 6010	Manganese, Dissolved	3430	ug/L	10.0	05/14/21 03:38	
EPA 6010	Molybdenum, Dissolved	23.2	ug/L	10.0	05/14/21 03:38	
EPA 6020	Arsenic	96.4	ug/L	1.0	05/13/21 11:16	
EPA 6020	Beryllium	1.3	ug/L	0.20	05/13/21 11:16	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50286945002	MW-10					
EPA 6020	Cobalt	5.5	ug/L	1.0	05/13/21 11:16	
EPA 6020	Selenium	1.3	ug/L	1.0	05/13/21 11:16	
EPA 903.1	Radium-226	0.646 ± 0.473 (0.651) C:NA T:102%	pCi/L		06/17/21 13:05	
EPA 904.0	Radium-228	0.770 ± 0.616 (1.22) C:71% T:82%	pCi/L		06/15/21 17:29	
Total Radium Calculation	Total Radium	1.42 ± 1.09 (1.87)	pCi/L		06/17/21 16:21	
SM 2320B	Alkalinity, Total as CaCO3	598	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	598	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	2680	mg/L	40.0	05/10/21 17:17	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/10/21 14:05	H3
HACH 8146	Iron, Ferrous	0.42	mg/L	0.20	05/14/21 10:07	H3,N2
EPA 365.1	Phosphate as P04	2.0	mg/L	0.15	05/14/21 11:00	
SM 5310C	Total Organic Carbon	8.4	mg/L	1.0	05/18/21 09:13	
SM 5310C	Dissolved Organic Carbon	9.2	mg/L	1.0	05/17/21 22:19	
50286945003	MW-11					
EPA 9056	Chloride	1.8	mg/L	0.25	05/22/21 22:06	
EPA 9056	Fluoride	0.12	mg/L	0.10	05/22/21 22:06	
EPA 9056	Sulfate	532	mg/L	25.0	05/22/21 22:23	
EPA 6010	Barium	42.8	ug/L	10.0	05/20/21 11:07	
EPA 6010	Boron	1230	ug/L	100	05/20/21 11:07	
EPA 6010	Calcium	193000	ug/L	1000	05/20/21 11:07	
EPA 6010	Iron	264	ug/L	100	05/20/21 11:07	
EPA 6010	Magnesium	54600	ug/L	1000	05/20/21 11:07	
EPA 6010	Silica	19700	ug/L	450	05/20/21 11:07	N2
EPA 6010	Sodium	3620	ug/L	1000	05/20/21 11:07	
EPA 6020	Selenium	3.4	ug/L	1.0	05/13/21 11:30	
EPA 903.1	Radium-226	0.000 ± 0.306 (0.664) C:NA T:95%	pCi/L		06/17/21 13:05	
EPA 904.0	Radium-228	0.274 ± 0.506 (1.11) C:71% T:83%	pCi/L		06/15/21 17:26	
Total Radium Calculation	Total Radium	0.274 ± 0.812 (1.77)	pCi/L		06/17/21 16:21	
SM 2320B	Alkalinity, Total as CaCO3	142	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	142	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	862	mg/L	20.0	05/11/21 11:31	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/10/21 14:06	H3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50286945003	MW-11					
EPA 353.2	Nitrogen, Nitrate	2.0	mg/L	0.10	05/07/21 16:24	
EPA 365.1	Phosphate as P04	0.21	mg/L	0.15	05/14/21 11:00	
50286945004	MW-12					
EPA 9056	Chloride	9.9	mg/L	0.25	05/22/21 23:11	
EPA 9056	Fluoride	0.12	mg/L	0.10	05/22/21 23:11	
EPA 9056	Sulfate	15.1	mg/L	0.25	05/22/21 23:11	
EPA 6010	Aluminum	3280	ug/L	200	05/20/21 11:10	
EPA 6010	Barium	42.2	ug/L	10.0	05/20/21 11:10	
EPA 6010	Calcium	52800	ug/L	1000	05/20/21 11:10	
EPA 6010	Iron	3260	ug/L	100	05/20/21 11:10	
EPA 6010	Magnesium	21100	ug/L	1000	05/20/21 11:10	
EPA 6010	Manganese	60.5	ug/L	10.0	05/20/21 11:10	
EPA 6010	Potassium	1530	ug/L	1000	05/20/21 11:10	
EPA 6010	Silica	30000	ug/L	450	05/20/21 11:10	N2
EPA 6010	Sodium	3860	ug/L	1000	05/20/21 11:10	
EPA 6020	Arsenic	3.0	ug/L	1.0	05/13/21 11:34	
EPA 6020	Cobalt	1.3	ug/L	1.0	05/13/21 11:34	
EPA 903.1	Radium-226	-0.106 ± 0.360 (0.795) C:NA T:102%	pCi/L		06/17/21 13:05	
EPA 904.0	Radium-228	0.440 ± 0.492 (1.03) C:72% T:87%	pCi/L		06/15/21 17:26	
Total Radium Calculation	Total Radium	0.440 ± 0.852 (1.83)	pCi/L		06/17/21 16:21	
SM 2320B	Alkalinity, Total as CaCO3	160	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	160	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	223	mg/L	10.0	05/11/21 11:31	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/10/21 14:08	H3
EPA 353.2	Nitrogen, Nitrate	8.4	mg/L	1.0	05/07/21 17:20	
50286945005	MW-13					
EPA 9056	Chloride	2.0	mg/L	0.25	05/22/21 23:28	
EPA 9056	Fluoride	0.65	mg/L	0.10	05/22/21 23:28	
EPA 9056	Sulfate	1020	mg/L	25.0	05/22/21 23:44	
EPA 6010	Barium	17.4	ug/L	10.0	05/20/21 11:12	
EPA 6010	Boron	1660	ug/L	100	05/20/21 11:12	
EPA 6010	Calcium	476000	ug/L	5000	05/20/21 11:34	
EPA 6010	Magnesium	14000	ug/L	1000	05/20/21 11:12	
EPA 6010	Molybdenum	45.3	ug/L	10.0	05/20/21 11:12	
EPA 6010	Potassium	6090	ug/L	1000	05/20/21 11:12	
EPA 6010	Silica	14000	ug/L	450	05/20/21 11:12	N2
EPA 6010	Sodium	2120	ug/L	1000	05/20/21 11:12	
EPA 6010	Molybdenum, Dissolved	45.8	ug/L	10.0	05/14/21 03:45	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50286945005	MW-13					
EPA 6020	Selenium	8.4	ug/L	1.0	05/13/21 11:39	
EPA 903.1	Radium-226	-0.171 ± 0.370 (0.853) C:NA T:92%	pCi/L		06/17/21 13:05	
EPA 904.0	Radium-228	0.0414 ± 0.489 (1.13) C:69% T:87%	pCi/L		06/15/21 17:26	
Total Radium Calculation	Total Radium	0.0414 ± 0.859 (1.98)	pCi/L		06/17/21 16:21	
SM 2320B	Alkalinity, Total as CaCO ₃	163	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity, Bicarbonate (CaCO ₃)	163	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	1640	mg/L	20.0	05/11/21 11:32	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	05/10/21 14:11	H3

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-1	Lab ID: 50286945001	Collected: 05/05/21 16:02	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	5.9	mg/L	0.25	1		05/22/21 20:45	16887-00-6	
Fluoride	0.10	mg/L	0.10	1		05/22/21 20:45	16984-48-8	
Sulfate	214	mg/L	2.5	10		05/22/21 21:01	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 11:03	7429-90-5	
Barium	52.2	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:03	7440-39-3	
Boron	146	ug/L	100	1	05/18/21 06:40	05/20/21 11:03	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 11:03	7440-43-9	
Calcium	153000	ug/L	1000	1	05/18/21 06:40	05/20/21 11:03	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:03	7440-47-3	
Iron	ND	ug/L	100	1	05/18/21 06:40	05/20/21 11:03	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:03	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 06:40	05/20/21 11:03	7439-93-2	
Magnesium	41100	ug/L	1000	1	05/18/21 06:40	05/20/21 11:03	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:03	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:03	7439-98-7	
Potassium	1350	ug/L	1000	1	05/18/21 06:40	05/20/21 11:03	7440-09-7	
Silica	21600	ug/L	450	1	05/18/21 06:40	05/20/21 11:03	7631-86-9	N2
Sodium	3740	ug/L	1000	1	05/18/21 06:40	05/20/21 11:03	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	05/13/21 13:24	05/14/21 03:36	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:36	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 11:11	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:11	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:25	05/13/21 11:11	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:11	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:11	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:11	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 08:33	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	304	mg/L	2.0	1		05/12/21 15:31		
Alkalinity, Bicarbonate (CaCO3)	304	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 Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-1	Lab ID: 50286945001	Collected: 05/05/21 16:02	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	639	mg/L	10.0	1		05/10/21 17:13		
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 14:00		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 11:10	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	5.9	mg/L	0.50	5		05/07/21 17:13	14797-55-8	H3
Nitrogen, Nitrite	ND	mg/L	0.50	5		05/07/21 17:13	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 10:59		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 08:53	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/17/21 22:07		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-10	Lab ID: 50286945002	Collected: 05/05/21 17:25	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	104	mg/L	2.5	10		05/22/21 21:34	16887-00-6	
Fluoride	0.42	mg/L	0.10	1		05/22/21 21:17	16984-48-8	
Sulfate	1460	mg/L	25.0	100		05/22/21 21:50	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	6720	ug/L	200	1	05/18/21 06:40	05/20/21 11:05	7429-90-5	
Barium	120	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:05	7440-39-3	
Boron	36300	ug/L	100	1	05/18/21 06:40	05/20/21 11:05	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 11:05	7440-43-9	
Calcium	646000	ug/L	5000	5	05/18/21 06:40	05/20/21 11:32	7440-70-2	
Chromium	11.1	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:05	7440-47-3	
Iron	38900	ug/L	100	1	05/18/21 06:40	05/20/21 11:05	7439-89-6	
Lead	10.5	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:05	7439-92-1	
Lithium	40.9	ug/L	20.0	1	05/18/21 06:40	05/20/21 11:05	7439-93-2	
Magnesium	101000	ug/L	1000	1	05/18/21 06:40	05/20/21 11:05	7439-95-4	
Manganese	3650	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:05	7439-96-5	
Molybdenum	27.5	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:05	7439-98-7	
Potassium	40800	ug/L	1000	1	05/18/21 06:40	05/20/21 11:05	7440-09-7	
Silica	40300	ug/L	450	1	05/18/21 06:40	05/20/21 11:05	7631-86-9	N2
Sodium	82200	ug/L	1000	1	05/18/21 06:40	05/20/21 11:05	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	3430	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:38	7439-96-5	
Molybdenum, Dissolved	23.2	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:38	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 11:16	7440-36-0	
Arsenic	96.4	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:16	7440-38-2	
Beryllium	1.3	ug/L	0.20	1	05/12/21 08:25	05/13/21 11:16	7440-41-7	
Cobalt	5.5	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:16	7440-48-4	
Selenium	1.3	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:16	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:16	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 08:35	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	598	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Bicarbonate (CaCO3)	598	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 Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-10	Lab ID: 50286945002	Collected: 05/05/21 17:25	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	2680	mg/L	40.0	1		05/10/21 17:17		
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 14:05		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 11:10	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	0.42	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		05/07/21 17:15	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/07/21 17:15	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	2.0	mg/L	0.15	1	05/13/21 12:47	05/14/21 11:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	8.4	mg/L	1.0	1		05/18/21 09:13	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	9.2	mg/L	1.0	1		05/17/21 22:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-11	Lab ID: 50286945003	Collected: 05/06/21 08:45	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	1.8	mg/L	0.25	1		05/22/21 22:06	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		05/22/21 22:06	16984-48-8	
Sulfate	532	mg/L	25.0	100		05/22/21 22:23	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 06:40	05/20/21 11:07	7429-90-5	
Barium	42.8	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:07	7440-39-3	
Boron	1230	ug/L	100	1	05/18/21 06:40	05/20/21 11:07	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 11:07	7440-43-9	
Calcium	193000	ug/L	1000	1	05/18/21 06:40	05/20/21 11:07	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:07	7440-47-3	
Iron	264	ug/L	100	1	05/18/21 06:40	05/20/21 11:07	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:07	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 06:40	05/20/21 11:07	7439-93-2	
Magnesium	54600	ug/L	1000	1	05/18/21 06:40	05/20/21 11:07	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:07	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:07	7439-98-7	
Potassium	ND	ug/L	1000	1	05/18/21 06:40	05/20/21 11:07	7440-09-7	
Silica	19700	ug/L	450	1	05/18/21 06:40	05/20/21 11:07	7631-86-9	N2
Sodium	3620	ug/L	1000	1	05/18/21 06:40	05/20/21 11:07	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	05/13/21 13:24	05/14/21 03:41	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:41	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	05/12/21 08:25	05/13/21 11:30	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:30	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:25	05/13/21 11:30	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:30	7440-48-4	
Selenium	3.4	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:30	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:30	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/13/21 10:55	05/14/21 08:38	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	142	mg/L	2.0	1		05/12/21 15:31		
Alkalinity, Bicarbonate (CaCO3)	142	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 Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-11	Lab ID: 50286945003	Collected: 05/06/21 08:45	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	862	mg/L	20.0	1		05/11/21 11:31		
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		05/10/21 14:06		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 12:09	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	2.0	mg/L	0.10	1		05/07/21 16:24	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/07/21 16:24	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	05/13/21 12:47	05/14/21 11:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 09:38	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 22:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-12	Lab ID: 50286945004	Collected: 05/06/21 10:00	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	9.9	mg/L	0.25	1		05/22/21 23:11	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		05/22/21 23:11	16984-48-8	
Sulfate	15.1	mg/L	0.25	1		05/22/21 23:11	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	3280	ug/L	200	1	05/18/21 06:40	05/20/21 11:10	7429-90-5	
Barium	42.2	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:10	7440-39-3	
Boron	ND	ug/L	100	1	05/18/21 06:40	05/20/21 11:10	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 11:10	7440-43-9	
Calcium	52800	ug/L	1000	1	05/18/21 06:40	05/20/21 11:10	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:10	7440-47-3	
Iron	3260	ug/L	100	1	05/18/21 06:40	05/20/21 11:10	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:10	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 06:40	05/20/21 11:10	7439-93-2	
Magnesium	21100	ug/L	1000	1	05/18/21 06:40	05/20/21 11:10	7439-95-4	
Manganese	60.5	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:10	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:10	7439-98-7	
Potassium	1530	ug/L	1000	1	05/18/21 06:40	05/20/21 11:10	7440-09-7	
Silica	30000	ug/L	450	1	05/18/21 06:40	05/20/21 11:10	7631-86-9	N2
Sodium	3860	ug/L	1000	1	05/18/21 06:40	05/20/21 11:10	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	05/13/21 13:24	05/14/21 03:43	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:43	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	05/12/21 08:25	05/13/21 11:34	7440-36-0	
Arsenic	3.0	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:34	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:25	05/13/21 11:34	7440-41-7	
Cobalt	1.3	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:34	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:34	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:34	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 08:40	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	160	mg/L	2.0	1		05/12/21 15:31		
Alkalinity, Bicarbonate (CaCO3)	160	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 Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-12	Lab ID: 50286945004	Collected: 05/06/21 10:00	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	223	mg/L	10.0	1		05/11/21 11:31		
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		05/10/21 14:08		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 12:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 10:08		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	8.4	mg/L	1.0	10		05/07/21 17:20	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	1.0	10		05/07/21 17:20	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	05/13/21 12:47	05/14/21 11:02		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 09:57	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 22:39		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-13	Lab ID: 50286945005	Collected: 05/06/21 11:12	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	2.0	mg/L	0.25	1		05/22/21 23:28	16887-00-6	
Fluoride	0.65	mg/L	0.10	1		05/22/21 23:28	16984-48-8	
Sulfate	1020	mg/L	25.0	100		05/22/21 23:44	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 11:12	7429-90-5	
Barium	17.4	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:12	7440-39-3	
Boron	1660	ug/L	100	1	05/18/21 06:40	05/20/21 11:12	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 06:40	05/20/21 11:12	7440-43-9	
Calcium	476000	ug/L	5000	5	05/18/21 06:40	05/20/21 11:34	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:12	7440-47-3	
Iron	ND	ug/L	100	1	05/18/21 06:40	05/20/21 11:12	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:12	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 06:40	05/20/21 11:12	7439-93-2	
Magnesium	14000	ug/L	1000	1	05/18/21 06:40	05/20/21 11:12	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:12	7439-96-5	
Molybdenum	45.3	ug/L	10.0	1	05/18/21 06:40	05/20/21 11:12	7439-98-7	
Potassium	6090	ug/L	1000	1	05/18/21 06:40	05/20/21 11:12	7440-09-7	
Silica	14000	ug/L	450	1	05/18/21 06:40	05/20/21 11:12	7631-86-9	N2
Sodium	2120	ug/L	1000	1	05/18/21 06:40	05/20/21 11:12	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	05/13/21 13:24	05/14/21 03:45	7439-96-5	
Molybdenum, Dissolved	45.8	ug/L	10.0	1	05/13/21 13:24	05/14/21 03:45	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	05/12/21 08:25	05/13/21 11:39	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:39	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:25	05/13/21 11:39	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:39	7440-48-4	
Selenium	8.4	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:39	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:25	05/13/21 11:39	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	05/13/21 10:55	05/14/21 08:43	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	163	mg/L	2.0	1		05/12/21 15:31		
Alkalinity, Bicarbonate (CaCO3)	163	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 Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-13	Lab ID: 50286945005	Collected: 05/06/21 11:12	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	1640	mg/L	20.0	1		05/11/21 11:32		
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 14:11		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/11/21 12:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 10:08		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		05/07/21 17:22	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/07/21 17:22	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	05/13/21 12:47	05/14/21 11:03		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 10:23	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 22:49		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2868159 Matrix: Water
Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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	50286944002		2868161		2868162		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
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 Sampling Prof 2 R2

Pace Project No.: 50286945

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

Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2859163 Matrix: Water
Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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 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	5.2	99	103	75-125	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859167 2859168

Parameter	Units	50286993003 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	4.9	5.1	98	102	75-125	4	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

QC Batch:	620874	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2861702 Matrix: Water
Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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 Sampling Prof 2 R2

Pace Project No.: 50286945

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

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2858216 Matrix: Water
Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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		2858219		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Manganese, Dissolved	ug/L	32.8	1000	973	960	94	93	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1040	1030	103	102	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2858220 2858221

Parameter	Units	50286944002		2858221		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Manganese, Dissolved	ug/L	907	1000	1820	1820	91	91	75-125	0	20	
Molybdenum, Dissolved	ug/L	519	1000	1530	1520	101	101	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2857814 Matrix: Water

Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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.	Conc.								
Antimony	ug/L	ND	ND	40	40	38.3	39.4	96	98	75-125	3	20	
Arsenic	ug/L	15.4	15.4	40	40	51.7	52.8	91	94	75-125	2	20	
Beryllium	ug/L	ND	ND	40	40	37.2	38.3	93	96	75-125	3	20	
Cobalt	ug/L	ND	ND	40	40	36.8	37.0	91	92	75-125	1	20	
Selenium	ug/L	ND	ND	40	40	37.5	39.0	94	98	75-125	4	20	
Thallium	ug/L	ND	ND	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.	Conc.								
Antimony	ug/L	ND	ND	40	40	38.4	37.5	96	93	75-125	2	20	
Arsenic	ug/L	17.0	17.0	40	40	54.3	53.1	93	90	75-125	2	20	
Beryllium	ug/L	ND	ND	40	40	112	121	279	303	75-125	8	20 M3	
Cobalt	ug/L	2.1	2.1	40	40	38.5	38.6	91	91	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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 Sampling Prof 2 R2
Pace Project No.: 50286945

QC Batch: 620281 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2858321 Matrix: Water
Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	2.0	05/12/21 15:31	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	2.0	05/12/21 15:31	
Alkalinity,Carbonate (CaCO ₃)	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 CaCO ₃	mg/L	50	47.2	94	90-110	

SAMPLE DUPLICATE: 2858323

Parameter	Units	50286944002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	74.9	73.8	1	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	74.9	73.8	1	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2858324

Parameter	Units	50286934012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	297	306	3	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	297	306	3	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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: 50286945001, 50286945002

METHOD BLANK: 2856502

Matrix: Water

Associated Lab Samples: 50286945001, 50286945002

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 Sampling Prof 2 R2

Pace Project No.: 50286945

QC Batch: 619993	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286945003, 50286945004, 50286945005

METHOD BLANK: 2857159 Matrix: Water

Associated Lab Samples: 50286945003, 50286945004, 50286945005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/11/21 11:24	

LABORATORY CONTROL SAMPLE: 2857160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	257	86	80-120	

SAMPLE DUPLICATE: 2857161

Parameter	Units	50286839001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	694	686	1	10	

SAMPLE DUPLICATE: 2857162

Parameter	Units	50286870003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	242	241	0	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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 Sampling Prof 2 R2

Pace Project No.: 50286945

QC Batch: 619954

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: 50286945001, 50286945002

METHOD BLANK: 2857010

Matrix: Water

Associated Lab Samples: 50286945001, 50286945002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/11/21 11:10	

LABORATORY CONTROL SAMPLE: 2857011

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: 2857012 2857013

Parameter	Units	50286830001		2857012		2857013		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
Sulfide	mg/L	ND	0.5	0.5	0.52	0.53	104	106	90-110	2	20

MATRIX SPIKE SAMPLE: 2857150

Parameter	Units	50286945001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.47	95	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

QC Batch:	619956	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: 50286945003, 50286945004, 50286945005

METHOD BLANK: 2857016 Matrix: Water
Associated Lab Samples: 50286945003, 50286945004, 50286945005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/11/21 12:09	

LABORATORY CONTROL SAMPLE: 2857017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857018 2857019

Parameter	Units	50286949010 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	0.48	0.49	95	98	90-110	4	20	

MATRIX SPIKE SAMPLE: 2857020

Parameter	Units	50286945003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.43	84	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

QC Batch: 620719 Analysis Method: HACH 8146
 QC Batch Method: HACH 8146 Analysis Description: Iron, Ferrous
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2860754 Matrix: Water
 Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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		2860756		2860757		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec					
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		2860758		2860759		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec					
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 Sampling Prof 2 R2

Pace Project No.: 50286945

QC Batch:	619554	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: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2854907 Matrix: Water
Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/07/21 15:50	
Nitrogen, Nitrite	mg/L	ND	0.10	05/07/21 15:50	

LABORATORY CONTROL SAMPLE: 2854908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	101	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854909 2854910

Parameter	Units	50286858006 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	0.63	1	1	1.7	1.7	108	110	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	109	111	90-110	2	20 M0	

MATRIX SPIKE SAMPLE: 2855342

Parameter	Units	50286945005 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	107	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2859347

Matrix: Water

Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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		2859350		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Phosphate as P04	mg/L	0.16		1.7	1.7				2		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2862585 Matrix: Water
Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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 Sampling Prof 2 R2

Pace Project No.: 50286945

QC Batch:	621097	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Dissolved Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2862568 Matrix: Water
Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/17/21 17:21	

LABORATORY CONTROL SAMPLE: 2862569

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862570 2862571

Parameter	Units	50286756005 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	9.4	94	94	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862572 2862573

Parameter	Units	50286830001 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	1.5	10	10	11.3	11.2	98	98	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-1 **Lab ID: 50286945001** Collected: 05/05/21 16:02 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	-0.280 ± 0.397 (0.932) C:NA T:95%	pCi/L	06/17/21 13:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	-0.297 ± 0.270 (0.706) C:72% T:88%	pCi/L	06/15/21 14:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.000 ± 0.667 (1.64)	pCi/L	06/17/21 16:21	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-10 **Lab ID: 50286945002** Collected: 05/05/21 17:25 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	0.646 ± 0.473 (0.651) C:NA T:102%	pCi/L	06/17/21 13:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.770 ± 0.616 (1.22) C:71% T:82%	pCi/L	06/15/21 17:29	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.42 ± 1.09 (1.87)	pCi/L	06/17/21 16:21	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-11 **Lab ID: 50286945003** Collected: 05/06/21 08:45 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	0.000 ± 0.306 (0.664) C:NA T:95%	pCi/L	06/17/21 13:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.274 ± 0.506 (1.11) C:71% T:83%	pCi/L	06/15/21 17:26	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.274 ± 0.812 (1.77)	pCi/L	06/17/21 16:21	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-12 **Lab ID: 50286945004** Collected: 05/06/21 10:00 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	-0.106 ± 0.360 (0.795) C:NA T:102%	pCi/L	06/17/21 13:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.440 ± 0.492 (1.03) C:72% T:87%	pCi/L	06/15/21 17:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.440 ± 0.852 (1.83)	pCi/L	06/17/21 16:21	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Sample: MW-13 **Lab ID: 50286945005** Collected: 05/06/21 11:12 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	-0.171 ± 0.370 (0.853) C:NA T:92%	pCi/L	06/17/21 13:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.0414 ± 0.489 (1.13) C:69% T:87%	pCi/L	06/15/21 17:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.0414 ± 0.859 (1.98)	pCi/L	06/17/21 16:21	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

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: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2169407

Matrix: Water

Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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 Prof 2 R2

Pace Project No.: 50286945

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: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

METHOD BLANK: 2169408

Matrix: Water

Associated Lab Samples: 50286945001, 50286945002, 50286945003, 50286945004, 50286945005

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 Prof 2 R2

Pace Project No.: 50286945

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50286945001	MW-1	EPA 9056	622294		
50286945002	MW-10	EPA 9056	622294		
50286945003	MW-11	EPA 9056	622294		
50286945004	MW-12	EPA 9056	622294		
50286945005	MW-13	EPA 9056	622294		
50286945001	MW-1	EPA 3010	620874	EPA 6010	621781
50286945002	MW-10	EPA 3010	620874	EPA 6010	621781
50286945003	MW-11	EPA 3010	620874	EPA 6010	621781
50286945004	MW-12	EPA 3010	620874	EPA 6010	621781
50286945005	MW-13	EPA 3010	620874	EPA 6010	621781
50286945001	MW-1	EPA 3010	620251	EPA 6010	620699
50286945002	MW-10	EPA 3010	620251	EPA 6010	620699
50286945003	MW-11	EPA 3010	620251	EPA 6010	620699
50286945004	MW-12	EPA 3010	620251	EPA 6010	620699
50286945005	MW-13	EPA 3010	620251	EPA 6010	620699
50286945001	MW-1	EPA 200.2	620151	EPA 6020	620443
50286945002	MW-10	EPA 200.2	620151	EPA 6020	620443
50286945003	MW-11	EPA 200.2	620151	EPA 6020	620443
50286945004	MW-12	EPA 200.2	620151	EPA 6020	620443
50286945005	MW-13	EPA 200.2	620151	EPA 6020	620443
50286945001	MW-1	EPA 7470	620417	EPA 7470	620709
50286945002	MW-10	EPA 7470	620417	EPA 7470	620709
50286945003	MW-11	EPA 7470	620417	EPA 7470	620709
50286945004	MW-12	EPA 7470	620417	EPA 7470	620709
50286945005	MW-13	EPA 7470	620417	EPA 7470	620709
50286945001	MW-1	EPA 903.1	449558		
50286945002	MW-10	EPA 903.1	449558		
50286945003	MW-11	EPA 903.1	449558		
50286945004	MW-12	EPA 903.1	449558		
50286945005	MW-13	EPA 903.1	449558		
50286945001	MW-1	EPA 904.0	449559		
50286945002	MW-10	EPA 904.0	449559		
50286945003	MW-11	EPA 904.0	449559		
50286945004	MW-12	EPA 904.0	449559		
50286945005	MW-13	EPA 904.0	449559		
50286945001	MW-1	Total Radium Calculation	452984		
50286945002	MW-10	Total Radium Calculation	452984		
50286945003	MW-11	Total Radium Calculation	452984		
50286945004	MW-12	Total Radium Calculation	452984		
50286945005	MW-13	Total Radium Calculation	452984		
50286945001	MW-1	SM 2320B	620281		
50286945002	MW-10	SM 2320B	620281		
50286945003	MW-11	SM 2320B	620281		
50286945004	MW-12	SM 2320B	620281		
50286945005	MW-13	SM 2320B	620281		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling Prof 2 R2

Pace Project No.: 50286945

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50286945001	MW-1	SM 2540C	619764		
50286945002	MW-10	SM 2540C	619764		
50286945003	MW-11	SM 2540C	619993		
50286945004	MW-12	SM 2540C	619993		
50286945005	MW-13	SM 2540C	619993		
50286945001	MW-1	SM 4500-H+B	619790		
50286945002	MW-10	SM 4500-H+B	619790		
50286945003	MW-11	SM 4500-H+B	619790		
50286945004	MW-12	SM 4500-H+B	619790		
50286945005	MW-13	SM 4500-H+B	619790		
50286945001	MW-1	SM 4500-S2-D	619954		
50286945002	MW-10	SM 4500-S2-D	619954		
50286945003	MW-11	SM 4500-S2-D	619956		
50286945004	MW-12	SM 4500-S2-D	619956		
50286945005	MW-13	SM 4500-S2-D	619956		
50286945001	MW-1	HACH 8146	620719		
50286945002	MW-10	HACH 8146	620719		
50286945003	MW-11	HACH 8146	620719		
50286945004	MW-12	HACH 8146	620719		
50286945005	MW-13	HACH 8146	620719		
50286945001	MW-1	EPA 353.2	619554		
50286945002	MW-10	EPA 353.2	619554		
50286945003	MW-11	EPA 353.2	619554		
50286945004	MW-12	EPA 353.2	619554		
50286945005	MW-13	EPA 353.2	619554		
50286945001	MW-1	EPA 365.1	620475	EPA 365.1	620643
50286945002	MW-10	EPA 365.1	620475	EPA 365.1	620643
50286945003	MW-11	EPA 365.1	620475	EPA 365.1	620643
50286945004	MW-12	EPA 365.1	620475	EPA 365.1	620643
50286945005	MW-13	EPA 365.1	620475	EPA 365.1	620643
50286945001	MW-1	SM 5310C	621100		
50286945002	MW-10	SM 5310C	621100		
50286945003	MW-11	SM 5310C	621100		
50286945004	MW-12	SM 5310C	621100		
50286945005	MW-13	SM 5310C	621100		
50286945001	MW-1	SM 5310C	621097		
50286945002	MW-10	SM 5310C	621097		
50286945003	MW-11	SM 5310C	621097		
50286945004	MW-12	SM 5310C	621097		
50286945005	MW-13	SM 5310C	621097		

REPORT OF LABORATORY ANALYSIS

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WO#: 50286945



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A

Section C

Required Client Information

Invoice Information:

Company: AES/IPL Petersburg	Copy To:	Attention:
Address: 6925 IN-57	Company Name:	
Petersburg, IN 47567	Address:	
Email: wil.teague@aes.com	Purchase Order #:	Pace Quote:
Phone: (812)354-8801	Project Name: IDEM - CCR Sampling Profile 2 Report 2	Pace Project Manager: Hayden Putt
Fax:	Project #:	Pace Profile #: 8296/6 (some bottles shared with P1R2 COC)
Requested Due Date:		

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	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)																				
						START		END			Preservatives	Analyses Test	Y/N	Y	Y	Y	Y	Y	Y	Y																					
						DATE	TIME	DATE	TIME													Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	TDS	(Cl, F, SO4) by IC	Metals, Total*	Metals Dis. Field Filtered**	Rac-228	Rac-226	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	NO2, NO3-353.2
						DATE	TIME	DATE	TIME													# OF CONTAINERS																			
1	MW-1	WT		5-5-21	1602				11	3	3	4	1																			001									
2	MW-10	WT		5-5-21	1725				11	3	3	4	1																			002									
3	MW-11	WT		5-6-21	0945				11	3	3	4	1																			003									
4	MW-12	WT		5-6-21	1000				11	3	3	4	1																			004									
5	MW-13	WT		5-6-21	1112				11	3	3	4	1																			005									
6																																									
7																																									
8																																									
9																																									
10																																									
11																																									
12																																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals: 6010 (Al, Ba, B, Cd, Cr, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	<i>M. Duen</i>	5-7-21	0915	<i>Jay Williams</i>	5/7	9.5	
6020 (Be, Co, As, Se, Sb, Tl), 7470 (Hg)	<i>Jay Williams</i>	5-7	11-40	<i>Marcia Bennett</i>	5/7/21	1140	1.8
** Dissolved FF 6010 (Mo, Mn)							2.1
Alkalinity = (Total, Bicarb & Carb)							0.9

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	<i>Mike Duen</i>
SIGNATURE of SAMPLER:	<i>M. Duen</i>
DATE Signed:	5-5-21

TEMP in	10.2
Received on Ice (Y/N)	
Custody Sealed Cooler (Y/N)	
25 Samples in Contact (Y/N)	

0.9, 1.2, 0.1, 1.0



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**
4. Cooler Temperature: 1.8°C/1.8, 2.1°C/2.1°C, 0.9/0.9, 1.2/1.2
 Temp should be above freezing to 6°C (Initial/Corrected) 0.9/0.9, 1.2/1.2, 0.1/0.1, 1.0/1.0°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		<input checked="" type="checkbox"/>	
Time 5035A TC placed in Freezer or Short Holds To Lab Time: <u>1412</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)			<u>—</u>
Custody Signatures Present?	<input checked="" type="checkbox"/>		Headspace Wisconsin Sulfide?			<u>—</u>
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?			<u>—</u>
Extra labels on Terracore Vials? (soils only)		<input checked="" type="checkbox"/>	Trip Blank Custody Seals?:			<u>—</u>

COMMENTS:

Sample Container Count

Sample Line Item	WGFU	R	SBS	DI	BK Kit	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	1	2	1	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		
WGFU	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 PR 2 R3
Pace Project No.: 50286948

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 Sampling PR 2 R3
Pace Project No.: 50286948

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

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SAMPLE SUMMARY

Project: IDEM - CCR Sampling PR 2 R3
Pace Project No.: 50286948

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50286948001	MW-14	Water	05/06/21 13:00	05/07/21 11:40
50286948002	MW-15	Water	05/06/21 14:00	05/07/21 11:40

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50286948001	MW-14	EPA 9056	HBS	3	PASI-I		
		EPA 6010	JDG	14	PASI-I		
		EPA 6010	JPK	2	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	ZM	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		
		50286948002	MW-15	EPA 9056	HBS	3	PASI-I
				EPA 6010	JDG	14	PASI-I
				EPA 6010	JPK	2	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	ZM			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		

PASI-I = Pace Analytical Services - Indianapolis

PASI-PA = Pace Analytical Services - Greensburg

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50286948001	MW-14					
EPA 9056	Chloride	4.3	mg/L	0.25	05/20/21 06:45	
EPA 9056	Sulfate	224	mg/L	25.0	05/20/21 07:01	
EPA 6010	Aluminum	319	ug/L	200	05/19/21 11:58	
EPA 6010	Barium	73.0	ug/L	10.0	05/19/21 11:58	
EPA 6010	Boron	571	ug/L	100	05/19/21 11:58	
EPA 6010	Calcium	164000	ug/L	1000	05/19/21 11:58	
EPA 6010	Iron	9760	ug/L	100	05/19/21 11:58	
EPA 6010	Magnesium	36900	ug/L	1000	05/19/21 11:58	
EPA 6010	Manganese	1580	ug/L	10.0	05/19/21 11:58	
EPA 6010	Potassium	1050	ug/L	1000	05/19/21 11:58	
EPA 6010	Silica	13000	ug/L	450	05/19/21 11:58	N2
EPA 6010	Sodium	5900	ug/L	1000	05/19/21 11:58	
EPA 6010	Manganese, Dissolved	1560	ug/L	10.0	05/14/21 04:05	
EPA 6020	Arsenic	9.4	ug/L	1.0	05/13/21 05:13	
EPA 6020	Cobalt	1.3	ug/L	1.0	05/13/21 05:13	
EPA 903.1	Radium-226	0.724 ± 0.689	pCi/L		06/11/21 12:43	
		(1.02) C:NA T:92%				
EPA 904.0	Radium-228	0.689 ± 0.398 (0.724) C:68% T:85%	pCi/L		06/10/21 11:18	
Total Radium Calculation	Total Radium	1.41 ± 1.09 (1.74)	pCi/L		06/14/21 08:58	
SM 2320B	Alkalinity, Total as CaCO3	328	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	328	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	674	mg/L	10.0	05/11/21 13:53	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/11/21 09:18	H3
EPA 365.1	Phosphate as P04	2.0	mg/L	0.15	05/17/21 09:19	
50286948002	MW-15					
EPA 9056	Chloride	99.1	mg/L	2.5	05/20/21 08:07	
EPA 9056	Sulfate	1030	mg/L	25.0	05/20/21 08:23	
EPA 6010	Barium	85.6	ug/L	10.0	05/19/21 12:00	
EPA 6010	Boron	1580	ug/L	100	05/19/21 12:00	
EPA 6010	Calcium	309000	ug/L	2000	05/19/21 12:54	
EPA 6010	Iron	2400	ug/L	100	05/19/21 12:00	
EPA 6010	Lithium	897	ug/L	20.0	05/19/21 12:00	
EPA 6010	Magnesium	44600	ug/L	1000	05/19/21 12:00	
EPA 6010	Manganese	588	ug/L	10.0	05/19/21 12:00	
EPA 6010	Molybdenum	80.0	ug/L	10.0	05/19/21 12:00	
EPA 6010	Potassium	82800	ug/L	1000	05/19/21 12:00	
EPA 6010	Silica	15200	ug/L	450	05/19/21 12:00	N2
EPA 6010	Sodium	94200	ug/L	1000	05/19/21 12:00	
EPA 6010	Manganese, Dissolved	597	ug/L	10.0	05/14/21 04:07	
EPA 6010	Molybdenum, Dissolved	81.5	ug/L	10.0	05/14/21 04:07	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50286948002	MW-15					
EPA 903.1	Radium-226	0.640 ± 0.509 (0.660) C:NA T:100%	pCi/L		06/11/21 12:43	
EPA 904.0	Radium-228	1.22 ± 0.598 (1.09) C:69% T:85%	pCi/L		06/10/21 11:23	
Total Radium Calculation	Total Radium	1.86 ± 1.11 (1.75)	pCi/L		06/14/21 08:58	
SM 2320B	Alkalinity, Total as CaCO3	186	mg/L	2.0	05/12/21 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	186	mg/L	2.0	05/12/21 15:31	
SM 2540C	Total Dissolved Solids	1860	mg/L	20.0	05/11/21 13:54	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/11/21 09:21	H3
HACH 8146	Iron, Ferrous	0.49	mg/L	0.20	05/14/21 10:08	H3,N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

Sample: MW-14	Lab ID: 50286948001	Collected: 05/06/21 13:00	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	4.3	mg/L	0.25	1		05/20/21 06:45	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/20/21 06:45	16984-48-8	
Sulfate	224	mg/L	25.0	100		05/20/21 07:01	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	319	ug/L	200	1	05/18/21 07:03	05/19/21 11:58	7429-90-5	
Barium	73.0	ug/L	10.0	1	05/18/21 07:03	05/19/21 11:58	7440-39-3	
Boron	571	ug/L	100	1	05/18/21 07:03	05/19/21 11:58	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 11:58	7440-43-9	
Calcium	164000	ug/L	1000	1	05/18/21 07:03	05/19/21 11:58	7440-70-2	
Iron	9760	ug/L	100	1	05/18/21 07:03	05/19/21 11:58	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 11:58	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 07:03	05/19/21 11:58	7439-93-2	
Magnesium	36900	ug/L	1000	1	05/18/21 07:03	05/19/21 11:58	7439-95-4	
Manganese	1580	ug/L	10.0	1	05/18/21 07:03	05/19/21 11:58	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 11:58	7439-98-7	
Potassium	1050	ug/L	1000	1	05/18/21 07:03	05/19/21 11:58	7440-09-7	
Silica	13000	ug/L	450	1	05/18/21 07:03	05/19/21 11:58	7631-86-9	N2
Sodium	5900	ug/L	1000	1	05/18/21 07:03	05/19/21 11:58	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	1560	ug/L	10.0	1	05/13/21 13:24	05/14/21 04:05	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/13/21 13:24	05/14/21 04:05	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	05/12/21 08:30	05/13/21 05:13	7440-36-0	
Arsenic	9.4	ug/L	1.0	1	05/12/21 08:30	05/13/21 05:13	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:30	05/13/21 05:13	7440-41-7	
Cobalt	1.3	ug/L	1.0	1	05/12/21 08:30	05/13/21 05:13	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/12/21 08:30	05/13/21 05:13	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:30	05/13/21 05:13	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	328	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Bicarbonate (CaCO3)	328	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	674	mg/L	10.0	1		05/11/21 13:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

Sample: MW-14		Lab ID: 50286948001		Collected: 05/06/21 13:00	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	7.0	Std. Units	0.10	1		05/11/21 09:18		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis						
Sulfide	ND	mg/L	0.10	1		05/11/21 12:09	18496-25-8	
Iron, Ferrous		Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis						
Iron, Ferrous	ND	mg/L	0.20	1		05/14/21 10:08		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		05/08/21 07:39	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/08/21 07:39	14797-65-0	
365.1 Total Phosphorus		Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis						
Phosphate as P04	2.0	mg/L	0.15	1	05/15/21 15:15	05/17/21 09:19		
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 14:22	7440-44-0	
5310C Dissolved Organic Carbon		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/18/21 00:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

Sample: MW-15	Lab ID: 50286948002	Collected: 05/06/21 14:00	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	99.1	mg/L	2.5	10		05/20/21 08:07	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/20/21 07:50	16984-48-8	
Sulfate	1030	mg/L	25.0	100		05/20/21 08:23	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	1	05/18/21 07:03	05/19/21 12:00	7429-90-5	
Barium	85.6	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:00	7440-39-3	
Boron	1580	ug/L	100	1	05/18/21 07:03	05/19/21 12:00	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:00	7440-43-9	
Calcium	309000	ug/L	2000	2	05/18/21 07:03	05/19/21 12:54	7440-70-2	
Iron	2400	ug/L	100	1	05/18/21 07:03	05/19/21 12:00	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:00	7439-92-1	
Lithium	897	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:00	7439-93-2	
Magnesium	44600	ug/L	1000	1	05/18/21 07:03	05/19/21 12:00	7439-95-4	
Manganese	588	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:00	7439-96-5	
Molybdenum	80.0	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:00	7439-98-7	
Potassium	82800	ug/L	1000	1	05/18/21 07:03	05/19/21 12:00	7440-09-7	
Silica	15200	ug/L	450	1	05/18/21 07:03	05/19/21 12:00	7631-86-9	N2
Sodium	94200	ug/L	1000	1	05/18/21 07:03	05/19/21 12:00	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	597	ug/L	10.0	1	05/13/21 13:24	05/14/21 04:07	7439-96-5	
Molybdenum, Dissolved	81.5	ug/L	10.0	1	05/13/21 13:24	05/14/21 04:07	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	05/12/21 08:30	05/13/21 05:18	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/12/21 08:30	05/13/21 05:18	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/12/21 08:30	05/13/21 05:18	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/12/21 08:30	05/13/21 05:18	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/12/21 08:30	05/13/21 05:18	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/12/21 08:30	05/13/21 05:18	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	186	mg/L	2.0	1		05/12/21 15:31		
Alkalinity,Bicarbonate (CaCO3)	186	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	1860	mg/L	20.0	1		05/11/21 13:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

Sample: MW-15	Lab ID: 50286948002	Collected: 05/06/21 14:00	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	7.1	Std. Units	0.10	1		05/11/21 09:21		H3
4500S2D Sulfide Water								
Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	1		05/11/21 12:09	18496-25-8	
Iron, Ferrous								
Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	0.49	mg/L	0.20	1		05/14/21 10:08		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		05/08/21 07:44	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/08/21 07:44	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	05/13/21 14:24	05/14/21 11:10		
5310C TOC								
Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	1		05/18/21 15:08	7440-44-0	
5310C Dissolved Organic Carbon								
Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/18/21 00:54		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 621625

Analysis Method: EPA 9056

QC Batch Method: EPA 9056

Analysis Description: 9056 IC Anions

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286948001, 50286948002

METHOD BLANK: 2864669

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/19/21 20:06	
Fluoride	mg/L	ND	0.10	05/19/21 20:06	
Sulfate	mg/L	ND	0.25	05/19/21 20:06	

LABORATORY CONTROL SAMPLE: 2864670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.3	104	80-120	
Fluoride	mg/L	0.5	0.49	98	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2864671 2864672

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50286825002 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	61.9	12.5	12.5	75.7	75.7	110	110	80-120	0	15		
Fluoride	mg/L	0.47	0.5	0.5	0.91	0.91	89	89	80-120	0	15		
Sulfate	mg/L	1350	250	250	1620	1610	108	106	80-120	0	15		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 620875

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286948001, 50286948002

METHOD BLANK: 2861706

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

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	
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	
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 Sampling PR 2 R3

Pace Project No.: 50286948

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		
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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3
Pace Project No.: 50286948

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: 50286948001, 50286948002

METHOD BLANK: 2858216 Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

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		2858219		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Manganese, Dissolved	ug/L	32.8	1000	973	960	94	93	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1040	1030	103	102	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2858220 2858221

Parameter	Units	50286944002		2858221		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Manganese, Dissolved	ug/L	907	1000	1820	1820	91	91	75-125	0	20	
Molybdenum, Dissolved	ug/L	519	1000	1530	1520	101	101	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch:	620152	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286948001, 50286948002

METHOD BLANK: 2857826 Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/13/21 03:08	
Arsenic	ug/L	ND	1.0	05/13/21 03:08	
Beryllium	ug/L	ND	0.20	05/13/21 03:08	
Cobalt	ug/L	ND	1.0	05/13/21 03:08	
Selenium	ug/L	ND	1.0	05/13/21 03:08	
Thallium	ug/L	ND	1.0	05/13/21 03:08	

LABORATORY CONTROL SAMPLE: 2857827

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	45.0	113	80-120	
Arsenic	ug/L	40	37.2	93	80-120	
Beryllium	ug/L	40	41.0	102	80-120	
Cobalt	ug/L	40	44.4	111	80-120	
Selenium	ug/L	40	39.1	98	80-120	
Thallium	ug/L	40	44.7	112	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857828 2857829

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50286853009 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	<5.0	40	40	43.1	42.6	108	106	75-125	1	20
Arsenic	ug/L	<2.0	40	40	37.9	38.1	95	95	75-125	0	20
Beryllium	ug/L	<1.0	40	40	38.4	38.7	96	97	75-125	1	20
Cobalt	ug/L	<1.0	40	40	41.6	41.8	103	104	75-125	1	20
Selenium	ug/L	<1.0	40	40	37.7	38.8	94	97	75-125	3	20
Thallium	ug/L	<1.0	40	40	42.2	42.8	106	107	75-125	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857830 2857831

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50286853012 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	<5.0	40	40	43.4	43.3	108	108	75-125	0	20
Arsenic	ug/L	<2.0	40	40	38.0	38.5	95	96	75-125	1	20
Beryllium	ug/L	<1.0	40	40	38.3	39.5	96	99	75-125	3	20
Cobalt	ug/L	<1.0	40	40	40.5	40.4	101	101	75-125	0	20

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857830 2857831												
Parameter	Units	50286853012 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	MS Result	MSD Result						
Selenium	ug/L	<1.0	40	40	38.7	38.7	97	97	75-125	0	20	
Thallium	ug/L	<1.0	40	40	42.8	42.9	107	107	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 620281

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286948001, 50286948002

METHOD BLANK: 2858321

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	2.0	05/12/21 15:31	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	2.0	05/12/21 15:31	
Alkalinity,Carbonate (CaCO ₃)	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 CaCO ₃	mg/L	50	47.2	94	90-110	

SAMPLE DUPLICATE: 2858323

Parameter	Units	50286944002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	74.9	73.8	1	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	74.9	73.8	1	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2858324

Parameter	Units	50286934012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	297	306	3	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	297	306	3	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 619994

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286948001, 50286948002

METHOD BLANK: 2857163

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/11/21 13:53	

LABORATORY CONTROL SAMPLE: 2857164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	272	91	80-120	

SAMPLE DUPLICATE: 2857166

Parameter	Units	50286949010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	436	447	2	10	

SAMPLE DUPLICATE: 2857185

Parameter	Units	50286948001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	674	670	1	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 619958

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: 50286948001, 50286948002

SAMPLE DUPLICATE: 2857027

Parameter	Units	50286949010 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	2	H3

SAMPLE DUPLICATE: 2857028

Parameter	Units	50286989001 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 PR 2 R3

Pace Project No.: 50286948

QC Batch: 619956

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: 50286948001, 50286948002

METHOD BLANK: 2857016

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/11/21 12:09	

LABORATORY CONTROL SAMPLE: 2857017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2857018 2857019

Parameter	Units	50286949010		2857018		2857019		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
Sulfide	mg/L	ND	0.5	0.5	0.48	0.49	95	98	90-110	4	20

MATRIX SPIKE SAMPLE: 2857020

Parameter	Units	50286945003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.43	84	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 620719

Analysis Method: HACH 8146

QC Batch Method: HACH 8146

Analysis Description: Iron, Ferrous

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50286948001, 50286948002

METHOD BLANK: 2860754

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

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		2860756		2860757		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec					
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		2860758		2860759		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec					
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 Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 619640	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: 50286948001, 50286948002

METHOD BLANK: 2855709 Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/08/21 07:07	
Nitrogen, Nitrite	mg/L	ND	0.10	05/08/21 07:07	

LABORATORY CONTROL SAMPLE: 2855710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.97	97	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2855711 2855712

Parameter	Units	50286949010		2855711		2855712		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MS Spike Conc.	MS Result	MSD Result	MS % Rec				
Nitrogen, Nitrate	mg/L	ND	1	1	1.1	1.1	106	107	90-110	1	20 M3
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	112	113	90-110	1	20 M3

MATRIX SPIKE SAMPLE: 2855713

Parameter	Units	50286949009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	8.3	5	13.0	95	90-110	
Nitrogen, Nitrite	mg/L	ND	5	5.1	102	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 620478

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: 50286948002

METHOD BLANK: 2859358

Matrix: Water

Associated Lab Samples: 50286948002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	0.28	0.15	05/14/21 11:07	

LABORATORY CONTROL SAMPLE: 2859359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2859360 2859361

Parameter	Units	50286949010 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			1.5	1.9				21		

MATRIX SPIKE SAMPLE: 2859362

Parameter	Units	50286955003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	<0.083		1.7			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3
Pace Project No.: 50286948

QC Batch: 620909 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: 50286948001

METHOD BLANK: 2861899 Matrix: Water
Associated Lab Samples: 50286948001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/17/21 09:16	

LABORATORY CONTROL SAMPLE: 2861900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861901 2861902

Parameter	Units	50287195001 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	9.5			11.8	11.2				6		

MATRIX SPIKE SAMPLE: 2861903

Parameter	Units	50287350001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.4	3.0			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

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: 50286948001, 50286948002

METHOD BLANK: 2862585

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

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	2862587		2862588		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
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 Sampling PR 2 R3

Pace Project No.: 50286948

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: 50286948001, 50286948002

METHOD BLANK: 2862574

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

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		2862576		2862577		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Dissolved Organic Carbon	mg/L	ND	10	10	10.4	10.3	98	97	80-120	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862578 2862579

Parameter	Units	50286949010		2862578		2862579		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Dissolved Organic Carbon	mg/L	ND	10	10	9.1	9.1	91	91	80-120	0	20		

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

Sample: MW-14 **Lab ID: 50286948001** Collected: 05/06/21 13:00 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	0.724 ± 0.689 (1.02) C:NA T:92%	pCi/L	06/11/21 12:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.689 ± 0.398 (0.724) C:68% T:85%	pCi/L	06/10/21 11:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.41 ± 1.09 (1.74)	pCi/L	06/14/21 08:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

Sample: MW-15 **Lab ID: 50286948002** Collected: 05/06/21 14:00 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	0.640 ± 0.509 (0.660) C:NA T:100%	pCi/L	06/11/21 12:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.22 ± 0.598 (1.09) C:69% T:85%	pCi/L	06/10/21 11:23	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.86 ± 1.11 (1.75)	pCi/L	06/14/21 08:58	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 449080

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: 50286948001, 50286948002

METHOD BLANK: 2167351

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.375 ± 0.296 (0.582) C:72% T:89%	pCi/L	06/10/21 11:20	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

QC Batch: 449079

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: 50286948001, 50286948002

METHOD BLANK: 2167350

Matrix: Water

Associated Lab Samples: 50286948001, 50286948002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0328 ± 0.290 (0.630) C:NA T:88%	pCi/L	06/11/21 11:56	

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QUALIFIERS

Project: IDEM - CCR Sampling PR 2 R3

Pace Project No.: 50286948

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.

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: IDEM - CCR Sampling PR 2 R3
Pace Project No.: 50286948

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50286948001	MW-14	EPA 9056	621625		
50286948002	MW-15	EPA 9056	621625		
50286948001	MW-14	EPA 3010	620875	EPA 6010	621538
50286948002	MW-15	EPA 3010	620875	EPA 6010	621538
50286948001	MW-14	EPA 3010	620251	EPA 6010	620699
50286948002	MW-15	EPA 3010	620251	EPA 6010	620699
50286948001	MW-14	EPA 200.2	620152	EPA 6020	620441
50286948002	MW-15	EPA 200.2	620152	EPA 6020	620441
50286948001	MW-14	EPA 903.1	449079		
50286948002	MW-15	EPA 903.1	449079		
50286948001	MW-14	EPA 904.0	449080		
50286948002	MW-15	EPA 904.0	449080		
50286948001	MW-14	Total Radium Calculation	452236		
50286948002	MW-15	Total Radium Calculation	452236		
50286948001	MW-14	SM 2320B	620281		
50286948002	MW-15	SM 2320B	620281		
50286948001	MW-14	SM 2540C	619994		
50286948002	MW-15	SM 2540C	619994		
50286948001	MW-14	SM 4500-H+B	619958		
50286948002	MW-15	SM 4500-H+B	619958		
50286948001	MW-14	SM 4500-S2-D	619956		
50286948002	MW-15	SM 4500-S2-D	619956		
50286948001	MW-14	HACH 8146	620719		
50286948002	MW-15	HACH 8146	620719		
50286948001	MW-14	EPA 353.2	619640		
50286948002	MW-15	EPA 353.2	619640		
50286948001	MW-14	EPA 365.1	620909	EPA 365.1	621002
50286948002	MW-15	EPA 365.1	620478	EPA 365.1	620644
50286948001	MW-14	SM 5310C	621100		
50286948002	MW-15	SM 5310C	621100		
50286948001	MW-14	SM 5310C	621098		
50286948002	MW-15	SM 5310C	621098		

REPORT OF LABORATORY ANALYSIS

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WO#: 50286948



50286948

CHAIN-OF-CUSTODY / Analytical Request Document

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

Required Client Information:

Company: AES/IPL Petersburg
Address: 6925 IN-57
Petersburg, IN 47567
Email: wil.teague@aes.com
Phone: (812)354-8801 Fax:
Requested Due Date:

Required Project Information:

Report To: Teague, Wil
Copy To:
Purchase Order #:
Project Name: IDEM - CCR Sampling Profile 2 Report 3
Project #:

Section C

Invoice Information:

Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: Hayden Putt
Pace Profile #: 8296/ Line 7

Regulatory Agency
State / Location
IN

Table with columns: ITEM #, SAMPLE ID, MATRIX CODE, SAMPLE TYPE, COLLECTED (START DATE/TIME, END DATE/TIME), SAMPLE TEMP AT COLLECTION, # OF CONTAINERS, Preservatives (Unpreserved, H2SO4, HNO3, HCl, NaOH + ZnAcetate, Na2S2O3, Methanol, Other), Requested Analysis Filtered (Y/N) for various tests (TDS, Metals, etc.), Residual Chlorine (Y/N).

Table with columns: ADDITIONAL COMMENTS, RELINQUISHED BY / AFFILIATION, DATE, TIME, ACCEPTED BY / AFFILIATION, DATE, TIME, SAMPLE CONDITIONS.

SAMPLER NAME AND SIGNATURE: PRINT Name of SAMPLER: Nick Doerwen, SIGNATURE of SAMPLER: [Signature], DATE Signed: 5-6-21

TEMP in C, Received on Ice (Y/N), Custody Sealed (Y/N), Cooled (Y/N), Page 3 of 35, Samples Intact (Y/N)



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
4. Cooler Temperature: 1.8°C/1.8, 2.1°C/2.1°C, 0.9/0.9, 1.2/1.2
 Temp should be above freezing to 6°C (Initial/Corrected) 0.9/0.9, 1.2/1.2, 0.1/0.1, 1.0/1.0°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		<input checked="" type="checkbox"/>	
Time 5035A TC placed in Freezer or Short Holds To Lab Time: <u>1445</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"/>	<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																																	
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 Profile 2 Report 3
Pace Project No.: 50287017

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 3

Pace Project No.: 50287017

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 Profile 2 Report 3

Pace Project No.: 50287017

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50287017001	MW-16	Water	05/07/21 10:50	05/08/21 11:00
50287017002	DUP3	Water	05/07/21 11:10	05/08/21 11:00
50287017003	FIELD BLANK	Water	05/07/21 11:30	05/08/21 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50287017001	MW-16	EPA 9056	RMR	3	PASI-I		
		EPA 6010	JDG	14	PASI-I		
		EPA 6010	KJE	2	PASI-I		
		EPA 6020	CAW	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	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		
		50287017002	DUP3	EPA 9056	RMR	3	PASI-I
				EPA 6010	JDG	14	PASI-I
				EPA 6010	KJE	2	PASI-I
EPA 6020	CAW			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	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		
50287017003	FIELD BLANK			EPA 9056	RMR	3	PASI-I
				EPA 6010	JDG	14	PASI-I
				EPA 6020	CAW	6	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 2 Report 3

Pace Project No.: 50287017

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	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 3

Pace Project No.: 50287017

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50287017001	MW-16					
EPA 9056	Chloride	90.7	mg/L	2.5	05/21/21 18:42	
EPA 9056	Sulfate	1520	mg/L	25.0	05/21/21 18:58	
EPA 6010	Aluminum	791	ug/L	200	05/19/21 12:21	
EPA 6010	Barium	67.9	ug/L	10.0	05/19/21 12:21	
EPA 6010	Boron	2930	ug/L	100	05/19/21 12:21	
EPA 6010	Calcium	358000	ug/L	2000	05/19/21 12:56	
EPA 6010	Iron	8310	ug/L	100	05/19/21 12:21	
EPA 6010	Lithium	2640	ug/L	20.0	05/19/21 12:21	
EPA 6010	Magnesium	22000	ug/L	1000	05/19/21 12:21	
EPA 6010	Manganese	3910	ug/L	10.0	05/19/21 12:21	
EPA 6010	Molybdenum	447	ug/L	10.0	05/19/21 12:21	
EPA 6010	Potassium	257000	ug/L	5000	05/19/21 12:58	
EPA 6010	Silica	12500	ug/L	450	05/19/21 12:21	N2
EPA 6010	Sodium	161000	ug/L	1000	05/19/21 12:21	
EPA 6010	Manganese, Dissolved	3930	ug/L	10.0	05/18/21 13:42	
EPA 6010	Molybdenum, Dissolved	437	ug/L	10.0	05/18/21 13:42	
EPA 6020	Arsenic	6.0	ug/L	1.0	05/19/21 03:00	
EPA 903.1	Radium-226	0.550 ± 0.663	pCi/L		06/10/21 14:19	
		(1.09) C:NA				
		T:95%				
EPA 904.0	Radium-228	1.95 ± 0.598	pCi/L		06/10/21 14:12	
		(0.741)				
		C:72%				
		T:90%				
Total Radium Calculation	Total Radium	2.50 ± 1.26 (1.83)	pCi/L		06/14/21 09:02	
SM 2320B	Alkalinity, Total as CaCO3	149	mg/L	2.0	05/13/21 12:28	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	149	mg/L	2.0	05/13/21 12:28	
SM 2540C	Total Dissolved Solids	2240	mg/L	40.0	05/12/21 09:53	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/14/21 10:22	H3
EPA 365.1	Phosphate as P04	0.55	mg/L	0.15	05/19/21 10:16	
50287017002	DUP3					
EPA 9056	Chloride	90.4	mg/L	2.5	05/21/21 19:31	
EPA 9056	Sulfate	1410	mg/L	25.0	05/21/21 19:47	
EPA 6010	Aluminum	722	ug/L	200	05/19/21 12:23	
EPA 6010	Barium	66.2	ug/L	10.0	05/19/21 12:23	
EPA 6010	Boron	2880	ug/L	100	05/19/21 12:23	
EPA 6010	Calcium	359000	ug/L	2000	05/19/21 13:00	
EPA 6010	Iron	7230	ug/L	100	05/19/21 12:23	
EPA 6010	Lithium	2610	ug/L	20.0	05/19/21 12:23	
EPA 6010	Magnesium	22000	ug/L	1000	05/19/21 12:23	
EPA 6010	Manganese	3820	ug/L	10.0	05/19/21 12:23	
EPA 6010	Molybdenum	433	ug/L	10.0	05/19/21 12:23	
EPA 6010	Potassium	255000	ug/L	5000	05/19/21 13:02	
EPA 6010	Silica	12200	ug/L	450	05/19/21 12:23	N2
EPA 6010	Sodium	160000	ug/L	1000	05/19/21 12:23	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50287017002	DUP3					
EPA 6010	Manganese, Dissolved	3840	ug/L	10.0	05/18/21 13:44	
EPA 6010	Molybdenum, Dissolved	442	ug/L	10.0	05/18/21 13:44	
EPA 6020	Arsenic	5.2	ug/L	1.0	05/19/21 03:32	
EPA 903.1	Radium-226	0.577 ± 0.703 (1.16) C:NA T:96%	pCi/L		06/10/21 14:19	
EPA 904.0	Radium-228	1.45 ± 0.484 (0.644) C:77% T:91%	pCi/L		06/10/21 14:12	
Total Radium Calculation	Total Radium	2.03 ± 1.19 (1.80)	pCi/L		06/14/21 09:02	
SM 2320B	Alkalinity, Total as CaCO3	144	mg/L	2.0	05/13/21 12:28	
SM 2320B	Alkalinity, Bicarbonate (CaCO3)	144	mg/L	2.0	05/13/21 12:28	
SM 2540C	Total Dissolved Solids	2250	mg/L	40.0	05/12/21 09:53	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/14/21 10:22	H3
HACH 8146	Iron, Ferrous	0.24	mg/L	0.20	05/14/21 11:41	H3, N2
EPA 365.1	Phosphate as P04	0.53	mg/L	0.15	05/19/21 10:16	
50287017003	FIELD BLANK					
EPA 903.1	Radium-226	0.121 ± 0.290 (0.560) C:NA T:97%	pCi/L		06/10/21 14:37	
EPA 904.0	Radium-228	0.0794 ± 0.311 (0.711) C:77% T:78%	pCi/L		06/10/21 14:12	
Total Radium Calculation	Total Radium	0.200 ± 0.601 (1.27)	pCi/L		06/14/21 09:02	
SM 4500-H+B	pH at 25 Degrees C	6.3	Std. Units	0.10	05/14/21 10:36	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Sample: MW-16	Lab ID: 50287017001	Collected: 05/07/21 10:50	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	90.7	mg/L	2.5	10		05/21/21 18:42	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/21/21 17:53	16984-48-8	
Sulfate	1520	mg/L	25.0	100		05/21/21 18:58	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	791	ug/L	200	1	05/18/21 07:03	05/19/21 12:21	7429-90-5	
Barium	67.9	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:21	7440-39-3	
Boron	2930	ug/L	100	1	05/18/21 07:03	05/19/21 12:21	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:21	7440-43-9	
Calcium	358000	ug/L	2000	2	05/18/21 07:03	05/19/21 12:56	7440-70-2	
Iron	8310	ug/L	100	1	05/18/21 07:03	05/19/21 12:21	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:21	7439-92-1	
Lithium	2640	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:21	7439-93-2	
Magnesium	22000	ug/L	1000	1	05/18/21 07:03	05/19/21 12:21	7439-95-4	
Manganese	3910	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:21	7439-96-5	
Molybdenum	447	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:21	7439-98-7	
Potassium	257000	ug/L	5000	5	05/18/21 07:03	05/19/21 12:58	7440-09-7	
Silica	12500	ug/L	450	1	05/18/21 07:03	05/19/21 12:21	7631-86-9	N2
Sodium	161000	ug/L	1000	1	05/18/21 07:03	05/19/21 12:21	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	3930	ug/L	10.0	1	05/17/21 07:10	05/18/21 13:42	7439-96-5	
Molybdenum, Dissolved	437	ug/L	10.0	1	05/17/21 07:10	05/18/21 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	05/14/21 12:25	05/19/21 03:00	7440-36-0	
Arsenic	6.0	ug/L	1.0	1	05/14/21 12:25	05/19/21 03:00	7440-38-2	
Beryllium	ND	ug/L	2.0	10	05/14/21 12:25	05/21/21 06:46	7440-41-7	D3
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 03:00	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 03:00	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 03:00	7440-28-0	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	149	mg/L	2.0	1		05/13/21 12:28		
Alkalinity,Bicarbonate (CaCO3)	149	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	2240	mg/L	40.0	1		05/12/21 09:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Sample: MW-16	Lab ID: 50287017001	Collected: 05/07/21 10:50	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	7.4	Std. Units	0.10	1		05/14/21 10:22		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 11:41		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 13:52	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/08/21 13:52	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	0.55	mg/L	0.15	1	05/18/21 16:10	05/19/21 10:16		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 00:50	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 01:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Sample: DUP3		Lab ID: 50287017002	Collected: 05/07/21 11:10	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	90.4	mg/L	2.5	10		05/21/21 19:31	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/21/21 19:14	16984-48-8	
Sulfate	1410	mg/L	25.0	100		05/21/21 19:47	14808-79-8	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Aluminum	722	ug/L	200	1	05/18/21 07:03	05/19/21 12:23	7429-90-5	
Barium	66.2	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:23	7440-39-3	
Boron	2880	ug/L	100	1	05/18/21 07:03	05/19/21 12:23	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:23	7440-43-9	
Calcium	359000	ug/L	2000	2	05/18/21 07:03	05/19/21 13:00	7440-70-2	
Iron	7230	ug/L	100	1	05/18/21 07:03	05/19/21 12:23	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:23	7439-92-1	
Lithium	2610	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:23	7439-93-2	
Magnesium	22000	ug/L	1000	1	05/18/21 07:03	05/19/21 12:23	7439-95-4	
Manganese	3820	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:23	7439-96-5	
Molybdenum	433	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:23	7439-98-7	
Potassium	255000	ug/L	5000	5	05/18/21 07:03	05/19/21 13:02	7440-09-7	
Silica	12200	ug/L	450	1	05/18/21 07:03	05/19/21 12:23	7631-86-9	N2
Sodium	160000	ug/L	1000	1	05/18/21 07:03	05/19/21 12:23	7440-23-5	
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis						
Manganese, Dissolved	3840	ug/L	10.0	1	05/17/21 07:10	05/18/21 13:44	7439-96-5	
Molybdenum, Dissolved	442	ug/L	10.0	1	05/17/21 07:10	05/18/21 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	05/14/21 12:25	05/19/21 03:32	7440-36-0	
Arsenic	5.2	ug/L	1.0	1	05/14/21 12:25	05/19/21 03:32	7440-38-2	
Beryllium	ND	ug/L	2.0	10	05/14/21 12:25	05/21/21 07:09	7440-41-7	D3
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 03:32	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 03:32	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 03:32	7440-28-0	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Indianapolis						
Alkalinity, Total as CaCO3	144	mg/L	2.0	1		05/13/21 12:28		
Alkalinity,Bicarbonate (CaCO3)	144	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	2250	mg/L	40.0	1		05/12/21 09:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Sample: DUP3		Lab ID: 50287017002		Collected: 05/07/21 11:10	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	7.2	Std. Units	0.10	1		05/14/21 10:22		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	0.24	mg/L	0.20	1		05/14/21 11:41		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 13:55	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/08/21 13:55	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	05/18/21 16:10	05/19/21 10:16		
5310C TOC		Analytical Method: SM 5310C Pace Analytical Services - Indianapolis						
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 01:01	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 01:55		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Sample: FIELD BLANK	Lab ID: 50287017003	Collected: 05/07/21 11:30	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 20:03	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/21/21 20:03	16984-48-8	
Sulfate	ND	mg/L	0.25	1		05/21/21 20:03	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 12:25	7429-90-5	
Barium	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:25	7440-39-3	
Boron	ND	ug/L	100	1	05/18/21 07:03	05/19/21 12:25	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/18/21 07:03	05/19/21 12:25	7440-43-9	
Calcium	ND	ug/L	1000	1	05/18/21 07:03	05/19/21 12:25	7440-70-2	
Iron	ND	ug/L	100	1	05/18/21 07:03	05/19/21 12:25	7439-89-6	
Lead	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:25	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/18/21 07:03	05/19/21 12:25	7439-93-2	
Magnesium	ND	ug/L	1000	1	05/18/21 07:03	05/19/21 12:25	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:25	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/18/21 07:03	05/19/21 12:25	7439-98-7	
Potassium	ND	ug/L	1000	1	05/18/21 07:03	05/19/21 12:25	7440-09-7	
Silica	ND	ug/L	450	1	05/18/21 07:03	05/19/21 12:25	7631-86-9	N2
Sodium	ND	ug/L	1000	1	05/18/21 07:03	05/19/21 12:25	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	05/19/21 02:55	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 02:55	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/14/21 12:25	05/19/21 14:41	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 02:55	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 02:55	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/14/21 12:25	05/19/21 02:55	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 12:54		
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/13/21 12:54		
2540C Total Dissolved Solids								
Analytical Method: SM 2540C								
Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	1		05/12/21 09:54		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		05/14/21 10:36		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: FIELD BLANK Lab ID: 50287017003 Collected: 05/07/21 11:30 Received: 05/08/21 11:00 Matrix: Water								
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 11:41		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 13:59	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/08/21 13:59	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 10:17		
5310C TOC								
Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	1		05/19/21 01:10	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

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: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2866917 Matrix: Water

Associated Lab Samples: 50287017001, 50287017002, 50287017003

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 3

Pace Project No.: 50287017

QC Batch:	620875	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2861706 Matrix: Water

Associated Lab Samples: 50287017001, 50287017002, 50287017003

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	
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	
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	

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 Profile 2 Report 3

Pace Project No.: 50287017

Parameter	Units	2861708			2861709			% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		50287016001 Result	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		
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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

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: 50287017001, 50287017002

METHOD BLANK: 2861726 Matrix: Water

Associated Lab Samples: 50287017001, 50287017002

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		2861728		2861729		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Manganese, Dissolved	ug/L	0.020 mg/L	ND	1000	1000	984	967	96	95	75-125	2	20
Molybdenum, Dissolved	ug/L	ND	ND	1000	1000	1060	1040	105	103	75-125	2	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861730 2861731

Parameter	Units	50287016001		2861730		2861731		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Manganese, Dissolved	ug/L	9300	ND	1000	1000	9980	10200	68	89	75-125	2	20 P6
Molybdenum, Dissolved	ug/L	ND	ND	1000	1000	1020	1050	102	105	75-125	3	20

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

QC Batch:	620692	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2860666 Matrix: Water

Associated Lab Samples: 50287017001, 50287017002, 50287017003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/19/21 02:46	
Arsenic	ug/L	ND	1.0	05/19/21 02:46	
Beryllium	ug/L	ND	0.20	05/19/21 14:32	
Cobalt	ug/L	ND	1.0	05/19/21 02:46	
Selenium	ug/L	ND	1.0	05/19/21 02:46	
Thallium	ug/L	ND	1.0	05/19/21 02:46	

LABORATORY CONTROL SAMPLE: 2860667

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.6	104	80-120	
Arsenic	ug/L	40	37.7	94	80-120	
Beryllium	ug/L	40	35.6	89	80-120	
Cobalt	ug/L	40	40.1	100	80-120	
Selenium	ug/L	40	38.4	96	80-120	
Thallium	ug/L	40	40.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860668 2860669

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	42.6	41.6	106	104	75-125	2	20
Arsenic	ug/L	6.0	40	40	45.0	44.4	98	96	75-125	1	20
Beryllium	ug/L	ND	40	40	40.5	39.8	101	99	75-125	2	20
Cobalt	ug/L	ND	40	40	39.4	38.3	96	93	75-125	3	20
Selenium	ug/L	ND	40	40	42.2	41.1	104	102	75-125	3	20
Thallium	ug/L	ND	40	40	41.9	41.1	105	103	75-125	2	20

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 3
Pace Project No.: 50287017

QC Batch: 620374 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287017001, 50287017002

METHOD BLANK: 2858896 Matrix: Water
Associated Lab Samples: 50287017001, 50287017002

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 3

Pace Project No.: 50287017

QC Batch: 620375	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287017003

METHOD BLANK: 2858908 Matrix: Water

Associated Lab Samples: 50287017003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	2.0	05/13/21 12:54	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	2.0	05/13/21 12:54	
Alkalinity,Carbonate (CaCO ₃)	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 CaCO ₃	mg/L	50	46.9	94	90-110	

SAMPLE DUPLICATE: 2858910

Parameter	Units	50286942004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	587	590	0	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	587	590	0	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2858911

Parameter	Units	50287016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	11.4	10.9	4	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	11.4	10.9	4	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

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: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2858269 Matrix: Water

Associated Lab Samples: 50287017001, 50287017002, 50287017003

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 3

Pace Project No.: 50287017

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: 50287017001, 50287017002, 50287017003

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 3
Pace Project No.: 50287017

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: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2857436 Matrix: Water
Associated Lab Samples: 50287017001, 50287017002, 50287017003

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		50287016003		50287016004		% 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 3

Pace Project No.: 50287017

QC Batch: 620720	Analysis Method: HACH 8146
QC Batch Method: HACH 8146	Analysis Description: Iron, Ferrous
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2860760 Matrix: Water

Associated Lab Samples: 50287017001, 50287017002, 50287017003

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	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	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	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	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 3

Pace Project No.: 50287017

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:	50287017001, 50287017002, 50287017003		

METHOD BLANK: 2855988 Matrix: Water

Associated Lab Samples: 50287017001, 50287017002, 50287017003

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 3
Pace Project No.: 50287017

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: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2863075 Matrix: Water
Associated Lab Samples: 50287017001, 50287017002, 50287017003

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		2863077		2863078		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result				
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: IDEM-CCR Profile 2 Report 3
Pace Project No.: 50287017

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: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2863315 Matrix: Water
Associated Lab Samples: 50287017001, 50287017002, 50287017003

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		50287011001		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		50287016002		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: IDEM-CCR Profile 2 Report 3
Pace Project No.: 50287017

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: 50287017001, 50287017002

METHOD BLANK: 2864686 Matrix: Water
Associated Lab Samples: 50287017001, 50287017002

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 Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS 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		50287011002		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS 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		50287016001		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Dissolved Organic Carbon	mg/L	2.7	10	10	12.3	12.3	97	96	80-120	0	20		

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Sample: MW-16 **Lab ID: 50287017001** Collected: 05/07/21 10:50 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	0.550 ± 0.663 (1.09) C:NA T:95%	pCi/L	06/10/21 14:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.95 ± 0.598 (0.741) C:72% T:90%	pCi/L	06/10/21 14:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.50 ± 1.26 (1.83)	pCi/L	06/14/21 09:02	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Sample: DUP3 **Lab ID: 50287017002** Collected: 05/07/21 11:10 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	0.577 ± 0.703 (1.16) C:NA T:96%	pCi/L	06/10/21 14:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.45 ± 0.484 (0.644) C:77% T:91%	pCi/L	06/10/21 14:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.03 ± 1.19 (1.80)	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 3

Pace Project No.: 50287017

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: FIELD BLANK						
Lab ID: 50287017003 Collected: 05/07/21 11:30 Received: 05/08/21 11:00 Matrix: Water						
PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.121 ± 0.290 (0.560) C:NA T:97%	pCi/L	06/10/21 14:37	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0794 ± 0.311 (0.711) C:77% T:78%	pCi/L	06/10/21 14:12	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.200 ± 0.601 (1.27)	pCi/L	06/14/21 09:02	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

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: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2173647 Matrix: Water

Associated Lab Samples: 50287017001, 50287017002, 50287017003

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	

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 Profile 2 Report 3

Pace Project No.: 50287017

QC Batch:	450379	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: 50287017001, 50287017002, 50287017003

METHOD BLANK: 2173642 Matrix: Water

Associated Lab Samples: 50287017001, 50287017002, 50287017003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.566 ± 0.318 (0.567) C:76% T:96%	pCi/L	06/10/21 10:58	

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 Profile 2 Report 3

Pace Project No.: 50287017

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.
- 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 3

Pace Project No.: 50287017

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287017001	MW-16	EPA 9056	622073		
50287017002	DUP3	EPA 9056	622073		
50287017003	FIELD BLANK	EPA 9056	622073		
50287017001	MW-16	EPA 3010	620875	EPA 6010	621538
50287017002	DUP3	EPA 3010	620875	EPA 6010	621538
50287017003	FIELD BLANK	EPA 3010	620875	EPA 6010	621538
50287017001	MW-16	EPA 3010	620880	EPA 6010	621319
50287017002	DUP3	EPA 3010	620880	EPA 6010	621319
50287017001	MW-16	EPA 200.2	620692	EPA 6020	620957
50287017002	DUP3	EPA 200.2	620692	EPA 6020	620957
50287017003	FIELD BLANK	EPA 200.2	620692	EPA 6020	620957
50287017001	MW-16	EPA 903.1	450381		
50287017002	DUP3	EPA 903.1	450381		
50287017003	FIELD BLANK	EPA 903.1	450381		
50287017001	MW-16	EPA 904.0	450379		
50287017002	DUP3	EPA 904.0	450379		
50287017003	FIELD BLANK	EPA 904.0	450379		
50287017001	MW-16	Total Radium Calculation	452242		
50287017002	DUP3	Total Radium Calculation	452242		
50287017003	FIELD BLANK	Total Radium Calculation	452242		
50287017001	MW-16	SM 2320B	620374		
50287017002	DUP3	SM 2320B	620374		
50287017003	FIELD BLANK	SM 2320B	620375		
50287017001	MW-16	SM 2540C	620265		
50287017002	DUP3	SM 2540C	620265		
50287017003	FIELD BLANK	SM 2540C	620265		
50287017001	MW-16	SM 4500-H+B	620744		
50287017002	DUP3	SM 4500-H+B	620744		
50287017003	FIELD BLANK	SM 4500-H+B	620744		
50287017001	MW-16	SM 4500-S2-D	620054		
50287017002	DUP3	SM 4500-S2-D	620054		
50287017003	FIELD BLANK	SM 4500-S2-D	620054		
50287017001	MW-16	HACH 8146	620720		
50287017002	DUP3	HACH 8146	620720		
50287017003	FIELD BLANK	HACH 8146	620720		
50287017001	MW-16	EPA 353.2	619659		
50287017002	DUP3	EPA 353.2	619659		
50287017003	FIELD BLANK	EPA 353.2	619659		
50287017001	MW-16	EPA 365.1	621261	EPA 365.1	621480
50287017002	DUP3	EPA 365.1	621261	EPA 365.1	621480
50287017003	FIELD BLANK	EPA 365.1	621261	EPA 365.1	621480

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM-CCR Profile 2 Report 3

Pace Project No.: 50287017

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50287017001	MW-16	SM 5310C	621317		
50287017002	DUP3	SM 5310C	621317		
50287017003	FIELD BLANK	SM 5310C	621317		
50287017001	MW-16	SM 5310C	621629		
50287017002	DUP3	SM 5310C	621629		

REPORT OF LABORATORY ANALYSIS

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WO# : 50287017



50287017

IN-OF-CUSTODY / Analytical Request Document

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

Section A

Required Client Information:

Company: AES/IPL Petersburg
 Address: 6925 IN-57
 Petersburg, IN 47567
 Email: wil.teague@aes.com
 Phone: (812)354-8801 Fax:
 Requested Due Date:

Section C

Invoice Information:

Report To: Teague, Wil
 Copy To:
 Attention:
 Company Name:
 Address:
 Purchase Order #:
 Project Name: IDEM - CCR Sampling Profile 2 Report 3
 Project #:
 Pace Quote:
 Pace Project Manager: Hayden Putt
 Pace Profile #: 8296/ Line 7

Page : 1 Of 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	Preservatives								Y/N	Requested Analysis Filtered (Y/N)																
						START DATE	START TIME	END DATE	END TIME		# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol		Other	Analyses Test	TDS	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Rad-228	Rad-226	Alkalinity, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	NO2, NO3-353.2	Residual Chlorine (Y/N)		
1	MW-14			WT							11	3	3	4	1							X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	MW-15			WT							11	3	3	4	1							X	X	X	X	X	X	X	X	X	X	X	X	X		
3	MW-16			WT		5-7-21	1050				11	3	3	4	1							X	X	X	X	X	X	X	X	X	X	X	X	X		
4	DUP 3			WT		5-7-21	1110				11	3	3	4	1							X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	FIELD BLANK 3			WT		5-7-21	1130				9	3	2	3	1							X	X	X		X	X	X		X	X	X	X	X		
6																																				
7																																				
8																																				
9																																				
10																																				
11																																				
12																																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	<i>M. Deen</i>	5-8-21	0830	<i>Jay Williams</i>	5/8	8:30				
6020 (Be, Co, As, Se, Sb, Tl)	<i>Jay Williams</i>	5/8	11:00	<i>Jay Williams</i>	5/8/21	11:00	2.0	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)							3.1	Y	Y	Y
Alkalinity = (Total, Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE		TEMP in C Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Pack (Y/N)
PRINT Name of SAMPLER:	<i>Wick Doerwer</i>	
SIGNATURE of SAMPLER:	<i>M. Deen</i>	
DATE Signed:	5-7-21	



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DAF 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: 2.4/2.0, 3.7/3.1
 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) NaOH/ZnAc (>9) 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 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:

Sample Container Count

Sample Line Item	WGFLU	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												1			↓	↓	↓		↓		↓		↓											↓	↓	↓
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		
WGFLU	4oz clear soil jar	BG1T	1L Na Thiosulfate clear glass	BP3N	250mL HNO3 plastic		
JGFLU	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 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

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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

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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		

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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		

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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		

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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		

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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		

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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

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
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	

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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		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		2863332		2863333		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec				
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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REPORT OF LABORATORY ANALYSIS

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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 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 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-20I **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	

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 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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WO# : 50287134



50287134

CHAIN-OF-CUSTODY / Analytical Request Document

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

Required Client Information, Project Information, Invoice Information, Company, Address, Report To, Attention, Copy To, Company Name, Address, Petersburg, IN 47567, Email, Purchase Order #, Fax, Project Name, Project #, Requested Due Date, Project #, Pace Quote, Pace Project Manager, Pace Profile #

Regulatory Agency, State / Location, IN

Table with columns: ITEM #, SAMPLE ID, MATRIX CODE, CODE, COLLECTED (START, END), SAMPLE TEMP AT COLLECTION, # OF CONTAINERS, Preservatives, Y/N, Requested Analysis Filtered (Y/N), Residual Chlorine (Y/N)

Main data table with 12 rows and multiple columns for analysis results, including TDS, Metals, Rad-228, Alkalinity, TOC, DOC, Sulfide, Phosphate, NO3, and Residual Chlorine.

Table with columns: ADDITIONAL COMMENTS, RELINQUISHED BY / AFFILIATION, DATE, TIME, ACCEPTED BY / AFFILIATION, DATE, TIME, SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE, PRINT Name of SAMPLER: Nick Doerwel, SIGNATURE of SAMPLER: [Signature], DATE Signed: 5.10.21, TEMP in C, Received on Ice (Y/N), Custody Sealed (Y/N), Cool (Y/N), Samples Intact (Y/N)



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	R	SBS DI BK Kit	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	AF	Air Filter
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic	C	Air Cassettes
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass	BP1Z	1L NaOH, Zn, Ac	R	Terra core kit
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass	BP2A	500mL NaOH, Asc Acid plastic	SP5T	120mL Coliform Na Thiosulfate
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2N	500mL HNO3 plastic	U	Summa Can
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 amber glass	BP2O	500mL NaOH plastic	ZPLC	Ziploc Bag
VG9U	40mL unpreserved clear vial	AG3U	250mL unpres amber glass	BP2S	500mL H2SO4 plastic	WT	Water
VGFX	40mL w/hexane wipe vial	AG3C	250mL NaOH amber glass	BP2U	500mL unpreserved plastic	SL	Solid
VSG	Headspace septa vial & HCl	BG1H	1L HCl clear glass	BP2Z	500mL NaOH, Zn Ac	NAL	Non-aqueous liquid
WGKU	8oz unpreserved clear jar	BG1S	1L H2SO4 clear glass	BP3B	250mL NaOH plastic	WP	Wipe
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				

Sample Container Count

Sample Line Item	WGFE	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		
WGFE	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

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
		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	C:NA T:98% 0.747 ± 0.595 (1.18) C:73% T:83%	pCi/L		06/15/21 17:58	
Total Radium Calculation	Total Radium	0.977 ± 1.05 (1.99)	pCi/L		06/17/21 16:26	
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		

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
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		

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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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 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	0.49	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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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 MO	

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		2865308		2865309		% 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	<0.50	10	10	10	9.0	9.1	90	91	80-120	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2865314 2865315

Parameter	Units	50287193003		2865314		2865315		% 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	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		50287175004		50287175004		50287175004		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Dissolved Organic Carbon	mg/L	ND	ND	10	10	9.7	9.6	97	96	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2868400 2868401

Parameter	Units	50287193003		50287193003		50287193003		50287193003		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Dissolved Organic Carbon	mg/L	ND	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	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

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
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	-0.0529 ± 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

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:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
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		

REPORT OF LABORATORY ANALYSIS

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WO#: 50287228



50287228

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section B Required Client Information:		Section C Required Project Information:		Invoice Information:	
Company: AES/IPL Petersburg		Report To: Teague, Wil		Attention:	
Address: 6925 IN-57		Copy To:		Company Name:	
Petersburg, IN 47567		Purchase Order #:		Address:	
Email: wil.teague@aes.com		Project Name: IDEM - CCR Sampling Profile 2 Report 5		Pace Quote:	
Phone: (812)354-8801 Fax:		Project #:		Pace Project Manager: Hayden Putt	
Requested Due Date:		Pace Profile #: 8296/ Line 7		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 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	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)				
						START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other		Analyses Test	TDS	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Rad-228	Rad-226	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate		NO3, NO2-353.2			
						DATE	TIME	DATE	TIME																										Y	Y	Y
1	AP-9A	WT		5-11-21	1430				11	3	3	4	1																								001
2	AP-10A	WT							11	3	3	4	1																								
3	MW-19A	WT		5-11-21	1045				11	3	3	4	1																								002
4	MW-19I	WT		5-11-21	1135				11	3	3	4	1																								003
5	MW-19B	WT		5-11-21	1225				11	3	3	4	1																								007
6	MW-20A	WT							11	3	3	4	1																								
7	MW-20I	WT							11	3	3	4	1																								
8	MW-20B	WT							11	3	3	4	1																								
9	MW-21A	WT							11	3	3	4	1																								No well pump
10	MW-21I	WT							11	3	3	4	1																								
11	MW-21B	WT							11	3	3	4	1																								
12	DUP 4	WT		5-11-21	1300				11	3	3	4	1																								005

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS						
Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	<i>Mr Doerner</i>	5-12-21	0825	<i>Jay Williams</i>	5/12	8-25							
020 (Be, Co, As, Se, Sb, Tl)	<i>Jay Williams</i>	5/12	1040	<i>Jay Williams</i>	5/12	1040	2.4	Y	Y	Y			
* Dissolved FF 6010 (Mo, Mn)							2.7	Y	Y	Y			
Alkalinity = (Total, Bicarb & Carb)							2.4	Y	Y	Y			

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: <i>Dick Doerner</i>					
SIGNATURE of SAMPLER: <i>Mr Doerner</i>	DATE Signed: <i>5-11-21</i>				



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

July 30, 2021

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: CCR Profile 4 Report 1
Pace Project No.: 50289042

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on June 03, 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 Profile 4 Report 1

Pace Project No.: 50289042

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: CCR Profile 4 Report 1

Pace Project No.: 50289042

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50289042001	MW-22	Water	06/02/21 13:15	06/03/21 08:40
50289042002	MW-23	Water	06/02/21 14:10	06/03/21 08:40
50289042003	MW-24	Water	06/02/21 15:45	06/03/21 08:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
50289042001	MW-22	EPA 9056	RMR	3	PASI-I		
		EPA 6010	JPK	14	PASI-I		
		EPA 6010	JDG	2	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	JAL	1	PASI-PA		
		SM 2320B	HCF	3	PASI-I		
		SM 2540C	SLB	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	SKK	2	PASI-I		
		EPA 365.1	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		SM 5310C	GWA	1	PASI-I		
		50289042002	MW-23	EPA 9056	RMR	3	PASI-I
				EPA 6010	JPK	14	PASI-I
				EPA 6010	JDG	2	PASI-I
EPA 6020	CAW			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	JAL			1	PASI-PA		
SM 2320B	HCF			3	PASI-I		
SM 2540C	SLB			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	SKK			2	PASI-I		
EPA 365.1	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
SM 5310C	GWA			1	PASI-I		
50289042003	MW-24			EPA 9056	RMR	3	PASI-I
				EPA 6010	JPK	14	PASI-I
		EPA 6010	JDG	2	PASI-I		
		EPA 6020	CAW	6	PASI-I		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	HCF	3	PASI-I
		SM 2540C	SLB	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	SKK	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: CCR Profile 4 Report 1

Pace Project No.: 50289042

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50289042001	MW-22					
EPA 9056	Chloride	193	mg/L	25.0	06/15/21 16:21	
EPA 9056	Sulfate	1620	mg/L	25.0	06/15/21 16:21	
EPA 6010	Aluminum	23800	ug/L	200	06/10/21 03:21	
EPA 6010	Barium	151	ug/L	10.0	06/10/21 03:21	
EPA 6010	Boron	2430	ug/L	100	06/10/21 03:21	
EPA 6010	Cadmium	3.9	ug/L	2.0	06/10/21 03:21	
EPA 6010	Calcium	354000	ug/L	5000	06/10/21 03:41	
EPA 6010	Iron	28400	ug/L	100	06/10/21 03:21	
EPA 6010	Lead	16.1	ug/L	10.0	06/10/21 03:21	
EPA 6010	Lithium	4010	ug/L	20.0	06/10/21 03:21	
EPA 6010	Magnesium	25800	ug/L	1000	06/10/21 03:21	
EPA 6010	Manganese	2560	ug/L	10.0	06/10/21 03:21	
EPA 6010	Molybdenum	250	ug/L	10.0	06/10/21 03:21	
EPA 6010	Potassium	383000	ug/L	5000	06/10/21 03:41	
EPA 6010	Silica	62500	ug/L	450	06/10/21 03:21	N2
EPA 6010	Sodium	302000	ug/L	5000	06/10/21 03:41	
EPA 6010	Manganese, Dissolved	2370	ug/L	10.0	06/15/21 11:42	
EPA 6010	Molybdenum, Dissolved	252	ug/L	10.0	06/15/21 11:42	
EPA 6020	Arsenic	14.2	ug/L	1.0	06/08/21 06:25	
EPA 6020	Beryllium	1.4	ug/L	1.0	06/09/21 15:58	
EPA 6020	Cobalt	10.0	ug/L	1.0	06/08/21 06:25	
EPA 6020	Selenium	2.0	ug/L	1.0	06/08/21 06:25	
EPA 903.1	Radium-226	0.446 ± 0.314 (0.151)	pCi/L		07/02/21 16:00	
EPA 904.0	Radium-228	C:NA T:99% 3.01 ± 0.839 (1.00) C:64% T:84%	pCi/L		06/30/21 11:13	
Total Radium Calculation	Total Radium	3.46 ± 1.15 (1.15)	pCi/L		07/02/21 18:32	
SM 2320B	Alkalinity, Total as CaCO3	342	mg/L	2.0	06/09/21 17:59	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	342	mg/L	2.0	06/09/21 17:59	
SM 2540C	Total Dissolved Solids	3080	mg/L	40.0	06/07/21 07:55	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	06/08/21 13:27	H3
EPA 353.2	Nitrogen, Nitrate	0.39	mg/L	0.10	06/03/21 16:08	
EPA 365.1	Phosphate as P04	1.5	mg/L	0.15	06/14/21 10:44	
SM 5310C	Total Organic Carbon	3.6	mg/L	1.0	06/15/21 03:18	
SM 5310C	Dissolved Organic Carbon	4.2	mg/L	1.0	06/10/21 15:19	
50289042002	MW-23					
EPA 9056	Chloride	8.6	mg/L	0.25	06/15/21 16:35	
EPA 9056	Fluoride	0.12	mg/L	0.10	06/15/21 16:35	
EPA 9056	Sulfate	16.3	mg/L	0.25	06/15/21 16:35	
EPA 6010	Aluminum	2930	ug/L	200	06/10/21 03:23	
EPA 6010	Barium	32.9	ug/L	10.0	06/10/21 03:23	
EPA 6010	Boron	135	ug/L	100	06/10/21 03:23	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50289042002	MW-23					
EPA 6010	Calcium	58900	ug/L	1000	06/10/21 03:23	
EPA 6010	Iron	3900	ug/L	100	06/10/21 03:23	
EPA 6010	Magnesium	17700	ug/L	1000	06/10/21 03:23	
EPA 6010	Manganese	209	ug/L	10.0	06/10/21 03:23	
EPA 6010	Potassium	1510	ug/L	1000	06/10/21 03:23	
EPA 6010	Silica	23600	ug/L	450	06/10/21 03:23	N2
EPA 6010	Sodium	2210	ug/L	1000	06/10/21 03:23	
EPA 6010	Manganese, Dissolved	53.1	ug/L	10.0	06/15/21 11:44	
EPA 6020	Arsenic	2.6	ug/L	1.0	06/08/21 05:57	
EPA 6020	Cobalt	1.8	ug/L	1.0	06/08/21 05:57	
EPA 903.1	Radium-226	0.315 ± 0.329 (0.464) C:NA T:83%	pCi/L		07/02/21 16:00	
EPA 904.0	Radium-228	0.755 ± 0.458 (0.861) C:68% T:87%	pCi/L		06/30/21 14:15	
Total Radium Calculation	Total Radium	1.07 ± 0.787 (1.33)	pCi/L		07/02/21 18:32	
SM 2320B	Alkalinity, Total as CaCO3	152	mg/L	2.0	06/09/21 18:07	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	152	mg/L	2.0	06/09/21 18:07	
SM 2540C	Total Dissolved Solids	242	mg/L	10.0	06/07/21 07:56	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	06/08/21 13:36	H3
EPA 353.2	Nitrogen, Nitrate	9.1	mg/L	0.50	06/03/21 18:06	
EPA 365.1	Phosphate as P04	0.21	mg/L	0.15	06/14/21 10:47	
50289042003	MW-24					
EPA 9056	Chloride	79.2	mg/L	2.5	06/15/21 17:19	
EPA 9056	Sulfate	833	mg/L	25.0	06/15/21 17:33	
EPA 6010	Barium	38.7	ug/L	10.0	06/10/21 03:25	
EPA 6010	Boron	818	ug/L	100	06/10/21 03:25	
EPA 6010	Calcium	265000	ug/L	3000	06/10/21 03:44	
EPA 6010	Iron	311	ug/L	100	06/10/21 03:25	
EPA 6010	Lithium	1430	ug/L	20.0	06/10/21 03:25	
EPA 6010	Magnesium	28800	ug/L	1000	06/10/21 03:25	
EPA 6010	Manganese	803	ug/L	10.0	06/10/21 03:25	
EPA 6010	Molybdenum	301	ug/L	10.0	06/10/21 03:25	
EPA 6010	Potassium	161000	ug/L	3000	06/10/21 03:44	
EPA 6010	Silica	16600	ug/L	450	06/10/21 03:25	N2
EPA 6010	Sodium	79000	ug/L	1000	06/10/21 03:25	
EPA 6010	Manganese, Dissolved	793	ug/L	10.0	06/15/21 11:46	
EPA 6010	Molybdenum, Dissolved	346	ug/L	10.0	06/15/21 11:46	
EPA 6020	Cobalt	2.0	ug/L	1.0	06/08/21 05:52	
EPA 903.1	Radium-226	0.729 ± 0.511 (0.674) C:NA T:93%	pCi/L		07/02/21 16:00	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50289042003	MW-24					
EPA 904.0	Radium-228	0.903 ± 0.449 (0.789) C:69% T:94%	pCi/L		06/30/21 14:15	
Total Radium Calculation	Total Radium	1.63 ± 0.960 (1.46)	pCi/L		07/02/21 18:32	
SM 2320B	Alkalinity, Total as CaCO ₃	182	mg/L	2.0	06/09/21 18:07	
SM 2320B	Alkalinity, Bicarbonate (CaCO ₃)	182	mg/L	2.0	06/09/21 18:07	
SM 2540C	Total Dissolved Solids	1520	mg/L	20.0	06/07/21 07:56	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	06/08/21 13:42	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Sample: MW-22		Lab ID: 50289042001		Collected: 06/02/21 13:15		Received: 06/03/21 08:40		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	193	mg/L	25.0	100		06/15/21 16:21	16887-00-6		
Fluoride	ND	mg/L	0.10	1		06/15/21 16:06	16984-48-8		
Sulfate	1620	mg/L	25.0	100		06/15/21 16:21	14808-79-8		
6010 MET ICP									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Pace Analytical Services - Indianapolis									
Aluminum	23800	ug/L	200	1	06/09/21 06:50	06/10/21 03:21	7429-90-5		
Barium	151	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:21	7440-39-3		
Boron	2430	ug/L	100	1	06/09/21 06:50	06/10/21 03:21	7440-42-8		
Cadmium	3.9	ug/L	2.0	1	06/09/21 06:50	06/10/21 03:21	7440-43-9		
Calcium	354000	ug/L	5000	5	06/09/21 06:50	06/10/21 03:41	7440-70-2		
Iron	28400	ug/L	100	1	06/09/21 06:50	06/10/21 03:21	7439-89-6		
Lead	16.1	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:21	7439-92-1		
Lithium	4010	ug/L	20.0	1	06/09/21 06:50	06/10/21 03:21	7439-93-2		
Magnesium	25800	ug/L	1000	1	06/09/21 06:50	06/10/21 03:21	7439-95-4		
Manganese	2560	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:21	7439-96-5		
Molybdenum	250	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:21	7439-98-7		
Potassium	383000	ug/L	5000	5	06/09/21 06:50	06/10/21 03:41	7440-09-7		
Silica	62500	ug/L	450	1	06/09/21 06:50	06/10/21 03:21	7631-86-9	N2	
Sodium	302000	ug/L	5000	5	06/09/21 06:50	06/10/21 03:41	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	06/11/21 06:46	06/15/21 11:42	7439-96-5		
Molybdenum, Dissolved	252	ug/L	10.0	1	06/11/21 06:46	06/15/21 11:42	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	06/07/21 08:40	06/08/21 06:25	7440-36-0		
Arsenic	14.2	ug/L	1.0	1	06/07/21 08:40	06/08/21 06:25	7440-38-2		
Beryllium	1.4	ug/L	1.0	5	06/07/21 08:40	06/09/21 15:58	7440-41-7		
Cobalt	10.0	ug/L	1.0	1	06/07/21 08:40	06/08/21 06:25	7440-48-4		
Selenium	2.0	ug/L	1.0	1	06/07/21 08:40	06/08/21 06:25	7782-49-2		
Thallium	ND	ug/L	1.0	1	06/07/21 08:40	06/08/21 06:25	7440-28-0		
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	342	mg/L	2.0	1		06/09/21 17:59			
Alkalinity,Bicarbonate (CaCO3)	342	mg/L	2.0	1		06/09/21 17:59			
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		06/09/21 17:59			
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Indianapolis									
Total Dissolved Solids	3080	mg/L	40.0	1		06/07/21 07:55			

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Sample: MW-22	Lab ID: 50289042001	Collected: 06/02/21 13:15	Received: 06/03/21 08:40	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	7.2	Std. Units	0.10	1		06/08/21 13:27		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		06/08/21 09:36	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		06/16/21 11:24		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	0.39	mg/L	0.10	1		06/03/21 16:08	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		06/03/21 16:08	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	1.5	mg/L	0.15	1	06/10/21 11:30	06/14/21 10:44		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	3.6	mg/L	1.0	1		06/15/21 03:18	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		06/10/21 15:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Sample: MW-23	Lab ID: 50289042002	Collected: 06/02/21 14:10	Received: 06/03/21 08:40	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	8.6	mg/L	0.25	1		06/15/21 16:35	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		06/15/21 16:35	16984-48-8	
Sulfate	16.3	mg/L	0.25	1		06/15/21 16:35	14808-79-8	
6010 MET ICP								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Aluminum	2930	ug/L	200	1	06/09/21 06:50	06/10/21 03:23	7429-90-5	
Barium	32.9	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:23	7440-39-3	
Boron	135	ug/L	100	1	06/09/21 06:50	06/10/21 03:23	7440-42-8	
Cadmium	ND	ug/L	2.0	1	06/09/21 06:50	06/10/21 03:23	7440-43-9	
Calcium	58900	ug/L	1000	1	06/09/21 06:50	06/10/21 03:23	7440-70-2	
Iron	3900	ug/L	100	1	06/09/21 06:50	06/10/21 03:23	7439-89-6	
Lead	ND	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:23	7439-92-1	
Lithium	ND	ug/L	20.0	1	06/09/21 06:50	06/10/21 03:23	7439-93-2	
Magnesium	17700	ug/L	1000	1	06/09/21 06:50	06/10/21 03:23	7439-95-4	
Manganese	209	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:23	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:23	7439-98-7	
Potassium	1510	ug/L	1000	1	06/09/21 06:50	06/10/21 03:23	7440-09-7	
Silica	23600	ug/L	450	1	06/09/21 06:50	06/10/21 03:23	7631-86-9	N2
Sodium	2210	ug/L	1000	1	06/09/21 06:50	06/10/21 03:23	7440-23-5	
6010 MET ICP, Dissolved								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Pace Analytical Services - Indianapolis								
Manganese, Dissolved	53.1	ug/L	10.0	1	06/11/21 06:46	06/15/21 11:44	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	06/11/21 06:46	06/15/21 11:44	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	06/07/21 08:40	06/08/21 05:57	7440-36-0	
Arsenic	2.6	ug/L	1.0	1	06/07/21 08:40	06/08/21 05:57	7440-38-2	
Beryllium	ND	ug/L	0.20	1	06/07/21 08:40	06/09/21 15:53	7440-41-7	
Cobalt	1.8	ug/L	1.0	1	06/07/21 08:40	06/08/21 05:57	7440-48-4	
Selenium	ND	ug/L	1.0	1	06/07/21 08:40	06/08/21 05:57	7782-49-2	
Thallium	ND	ug/L	1.0	1	06/07/21 08:40	06/08/21 05:57	7440-28-0	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	2.0	1	06/15/21 02:47	06/15/21 07:25	7439-97-6	
2320B Alkalinity								
Analytical Method: SM 2320B								
Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	152	mg/L	2.0	1		06/09/21 18:07		
Alkalinity,Bicarbonate (CaCO3)	152	mg/L	2.0	1		06/09/21 18:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		06/09/21 18:07		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Sample: MW-23	Lab ID: 50289042002	Collected: 06/02/21 14:10	Received: 06/03/21 08:40	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	242	mg/L	10.0	1		06/07/21 07:56		
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		06/08/21 13:36		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		06/08/21 09:36	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		06/16/21 11:24		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	9.1	mg/L	0.50	5		06/03/21 18:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	5		06/03/21 18:06	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	06/10/21 11:30	06/14/21 10:47		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		06/15/21 03:37	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		06/10/21 15:45		

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ANALYTICAL RESULTS

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Sample: MW-24	Lab ID: 50289042003	Collected: 06/02/21 15:45	Received: 06/03/21 08:40	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	79.2	mg/L	2.5	10		06/15/21 17:19	16887-00-6		
Fluoride	ND	mg/L	0.10	1		06/15/21 17:04	16984-48-8		
Sulfate	833	mg/L	25.0	100		06/15/21 17:33	14808-79-8		
6010 MET ICP									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Pace Analytical Services - Indianapolis									
Aluminum	ND	ug/L	200	1	06/09/21 06:50	06/10/21 03:25	7429-90-5		
Barium	38.7	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:25	7440-39-3		
Boron	818	ug/L	100	1	06/09/21 06:50	06/10/21 03:25	7440-42-8		
Cadmium	ND	ug/L	2.0	1	06/09/21 06:50	06/10/21 03:25	7440-43-9		
Calcium	265000	ug/L	3000	3	06/09/21 06:50	06/10/21 03:44	7440-70-2		
Iron	311	ug/L	100	1	06/09/21 06:50	06/10/21 03:25	7439-89-6		
Lead	ND	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:25	7439-92-1		
Lithium	1430	ug/L	20.0	1	06/09/21 06:50	06/10/21 03:25	7439-93-2		
Magnesium	28800	ug/L	1000	1	06/09/21 06:50	06/10/21 03:25	7439-95-4		
Manganese	803	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:25	7439-96-5		
Molybdenum	301	ug/L	10.0	1	06/09/21 06:50	06/10/21 03:25	7439-98-7		
Potassium	161000	ug/L	3000	3	06/09/21 06:50	06/10/21 03:44	7440-09-7		
Silica	16600	ug/L	450	1	06/09/21 06:50	06/10/21 03:25	7631-86-9		N2
Sodium	79000	ug/L	1000	1	06/09/21 06:50	06/10/21 03:25	7440-23-5		
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Pace Analytical Services - Indianapolis									
Manganese, Dissolved	793	ug/L	10.0	1	06/11/21 06:46	06/15/21 11:46	7439-96-5		
Molybdenum, Dissolved	346	ug/L	10.0	1	06/11/21 06:46	06/15/21 11:46	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	06/07/21 08:40	06/08/21 05:52	7440-36-0		
Arsenic	ND	ug/L	1.0	1	06/07/21 08:40	06/08/21 05:52	7440-38-2		
Beryllium	ND	ug/L	0.20	1	06/07/21 08:40	06/09/21 15:42	7440-41-7		
Cobalt	2.0	ug/L	1.0	1	06/07/21 08:40	06/08/21 05:52	7440-48-4		
Selenium	ND	ug/L	1.0	1	06/07/21 08:40	06/08/21 05:52	7782-49-2		
Thallium	ND	ug/L	1.0	1	06/07/21 08:40	06/08/21 05:52	7440-28-0		
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Indianapolis									
Mercury	ND	ug/L	2.0	1	06/15/21 02:47	06/15/21 07:27	7439-97-6		
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	182	mg/L	2.0	1		06/09/21 18:07			
Alkalinity,Bicarbonate (CaCO3)	182	mg/L	2.0	1		06/09/21 18:07			
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		06/09/21 18:07			

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ANALYTICAL RESULTS

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Sample: MW-24	Lab ID: 50289042003	Collected: 06/02/21 15:45	Received: 06/03/21 08:40	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	1520	mg/L	20.0	1		06/07/21 07:56		
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		06/08/21 13:42		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		06/08/21 09:36	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		06/16/21 11:25		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		06/03/21 16:21	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		06/03/21 16:21	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	06/10/21 11:30	06/14/21 10:48		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		06/15/21 04:09	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		06/10/21 16:10		

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch:	626306	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2885608 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	06/15/21 12:56	
Fluoride	mg/L	ND	0.10	06/15/21 12:56	
Sulfate	mg/L	ND	0.25	06/15/21 12:56	

LABORATORY CONTROL SAMPLE: 2885609

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	0.50	101	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2885610 2885611

Parameter	Units	50290049001		2885610		2885611		% 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	107	125	125	233	232	101	101	80-120	0	15		
Fluoride	mg/L	0.89	0.5	0.5	1.4	1.4	107	109	80-120	1	15		
Sulfate	mg/L	86.7	25	25	115	114	112	111	80-120	0	15		

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch: 625458

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042002, 50289042003

METHOD BLANK: 2881503

Matrix: Water

Associated Lab Samples: 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	06/15/21 07:18	

LABORATORY CONTROL SAMPLE: 2881504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881505 2881506

Parameter	Units	50289153009		2881505		2881506		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Mercury	ug/L	<0.00020 mg/L	5	5	4.7	4.6	94	93	75-125	1	20

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch:	624952	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2879326 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	06/10/21 03:10	
Barium	ug/L	ND	10.0	06/10/21 03:10	
Boron	ug/L	ND	100	06/10/21 03:10	
Cadmium	ug/L	ND	2.0	06/10/21 03:10	
Calcium	ug/L	ND	1000	06/10/21 03:10	
Iron	ug/L	ND	100	06/10/21 03:10	
Lead	ug/L	ND	10.0	06/10/21 03:10	
Lithium	ug/L	ND	20.0	06/10/21 03:10	
Magnesium	ug/L	ND	1000	06/10/21 03:10	
Manganese	ug/L	ND	10.0	06/10/21 03:10	
Molybdenum	ug/L	ND	10.0	06/10/21 03:10	
Potassium	ug/L	ND	1000	06/10/21 03:10	
Silica	ug/L	ND	450	06/10/21 03:10	N2
Sodium	ug/L	ND	1000	06/10/21 03:10	

LABORATORY CONTROL SAMPLE: 2879327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9460	95	80-120	
Barium	ug/L	1000	953	95	80-120	
Boron	ug/L	1000	1130	113	80-120	
Cadmium	ug/L	1000	996	100	80-120	
Calcium	ug/L	10000	9640	96	80-120	
Iron	ug/L	10000	9590	96	80-120	
Lead	ug/L	1000	974	97	80-120	
Lithium	ug/L	1000	984	98	80-120	
Magnesium	ug/L	10000	9820	98	80-120	
Manganese	ug/L	1000	953	95	80-120	
Molybdenum	ug/L	1000	1010	101	80-120	
Potassium	ug/L	10000	9460	95	80-120	
Silica	ug/L	10700	10200	95		N2
Sodium	ug/L	10000	10200	102	80-120	

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879328		2879329		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50289042003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Aluminum	ug/L	ND	10000	10000	9720	9820	96	97	75-125	1	20		
Barium	ug/L	38.7	1000	1000	981	988	94	95	75-125	1	20		
Boron	ug/L	818	1000	1000	1780	1820	96	100	75-125	2	20		
Cadmium	ug/L	ND	1000	1000	1000	1000	100	100	75-125	0	20		
Calcium	ug/L	265000	10000	10000	260000	258000	-51	-69	75-125	1	20	P6	
Iron	ug/L	311	10000	10000	9450	9600	91	93	75-125	2	20		
Lead	ug/L	ND	1000	1000	947	945	95	95	75-125	0	20		
Lithium	ug/L	1430	1000	1000	2410	2450	98	102	75-125	2	20		
Magnesium	ug/L	28800	10000	10000	37000	38200	82	94	75-125	3	20		
Manganese	ug/L	803	1000	1000	1690	1730	89	92	75-125	2	20		
Molybdenum	ug/L	301	1000	1000	1300	1320	100	101	75-125	1	20		
Potassium	ug/L	161000	10000	10000	161000	162000	8	15	75-125	0	20	P6	
Silica	ug/L	16600	10700	10700	26500	27200	93	100		3		N2	
Sodium	ug/L	79000	10000	10000	85600	87800	66	88	75-125	2	20	P6	

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch:	625244	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET Dissolved
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2880508 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	06/15/21 11:38	
Molybdenum, Dissolved	ug/L	ND	10.0	06/15/21 11:38	

LABORATORY CONTROL SAMPLE: 2880509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	975	98	80-120	
Molybdenum, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2880510 2880511

Parameter	Units	50289312002 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	662	1000	1000	1580	1610	91	94	75-125	2	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1020	1030	102	102	75-125	1	20	

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch:	624736	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2878521 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	06/07/21 16:08	
Arsenic	ug/L	ND	1.0	06/07/21 16:08	
Beryllium	ug/L	ND	0.20	06/07/21 18:56	
Cobalt	ug/L	ND	1.0	06/07/21 16:08	
Selenium	ug/L	ND	1.0	06/07/21 16:08	
Thallium	ug/L	ND	1.0	06/07/21 16:08	

LABORATORY CONTROL SAMPLE: 2878522

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.0	103	80-120	
Arsenic	ug/L	40	37.2	93	80-120	
Beryllium	ug/L	40	39.3	98	80-120	
Cobalt	ug/L	40	39.9	100	80-120	
Selenium	ug/L	40	37.9	95	80-120	
Thallium	ug/L	40	40.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2878523 2878524

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		50289145001 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	ND	40	40	40.1	39.7	100	99	75-125	1	20
Arsenic	ug/L	15.8	40	40	53.4	52.4	94	91	75-125	2	20
Beryllium	ug/L	ND	40	40	40.7	40.5	101	100	75-125	1	20
Cobalt	ug/L	13.9	40	40	56.5	54.5	106	101	75-125	4	20
Selenium	ug/L	ND	40	40	39.0	39.0	95	95	75-125	0	20
Thallium	ug/L	ND	40	40	38.4	37.9	96	95	75-125	1	20

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch: 625345	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042002, 50289042003

METHOD BLANK: 2880910 Matrix: Water

Associated Lab Samples: 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	2.0	06/09/21 18:07	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	2.0	06/09/21 18:07	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	2.0	06/09/21 18:07	

LABORATORY CONTROL SAMPLE: 2880911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	49.5	99	90-110	

SAMPLE DUPLICATE: 2880912

Parameter	Units	50288660002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	244	253	4	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	244	253	4	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 2880913

Parameter	Units	50288685001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	27.2	26.8	1	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	27.2	26.8	1	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	<2.0	ND		20	

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch: 625355	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042001

METHOD BLANK: 2880948 Matrix: Water

Associated Lab Samples: 50289042001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	ND	2.0	06/09/21 17:59	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	2.0	06/09/21 17:59	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	2.0	06/09/21 17:59	

LABORATORY CONTROL SAMPLE: 2880949

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	48.7	97	90-110	

SAMPLE DUPLICATE: 2880950

Parameter	Units	50288940002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	488	491	1	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	488	491	1	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2880951

Parameter	Units	50288940003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	310	308	1	20	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	310	308	1	20	
Alkalinity,Carbonate (CaCO ₃)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch: 624767	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2878688 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	06/07/21 07:51	

LABORATORY CONTROL SAMPLE: 2878689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	293	98	80-120	

SAMPLE DUPLICATE: 2878690

Parameter	Units	50289040003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	440	443	1	10	

SAMPLE DUPLICATE: 2878691

Parameter	Units	50289044001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	655	655	0	10	

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch:	625061	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: 50289042001, 50289042002, 50289042003

SAMPLE DUPLICATE: 2879662

Parameter	Units	50288499001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	2	H3

SAMPLE DUPLICATE: 2879663

Parameter	Units	50289042003 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: CCR Profile 4 Report 1
Pace Project No.: 50289042

QC Batch: 624999 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: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2879400 Matrix: Water
Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	06/08/21 09:36	

LABORATORY CONTROL SAMPLE: 2879401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.49	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879402 2879403

Parameter	Units	50289044001		2879403		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	0.56	0.54	111	108	90-110	3	20 M0

MATRIX SPIKE SAMPLE: 2879404

Parameter	Units	50289164001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.49	97	90-110	

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch:	626432	Analysis Method:	HACH 8146
QC Batch Method:	HACH 8146	Analysis Description:	Iron, Ferrous
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2886248 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	06/16/21 11:24	H3,N2

LABORATORY CONTROL SAMPLE: 2886249

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	105	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2886250 2886251

Parameter	Units	2886250		2886251		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Iron, Ferrous	mg/L	ND	1	1	1.0	1.0	103	104	90-110	1	20	H3,N2

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch: 624427	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: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2876946 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	06/03/21 15:44	
Nitrogen, Nitrite	mg/L	ND	0.10	06/03/21 15:44	

LABORATORY CONTROL SAMPLE: 2876947

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: 2876948 2876949

Parameter	Units	50289044001 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	0.62	1	1	1.6	1.7	103	103	90-110	0	20	
Nitrogen, Nitrite	mg/L	0.021J	1	1	1.0	0.99	98	97	90-110	0	20	

MATRIX SPIKE SAMPLE: 2876999

Parameter	Units	50289042003 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	0.98	98	90-110	

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1
Pace Project No.: 50289042

QC Batch: 625270 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: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2880566 Matrix: Water
Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	06/14/21 10:40	

LABORATORY CONTROL SAMPLE: 2880567

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.4			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2880568 2880569

Parameter	Units	50289042001 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	1.5			3.0	3.1				6		

MATRIX SPIKE SAMPLE: 2880570

Parameter	Units	50289079001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	5.0		6.5			

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch: 626105	Analysis Method: SM 5310C
QC Batch Method: SM 5310C	Analysis Description: 5310C Total Organic Carbon
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2884848 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	06/14/21 16:49	

LABORATORY CONTROL SAMPLE: 2884849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.4	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2884850 2884851

Parameter	Units	50288941005		2884851		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Total Organic Carbon	mg/L	ND	10	10	9.3	9.1	93	91	80-120	2	20

MATRIX SPIKE SAMPLE: 2884852

Parameter	Units	50288973001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	<0.20	10	8.9	89	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch:	625570	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Dissolved Organic Carbon
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2881888 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	06/10/21 14:13	

LABORATORY CONTROL SAMPLE: 2881889

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: 2881890 2881891

Parameter	Units	50289042003		2881891		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	ND	10	10	9.8	9.8	98	98	80-120	0	20

MATRIX SPIKE SAMPLE: 2881892

Parameter	Units	50289319010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	ND	20	18.8	94	80-120	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Sample: MW-22 **Lab ID: 50289042001** Collected: 06/02/21 13:15 Received: 06/03/21 08:40 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	0.446 ± 0.314 (0.151) C:NA T:99%	pCi/L	07/02/21 16:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	3.01 ± 0.839 (1.00) C:64% T:84%	pCi/L	06/30/21 11:13	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	3.46 ± 1.15 (1.15)	pCi/L	07/02/21 18:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Sample: MW-23 **Lab ID: 50289042002** Collected: 06/02/21 14:10 Received: 06/03/21 08:40 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	0.315 ± 0.329 (0.464) C:NA T:83%	pCi/L	07/02/21 16:00	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.755 ± 0.458 (0.861) C:68% T:87%	pCi/L	06/30/21 14:15	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.07 ± 0.787 (1.33)	pCi/L	07/02/21 18:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Sample: MW-24 **Lab ID: 50289042003** Collected: 06/02/21 15:45 Received: 06/03/21 08:40 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	0.729 ± 0.511 (0.674) C:NA T:93%	pCi/L	07/02/21 16:00	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.903 ± 0.449 (0.789) C:69% T:94%	pCi/L	06/30/21 14:15	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.63 ± 0.960 (1.46)	pCi/L	07/02/21 18:32	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch:	452756	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: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2185601 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.355 ± 0.357 (0.740) C:66% T:94%	pCi/L	06/30/21 11:10	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

QC Batch:	452755	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: 50289042001, 50289042002, 50289042003

METHOD BLANK: 2185600 Matrix: Water

Associated Lab Samples: 50289042001, 50289042002, 50289042003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0417 ± 0.245 (0.546) C:NA T:98%	pCi/L	07/02/21 16:00	

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QUALIFIERS

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

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.

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: CCR Profile 4 Report 1

Pace Project No.: 50289042

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50289042001	MW-22	EPA 9056	626306		
50289042002	MW-23	EPA 9056	626306		
50289042003	MW-24	EPA 9056	626306		
50289042001	MW-22	EPA 3010	624952	EPA 6010	625471
50289042002	MW-23	EPA 3010	624952	EPA 6010	625471
50289042003	MW-24	EPA 3010	624952	EPA 6010	625471
50289042001	MW-22	EPA 3010	625244	EPA 6010	626253
50289042002	MW-23	EPA 3010	625244	EPA 6010	626253
50289042003	MW-24	EPA 3010	625244	EPA 6010	626253
50289042001	MW-22	EPA 200.2	624736	EPA 6020	624855
50289042002	MW-23	EPA 200.2	624736	EPA 6020	624855
50289042003	MW-24	EPA 200.2	624736	EPA 6020	624855
50289042002	MW-23	EPA 7470	625458	EPA 7470	626183
50289042003	MW-24	EPA 7470	625458	EPA 7470	626183
50289042001	MW-22	EPA 903.1	452755		
50289042002	MW-23	EPA 903.1	452755		
50289042003	MW-24	EPA 903.1	452755		
50289042001	MW-22	EPA 904.0	452756		
50289042002	MW-23	EPA 904.0	452756		
50289042003	MW-24	EPA 904.0	452756		
50289042001	MW-22	Total Radium Calculation	455055		
50289042002	MW-23	Total Radium Calculation	455055		
50289042003	MW-24	Total Radium Calculation	455055		
50289042001	MW-22	SM 2320B	625355		
50289042002	MW-23	SM 2320B	625345		
50289042003	MW-24	SM 2320B	625345		
50289042001	MW-22	SM 2540C	624767		
50289042002	MW-23	SM 2540C	624767		
50289042003	MW-24	SM 2540C	624767		
50289042001	MW-22	SM 4500-H+B	625061		
50289042002	MW-23	SM 4500-H+B	625061		
50289042003	MW-24	SM 4500-H+B	625061		
50289042001	MW-22	SM 4500-S2-D	624999		
50289042002	MW-23	SM 4500-S2-D	624999		
50289042003	MW-24	SM 4500-S2-D	624999		
50289042001	MW-22	HACH 8146	626432		
50289042002	MW-23	HACH 8146	626432		
50289042003	MW-24	HACH 8146	626432		
50289042001	MW-22	EPA 353.2	624427		
50289042002	MW-23	EPA 353.2	624427		
50289042003	MW-24	EPA 353.2	624427		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR Profile 4 Report 1

Pace Project No.: 50289042

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50289042001	MW-22	EPA 365.1	625270	EPA 365.1	626005
50289042002	MW-23	EPA 365.1	625270	EPA 365.1	626005
50289042003	MW-24	EPA 365.1	625270	EPA 365.1	626005
50289042001	MW-22	SM 5310C	626105		
50289042002	MW-23	SM 5310C	626105		
50289042003	MW-24	SM 5310C	626105		
50289042001	MW-22	SM 5310C	625570		
50289042002	MW-23	SM 5310C	625570		
50289042003	MW-24	SM 5310C	625570		

REPORT OF LABORATORY ANALYSIS

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BC 6-3-21 9:28

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: 0.5/0.5 0.3/0.3
 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>NO₂/NO₃</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>10:30</u>				<u>Present</u>	<u>Absent</u>	<u>N/A</u>
			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 Containter 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)			Trip Blank Custody Seals?:			<input checked="" type="checkbox"/>

COMMENTS:

Sample Container Count

SBS
DI
MeOH
(only)
BK
Kit

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													1	1			2		4	1	1	1		1			WT	✓	✓	
2													1	1			2		4	1	1	1		1			WT	✓	✓	
3													1	1			2		4	1	1	1		1			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
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		
		AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		

September 2021

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		

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
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
		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		
50297657005	MW-26I	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

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		
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	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
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 ± (1.85)	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	

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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		

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
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		

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
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		

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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		

REPORT OF LABORATORY ANALYSIS

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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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-261 Lab ID: 50297657005 Collected: 09/16/21 13:02 Received: 09/17/21 12:50 Matrix: Water								
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		

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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		

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
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		50297657003		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
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
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	

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	50297657008 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Aluminum	ug/L	ND	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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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		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.: 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	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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REPORT OF LABORATORY ANALYSIS

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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
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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 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	.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 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	0.17			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	50297657008		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	50297669001		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-261 **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	

REPORT OF LABORATORY ANALYSIS

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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-29I **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

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:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	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

Sample: MW-29I RAD MSD **Lab ID: 50297657010** 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	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	

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.: 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	

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: 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		

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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		

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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	AG2U	500mL unpres amber glass	BP3F	250mL HNO3 plastic-field filtered	NAL OL	Non-aqueous liquid Oil
BG1H	1L HCl clear glass	AG3S	250mL H2SO4 amber glass	BP3U	250mL unpreserved plastic	WP	Wipe
BG1S	1L H2SO4 clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3S	250mL H2SO4 plastic		
GN	General	AG3U	250mL unpres amber glass	BP3Z	250mL NaOH, ZnAc plastic		
		AG3C	250mL NaOH amber glass				

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
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	AG2U	500mL unpres amber glass	BP3S	250mL H2SO4 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		

Attachment C: Statistical Analyses – Prediction Limits Documentation

November 2020

Table 1
Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	mg/L	MW-1	09/28/2016	ND	0.0001	0.0050	**
Antimony, total	mg/L	MW-1	10/19/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-1	11/09/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-1	12/12/2016	ND	0.0050		
Antimony, total	mg/L	MW-1	02/05/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	03/24/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	05/16/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	06/20/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	08/08/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	05/10/2018	ND	0.0050		
Antimony, total	mg/L	MW-1	09/12/2018	ND	0.0014	0.0050	**
Antimony, total	mg/L	MW-1	05/17/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-1	11/06/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-1	11/03/2020	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-1	09/28/2016		0.0039		
Arsenic, total	mg/L	MW-1	10/19/2016	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	11/09/2016		0.0051		
Arsenic, total	mg/L	MW-1	12/12/2016	ND	0.0050		
Arsenic, total	mg/L	MW-1	02/05/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	03/24/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	05/16/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	06/20/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	08/08/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	05/10/2018	ND	0.0050		
Arsenic, total	mg/L	MW-1	09/12/2018	ND	0.0012	0.0050	**
Arsenic, total	mg/L	MW-1	05/17/2019	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-1	11/06/2019	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-1	11/03/2020	ND	0.0010	0.0050	**
Barium, total	mg/L	MW-1	09/28/2016		0.0430		
Barium, total	mg/L	MW-1	10/19/2016		0.0510		
Barium, total	mg/L	MW-1	11/09/2016		0.0590		

* - 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-1	12/12/2016		0.0560		
Barium, total	mg/L	MW-1	02/05/2017		0.0520		
Barium, total	mg/L	MW-1	03/24/2017		0.0500		
Barium, total	mg/L	MW-1	05/16/2017		0.0480		
Barium, total	mg/L	MW-1	06/20/2017		0.0490		
Barium, total	mg/L	MW-1	08/08/2017		0.0470		
Barium, total	mg/L	MW-1	05/10/2018		0.0470		
Barium, total	mg/L	MW-1	09/12/2018		0.0490		
Barium, total	mg/L	MW-1	05/17/2019		0.0294		
Barium, total	mg/L	MW-1	11/06/2019		0.0419		
Barium, total	mg/L	MW-1	05/06/2020		0.0426		
Barium, total	mg/L	MW-1	11/03/2020		0.0413		
Beryllium, total	mg/L	MW-1	09/28/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-1	10/19/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-1	11/09/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-1	12/12/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-1	02/05/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-1	03/24/2017	ND	0.0010		
Beryllium, total	mg/L	MW-1	05/16/2017	ND	0.0010		
Beryllium, total	mg/L	MW-1	06/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-1	08/08/2017	ND	0.0010		
Beryllium, total	mg/L	MW-1	05/10/2018	ND	0.0050	0.0010	**
Beryllium, total	mg/L	MW-1	09/12/2018	ND	0.0007	0.0010	**
Beryllium, total	mg/L	MW-1	05/17/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-1	11/06/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-1	05/06/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-1	11/03/2020	ND	0.0002	0.0010	**
Cadmium, total	mg/L	MW-1	09/28/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-1	10/19/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-1	11/09/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-1	12/12/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-1	02/05/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-1	03/24/2017	ND	0.0010	0.0020	**

* - 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	
Cadmium, total	mg/L	MW-1	05/16/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-1	06/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-1	08/08/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-1	05/10/2018	ND	0.0050	0.0020	**
Cadmium, total	mg/L	MW-1	09/12/2018	ND	0.0006	0.0020	**
Cadmium, total	mg/L	MW-1	05/17/2019	ND	0.0020		
Cadmium, total	mg/L	MW-1	11/06/2019	ND	0.0020		
Cadmium, total	mg/L	MW-1	05/06/2020	ND	0.0020		
Cadmium, total	mg/L	MW-1	11/03/2020	ND	0.0020		
Chromium, total	mg/L	MW-1	09/28/2016	ND	0.0100		
Chromium, total	mg/L	MW-1	10/19/2016	ND	0.0100		
Chromium, total	mg/L	MW-1	11/09/2016	ND	0.0100		
Chromium, total	mg/L	MW-1	12/12/2016	ND	0.0100		
Chromium, total	mg/L	MW-1	02/05/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	03/24/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	05/16/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	06/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	08/08/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	05/10/2018	ND	0.0100		
Chromium, total	mg/L	MW-1	05/17/2019	ND	0.0100		
Chromium, total	mg/L	MW-1	05/06/2020	ND	0.0100		
Cobalt, total	mg/L	MW-1	09/28/2016	ND	0.0200		
Cobalt, total	mg/L	MW-1	10/19/2016	ND	0.0200		
Cobalt, total	mg/L	MW-1	11/09/2016	ND	0.0200		
Cobalt, total	mg/L	MW-1	12/12/2016	ND	0.0200		
Cobalt, total	mg/L	MW-1	02/05/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	03/24/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	05/16/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	06/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	08/08/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	05/10/2018	ND	0.0200		
Cobalt, total	mg/L	MW-1	09/12/2018	ND	0.0036	0.0200	**
Cobalt, total	mg/L	MW-1	05/17/2019	ND	0.0010	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-1	11/06/2019	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-1	11/03/2020	ND	0.0010	0.0200	**
Fluoride	mg/L	MW-1	09/28/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-1	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-1	11/09/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-1	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-1	02/05/2017	ND	5.0000		
Fluoride	mg/L	MW-1	03/24/2017	ND	5.0000		
Fluoride	mg/L	MW-1	05/16/2017	ND	5.0000		
Fluoride	mg/L	MW-1	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-1	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-1	05/10/2018	ND	5.0000		
Fluoride	mg/L	MW-1	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-1	05/17/2019	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-1	11/06/2019		0.1200		
Fluoride	mg/L	MW-1	05/06/2020		0.1300		
Fluoride	mg/L	MW-1	11/03/2020		0.1400		
Lead, total	mg/L	MW-1	09/28/2016	ND	0.0100		
Lead, total	mg/L	MW-1	10/19/2016	ND	0.0100		
Lead, total	mg/L	MW-1	11/09/2016	ND	0.0100		
Lead, total	mg/L	MW-1	12/12/2016	ND	0.0100		
Lead, total	mg/L	MW-1	02/05/2017	ND	0.0100		
Lead, total	mg/L	MW-1	03/24/2017	ND	0.0100		
Lead, total	mg/L	MW-1	05/16/2017	ND	0.0100		
Lead, total	mg/L	MW-1	06/20/2017	ND	0.0100		
Lead, total	mg/L	MW-1	08/08/2017	ND	0.0100		
Lead, total	mg/L	MW-1	05/10/2018	ND	0.0100		
Lead, total	mg/L	MW-1	05/17/2019	ND	0.0100		
Lead, total	mg/L	MW-1	11/06/2019	ND	0.0100		
Lead, total	mg/L	MW-1	05/06/2020	ND	0.0100		
Lead, total	mg/L	MW-1	11/03/2020	ND	0.0100		
Lithium, total	mg/L	MW-1	09/28/2016	ND	0.0028	0.1000	**

* - 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-1	10/19/2016	ND	0.1000		
Lithium, total	mg/L	MW-1	11/09/2016		0.0041		
Lithium, total	mg/L	MW-1	12/12/2016	ND	0.1000		
Lithium, total	mg/L	MW-1	02/05/2017		0.0052		
Lithium, total	mg/L	MW-1	03/24/2017	ND	0.1000		
Lithium, total	mg/L	MW-1	05/16/2017	ND	0.1000		
Lithium, total	mg/L	MW-1	06/20/2017	ND	0.1000		
Lithium, total	mg/L	MW-1	08/08/2017	ND	0.1000		
Lithium, total	mg/L	MW-1	05/10/2018	ND	0.0062	0.1000	**
Lithium, total	mg/L	MW-1	09/12/2018	ND	0.1000		
Lithium, total	mg/L	MW-1	05/17/2019	ND	0.0200	0.1000	**
Lithium, total	mg/L	MW-1	11/06/2019	ND	0.0200	0.1000	**
Lithium, total	mg/L	MW-1	05/06/2020	ND	0.0200	0.1000	**
Lithium, total	mg/L	MW-1	11/03/2020	ND	0.0200	0.1000	**
Mercury, total	mg/L	MW-1	09/28/2016	ND	0.0002		
Mercury, total	mg/L	MW-1	10/19/2016	ND	0.0002		
Mercury, total	mg/L	MW-1	11/09/2016	ND	0.0002		
Mercury, total	mg/L	MW-1	12/12/2016	ND	0.0002		
Mercury, total	mg/L	MW-1	02/05/2017	ND	0.0002		
Mercury, total	mg/L	MW-1	03/24/2017	ND	0.0002		
Mercury, total	mg/L	MW-1	05/16/2017	ND	0.0002		
Mercury, total	mg/L	MW-1	06/20/2017		0.0007		
Mercury, total	mg/L	MW-1	08/08/2017	ND	0.0002		
Mercury, total	mg/L	MW-1	05/10/2018	ND	0.0002		
Mercury, total	mg/L	MW-1	05/17/2019	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-1	05/06/2020	ND	0.0020	0.0002	**
Molybdenum, total	mg/L	MW-1	09/28/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-1	10/19/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-1	11/09/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-1	12/12/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-1	02/05/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-1	03/24/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-1	05/16/2017	ND	0.1000		

* - 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	
Molybdenum, total	mg/L	MW-1	06/20/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-1	08/08/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-1	05/10/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-1	09/12/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-1	05/17/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-1	11/06/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-1	05/06/2020	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-1	11/03/2020	ND	0.0100	0.1000	**
Radium 226/228 Combined	pCi/L	MW-1	09/28/2016		2.6000		
Radium 226/228 Combined	pCi/L	MW-1	10/19/2016		1.3000		
Radium 226/228 Combined	pCi/L	MW-1	11/09/2016		1.2800		
Radium 226/228 Combined	pCi/L	MW-1	12/12/2016		1.1200		
Radium 226/228 Combined	pCi/L	MW-1	02/05/2017		1.8600		
Radium 226/228 Combined	pCi/L	MW-1	03/24/2017	ND	0.5700	1.0000	**
Radium 226/228 Combined	pCi/L	MW-1	05/16/2017		0.8200		
Radium 226/228 Combined	pCi/L	MW-1	06/20/2017		4.4600		
Radium 226/228 Combined	pCi/L	MW-1	08/08/2017		1.4300		
Radium 226/228 Combined	pCi/L	MW-1	05/10/2018	ND	1.0000		
Radium 226/228 Combined	pCi/L	MW-1	09/12/2018	ND	1.0000		
Radium 226/228 Combined	pCi/L	MW-1	05/17/2019	ND	1.7800	1.0000	**
Radium 226/228 Combined	pCi/L	MW-1	11/06/2019	ND	1.4700	1.0000	**
Radium 226/228 Combined	pCi/L	MW-1	05/06/2020	ND	1.8200	1.0000	**
Radium 226/228 Combined	pCi/L	MW-1	11/03/2020		1.1300		
Selenium, total	mg/L	MW-1	09/28/2016	ND	0.0016	0.0050	**
Selenium, total	mg/L	MW-1	10/19/2016	ND	0.0100	0.0050	**
Selenium, total	mg/L	MW-1	11/09/2016		0.0086		
Selenium, total	mg/L	MW-1	12/12/2016	ND	0.0050		
Selenium, total	mg/L	MW-1	02/05/2017	ND	0.0300	0.0050	**
Selenium, total	mg/L	MW-1	03/24/2017	ND	0.0050		
Selenium, total	mg/L	MW-1	05/16/2017	ND	0.0050		
Selenium, total	mg/L	MW-1	06/20/2017	ND	0.0050		
Selenium, total	mg/L	MW-1	08/08/2017	ND	0.0050		
Selenium, total	mg/L	MW-1	05/10/2018	ND	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-1	09/12/2018	ND	0.0009	0.0050	**
Selenium, total	mg/L	MW-1	05/17/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-1	11/06/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-1	11/03/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-1	09/28/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-1	10/19/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-1	11/09/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-1	12/12/2016	ND	0.0500	0.0050	**
Thallium, total	mg/L	MW-1	02/05/2017	ND	0.0020	0.0050	**
Thallium, total	mg/L	MW-1	03/24/2017	ND	0.0050		
Thallium, total	mg/L	MW-1	05/16/2017	ND	0.0050		
Thallium, total	mg/L	MW-1	06/20/2017	ND	0.0050		
Thallium, total	mg/L	MW-1	08/08/2017	ND	0.0050		
Thallium, total	mg/L	MW-1	05/10/2018	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-1	09/12/2018	ND	0.0006	0.0050	**
Thallium, total	mg/L	MW-1	05/17/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-1	11/06/2019	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-1	11/03/2020	ND	0.0010	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 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	mg/L	MW-10	11/04/2020	ND	0.0010		0.0050
Antimony, total	mg/L	MW-11	11/04/2020	ND	0.0010		0.0050
Antimony, total	mg/L	MW-12	11/04/2020	ND	0.0010		0.0050
Antimony, total	mg/L	MW-13	11/04/2020	ND	0.0010		0.0050
Antimony, total	mg/L	MW-2R	11/03/2020	ND	0.0010		0.0050
Antimony, total	mg/L	MW-3	11/03/2020	ND	0.0010		0.0050
Antimony, total	mg/L	MW-4C	11/03/2020	ND	0.0010		0.0050
Arsenic, total	mg/L	MW-10	11/04/2020		0.1040	***	0.0051
Arsenic, total	mg/L	MW-11	11/04/2020		0.0107	*	0.0051
Arsenic, total	mg/L	MW-12	11/04/2020	ND	0.0010		0.0051
Arsenic, total	mg/L	MW-13	11/04/2020	ND	0.0010		0.0051
Arsenic, total	mg/L	MW-2R	11/03/2020		0.0089	***	0.0051
Arsenic, total	mg/L	MW-3	11/03/2020		0.0205	***	0.0051
Arsenic, total	mg/L	MW-4C	11/03/2020	ND	0.0010		0.0051
Barium, total	mg/L	MW-10	11/04/2020		0.0698	***	0.0661
Barium, total	mg/L	MW-11	11/04/2020		0.0892	*	0.0661
Barium, total	mg/L	MW-12	11/04/2020		0.0313		0.0661
Barium, total	mg/L	MW-13	11/04/2020		0.0250		0.0661
Barium, total	mg/L	MW-2R	11/03/2020		0.0450		0.0661
Barium, total	mg/L	MW-3	11/03/2020		0.0394		0.0661
Barium, total	mg/L	MW-4C	11/03/2020		0.0307		0.0661
Beryllium, total	mg/L	MW-10	11/04/2020		0.0005		0.0010
Beryllium, total	mg/L	MW-11	11/04/2020		0.0009		0.0010
Beryllium, total	mg/L	MW-12	11/04/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	MW-13	11/04/2020	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	11/03/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	MW-4C	11/03/2020	ND	0.0002		0.0010
Cadmium, total	mg/L	MW-10	11/04/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-11	11/04/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-12	11/04/2020	ND	0.0020		0.0020

* - 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
Cadmium, total	mg/L	MW-13	11/04/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-2R	11/03/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-3	11/03/2020	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-4C	11/03/2020	ND	0.0020		0.0020
Chromium, total	mg/L	MW-10	05/05/2020	ND	0.0100		0.0100
Chromium, total	mg/L	MW-11	05/05/2020	ND	0.0100		0.0100
Chromium, total	mg/L	MW-12	05/06/2020	ND	0.0100		0.0100
Chromium, total	mg/L	MW-13	05/05/2020	ND	0.0100		0.0100
Chromium, total	mg/L	MW-2R	05/13/2020	ND	0.0100		0.0100
Chromium, total	mg/L	MW-3	05/13/2020	ND	0.0100		0.0100
Chromium, total	mg/L	MW-4C	05/13/2020	ND	0.0100		0.0100
Cobalt, total	mg/L	MW-10	11/04/2020		0.0035		0.0200
Cobalt, total	mg/L	MW-11	11/04/2020		0.0031		0.0200
Cobalt, total	mg/L	MW-12	11/04/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	MW-13	11/04/2020	ND	0.0010		0.0200
Cobalt, total	mg/L	MW-2R	11/03/2020		0.0031		0.0200
Cobalt, total	mg/L	MW-3	11/03/2020		0.0021		0.0200
Cobalt, total	mg/L	MW-4C	11/03/2020		0.0010		0.0200
Fluoride	mg/L	MW-10	11/04/2020		0.5200		5.0000
Fluoride	mg/L	MW-11	11/04/2020		0.1600		5.0000
Fluoride	mg/L	MW-12	11/04/2020		0.1500		5.0000
Fluoride	mg/L	MW-13	11/04/2020		0.8000		5.0000
Fluoride	mg/L	MW-2R	11/03/2020		0.1200		5.0000
Fluoride	mg/L	MW-3	11/03/2020		0.1700		5.0000
Fluoride	mg/L	MW-4C	11/03/2020		0.1200		5.0000
Lead, total	mg/L	MW-10	11/04/2020	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	11/04/2020		0.0100	*	0.0100
Lead, total	mg/L	MW-12	11/04/2020	ND	0.0100		0.0100
Lead, total	mg/L	MW-13	11/04/2020	ND	0.0100		0.0100
Lead, total	mg/L	MW-2R	11/03/2020	ND	0.0100		0.0100
Lead, total	mg/L	MW-3	11/03/2020	ND	0.0100		0.0100

* - 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	MW-4C	11/03/2020	ND	0.0100		0.0100
Lithium, total	mg/L	MW-10	11/04/2020		0.0400		0.1000
Lithium, total	mg/L	MW-11	11/04/2020	ND	0.0200		0.1000
Lithium, total	mg/L	MW-12	11/04/2020	ND	0.0200		0.1000
Lithium, total	mg/L	MW-13	11/04/2020		0.2380	*	0.1000
Lithium, total	mg/L	MW-2R	11/03/2020		0.5220	***	0.1000
Lithium, total	mg/L	MW-3	11/03/2020		1.7600	***	0.1000
Lithium, total	mg/L	MW-4C	11/03/2020		0.2870	***	0.1000
Mercury, total	mg/L	MW-10	05/05/2020	ND	0.0020		0.0007
Mercury, total	mg/L	MW-11	05/05/2020	ND	0.0020		0.0007
Mercury, total	mg/L	MW-12	05/06/2020	ND	0.0020		0.0007
Mercury, total	mg/L	MW-13	05/05/2020	ND	0.0020		0.0007
Mercury, total	mg/L	MW-2R	05/13/2020	ND	0.0020		0.0007
Mercury, total	mg/L	MW-3	05/13/2020	ND	0.0020		0.0007
Mercury, total	mg/L	MW-4C	05/13/2020	ND	0.0020		0.0007
Molybdenum, total	mg/L	MW-10	11/04/2020		0.0149		0.1000
Molybdenum, total	mg/L	MW-11	11/04/2020	ND	0.0100		0.1000
Molybdenum, total	mg/L	MW-12	11/04/2020	ND	0.0100		0.1000
Molybdenum, total	mg/L	MW-13	11/04/2020		0.0762		0.1000
Molybdenum, total	mg/L	MW-2R	11/03/2020		0.0128		0.1000
Molybdenum, total	mg/L	MW-3	11/03/2020		0.5490	***	0.1000
Molybdenum, total	mg/L	MW-4C	11/03/2020	ND	0.0100		0.1000
Radium 226/228 Combined	pCi/L	MW-10	11/04/2020		1.1600		4.4600
Radium 226/228 Combined	pCi/L	MW-11	11/04/2020		1.3400		4.4600
Radium 226/228 Combined	pCi/L	MW-12	11/04/2020		0.8350		4.4600
Radium 226/228 Combined	pCi/L	MW-13	11/04/2020	ND	1.1300		4.4600
Radium 226/228 Combined	pCi/L	MW-2R	11/03/2020	ND	1.6200		4.4600
Radium 226/228 Combined	pCi/L	MW-3	11/03/2020		0.7770		4.4600
Radium 226/228 Combined	pCi/L	MW-4C	11/03/2020		1.2200		4.4600
Selenium, total	mg/L	MW-10	11/04/2020	ND	0.0010		0.0086
Selenium, total	mg/L	MW-11	11/04/2020		0.0025		0.0086

* - 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
Selenium, total	mg/L	MW-12	11/04/2020	ND	0.0010	0.0086
Selenium, total	mg/L	MW-13	11/04/2020		0.0047	0.0086
Selenium, total	mg/L	MW-2R	11/03/2020	ND	0.0010	0.0086
Selenium, total	mg/L	MW-3	11/03/2020	ND	0.0010	0.0086
Selenium, total	mg/L	MW-4C	11/03/2020	ND	0.0010	0.0086
Thallium, total	mg/L	MW-10	11/04/2020	ND	0.0010	0.0050
Thallium, total	mg/L	MW-11	11/04/2020	ND	0.0010	0.0050
Thallium, total	mg/L	MW-12	11/04/2020	ND	0.0010	0.0050
Thallium, total	mg/L	MW-13	11/04/2020	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	11/03/2020	ND	0.0010	0.0050
Thallium, total	mg/L	MW-4C	11/03/2020	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 3**Detection Frequencies in Upgradient and Downgradient Wells**

Constituent	Upgradient			Downgradient		
	Detect	N	Proportion	Detect	N	Proportion
Antimony, total	0	15	0.000	3	108	0.028
Arsenic, total	2	15	0.133	33	108	0.306
Barium, total	15	15	1.000	107	108	0.991
Beryllium, total	0	15	0.000	4	108	0.037
Cadmium, total	0	15	0.000	0	108	0.000
Chromium, total	0	12	0.000	0	87	0.000
Cobalt, total	0	15	0.000	17	108	0.157
Fluoride	3	15	0.200	30	108	0.278
Lead, total	0	14	0.000	3	101	0.030
Lithium, total	2	15	0.133	64	108	0.593
Mercury, total	1	12	0.083	4	87	0.046
Molybdenum, total	0	15	0.000	25	108	0.231
Radium 226/228 Combined	9	15	0.600	70	103	0.680
Selenium, total	1	15	0.067	27	108	0.250
Thallium, total	0	15	0.000	3	108	0.028

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	0	15	0.000	4.373	4.373					2.326	non-norm	nonpar
Arsenic, total	2	15	0.133	8.876	9.107					2.326	non-norm	nonpar
Barium, total	15	15	1.000	0.344	1.662					2.326	normal	normal
Beryllium, total	0	15	0.000	4.373	4.373					2.326	non-norm	nonpar
Cadmium, total	0	15	0.000	4.373	4.373					2.326	non-norm	nonpar
Chromium, total	0	12	0.000	3.731	3.731					2.326	non-norm	nonpar
Cobalt, total	0	15	0.000	4.373	4.373					2.326	non-norm	nonpar
Fluoride	3	15	0.200	5.795	5.745					2.326	non-norm	nonpar
Lead, total	0	14	0.000	4.155	4.155					2.326	non-norm	nonpar
Lithium, total	2	15	0.133	6.935	6.853					2.326	non-norm	nonpar
Mercury, total	1	12	0.083	21.797	21.797					2.326	non-norm	nonpar
Molybdenum, total	0	15	0.000	4.373	4.373					2.326	non-norm	nonpar
Radium 226/228 Combined	9	15	0.600	4.605	3.072					2.326	non-norm	nonpar
Selenium, total	1	15	0.067	4.373	4.373					2.326	non-norm	nonpar
Thallium, total	0	15	0.000	4.373	4.373					2.326	non-norm	nonpar

* - 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	0	15					0.0050	nonpar	***	0.95
Arsenic, total	mg/L	2	15					0.0051	nonpar		0.95
Barium, total	mg/L	15	15	0.0471	0.0070	0.0100	2.7079	0.0661	normal		
Beryllium, total	mg/L	0	15					0.0010	nonpar	***	0.95
Cadmium, total	mg/L	0	15					0.0020	nonpar	***	0.95
Chromium, total	mg/L	0	12					0.0100	nonpar	***	0.93
Cobalt, total	mg/L	0	15					0.0200	nonpar	***	0.95
Fluoride	mg/L	3	15					5.0000	nonpar	***	0.95
Lead, total	mg/L	0	14					0.0100	nonpar	***	0.95
Lithium, total	mg/L	2	15					0.1000	nonpar	***	0.95
Mercury, total	mg/L	1	12					0.0007	nonpar		0.93
Molybdenum, total	mg/L	0	15					0.1000	nonpar	***	0.95
Radium 226/228 Combined	pCi/L	9	15					4.4600	nonpar		0.95
Selenium, total	mg/L	1	15					0.0086	nonpar		0.95
Thallium, total	mg/L	0	15					0.0050	nonpar	***	0.95

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
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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
Arsenic, total	mg/L	MW-10	03/16/2017		0.0480	*	0.0051
Arsenic, total	mg/L	MW-10	03/17/2017		0.0440	*	0.0051
Arsenic, total	mg/L	MW-10	03/24/2017		0.0760	*	0.0051
Arsenic, total	mg/L	MW-10	04/20/2017		0.0600	*	0.0051
Arsenic, total	mg/L	MW-10	04/24/2017		0.0570	*	0.0051
Arsenic, total	mg/L	MW-10	05/25/2017		0.0550	*	0.0051
Arsenic, total	mg/L	MW-10	06/20/2017		0.0490	*	0.0051
Arsenic, total	mg/L	MW-10	07/19/2017		0.0570	*	0.0051
Arsenic, total	mg/L	MW-10	08/08/2017		0.0580	*	0.0051
Arsenic, total	mg/L	MW-10	05/09/2018		0.0470	*	0.0051
Arsenic, total	mg/L	MW-10	09/12/2018		0.0630	*	0.0051
Arsenic, total	mg/L	MW-10	05/17/2019		0.0303	*	0.0051
Arsenic, total	mg/L	MW-10	11/06/2019		0.1270	*	0.0051
Arsenic, total	mg/L	MW-10	05/05/2020		0.0954	*	0.0051
Arsenic, total	mg/L	MW-10	11/04/2020		0.1040	*	0.0051
Arsenic, total	mg/L	MW-11	03/16/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	03/17/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	03/24/2017	ND	0.0400		0.0051
Arsenic, total	mg/L	MW-11	04/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	04/24/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	05/25/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	06/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	07/19/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	08/08/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	05/09/2018	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-11	09/12/2018	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-11	05/17/2019	ND	0.0010		0.0051
Arsenic, total	mg/L	MW-11	11/06/2019		0.0082	*	0.0051
Arsenic, total	mg/L	MW-11	05/05/2020	ND	0.0010		0.0051
Arsenic, total	mg/L	MW-11	11/04/2020		0.0107	*	0.0051

* - 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
Arsenic, total	mg/L	MW-2R	09/28/2016		0.0043		0.0051
Arsenic, total	mg/L	MW-2R	10/19/2016	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	11/09/2016		0.0064	*	0.0051
Arsenic, total	mg/L	MW-2R	12/12/2016	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-2R	03/16/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	03/17/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	03/24/2017	ND	0.0400		0.0051
Arsenic, total	mg/L	MW-2R	04/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	04/24/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	05/16/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	06/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	08/08/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	05/09/2018		0.0310	*	0.0051
Arsenic, total	mg/L	MW-2R	09/12/2018		0.0110	*	0.0051
Arsenic, total	mg/L	MW-2R	05/16/2019		0.0083	*	0.0051
Arsenic, total	mg/L	MW-2R	11/06/2019		0.0105	*	0.0051
Arsenic, total	mg/L	MW-2R	05/13/2020		0.0147	*	0.0051
Arsenic, total	mg/L	MW-2R	11/03/2020		0.0089	*	0.0051
Arsenic, total	mg/L	MW-3	09/28/2016		0.0040		0.0051
Arsenic, total	mg/L	MW-3	10/19/2016	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	11/09/2016		0.0074	*	0.0051
Arsenic, total	mg/L	MW-3	12/12/2016	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-3	02/05/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	03/24/2017	ND	0.0400		0.0051
Arsenic, total	mg/L	MW-3	05/25/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	06/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	08/08/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	05/09/2018	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-3	09/12/2018	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-3	05/16/2019		0.0129	*	0.0051

* - 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
Arsenic, total	mg/L	MW-3	11/06/2019		0.0103	*	0.0051
Arsenic, total	mg/L	MW-3	05/13/2020		0.0162	*	0.0051
Arsenic, total	mg/L	MW-3	11/03/2020		0.0205	*	0.0051
Barium, total	mg/L	MW-10	03/16/2017		0.1400	*	0.0661
Barium, total	mg/L	MW-10	03/17/2017		0.1600	*	0.0661
Barium, total	mg/L	MW-10	03/24/2017		0.1300	*	0.0661
Barium, total	mg/L	MW-10	04/20/2017		0.1100	*	0.0661
Barium, total	mg/L	MW-10	04/24/2017		0.1400	*	0.0661
Barium, total	mg/L	MW-10	05/25/2017		0.1300	*	0.0661
Barium, total	mg/L	MW-10	06/20/2017		0.1300	*	0.0661
Barium, total	mg/L	MW-10	07/19/2017		0.0990	*	0.0661
Barium, total	mg/L	MW-10	08/08/2017		0.1100	*	0.0661
Barium, total	mg/L	MW-10	05/09/2018		0.0680	*	0.0661
Barium, total	mg/L	MW-10	09/12/2018		0.0640		0.0661
Barium, total	mg/L	MW-10	05/17/2019		0.0412		0.0661
Barium, total	mg/L	MW-10	11/06/2019		0.1500	*	0.0661
Barium, total	mg/L	MW-10	05/05/2020		0.0685	*	0.0661
Barium, total	mg/L	MW-10	11/04/2020		0.0698	*	0.0661
Barium, total	mg/L	MW-11	03/16/2017		0.0340		0.0661
Barium, total	mg/L	MW-11	03/17/2017		0.0340		0.0661
Barium, total	mg/L	MW-11	03/24/2017		0.0300		0.0661
Barium, total	mg/L	MW-11	04/20/2017		0.0340		0.0661
Barium, total	mg/L	MW-11	04/24/2017		0.0290		0.0661
Barium, total	mg/L	MW-11	05/25/2017		0.0320		0.0661
Barium, total	mg/L	MW-11	06/20/2017		0.0270		0.0661
Barium, total	mg/L	MW-11	07/19/2017		0.0250		0.0661
Barium, total	mg/L	MW-11	08/08/2017		0.0280		0.0661
Barium, total	mg/L	MW-11	05/09/2018		0.0270		0.0661
Barium, total	mg/L	MW-11	09/12/2018		0.0300		0.0661
Barium, total	mg/L	MW-11	05/17/2019		0.0302		0.0661

* - 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
Barium, total	mg/L	MW-11	11/06/2019		0.0585		0.0661
Barium, total	mg/L	MW-11	05/05/2020		0.0307		0.0661
Barium, total	mg/L	MW-11	11/04/2020		0.0892	*	0.0661
Lead, total	mg/L	MW-11	03/16/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	03/17/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	03/24/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	04/20/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	04/24/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	05/25/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	06/20/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	07/19/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	08/08/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	05/09/2018	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	05/17/2019	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	11/06/2019	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	05/05/2020	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	11/04/2020		0.0100	**	0.0100
Lithium, total	mg/L	MW-13	03/16/2017		0.7500	*	0.1000
Lithium, total	mg/L	MW-13	03/17/2017		0.7400	*	0.1000
Lithium, total	mg/L	MW-13	03/24/2017		0.6500	*	0.1000
Lithium, total	mg/L	MW-13	04/20/2017		1.1000	*	0.1000
Lithium, total	mg/L	MW-13	04/24/2017		1.1000	*	0.1000
Lithium, total	mg/L	MW-13	05/25/2017		0.8400	*	0.1000
Lithium, total	mg/L	MW-13	06/20/2017		1.4000	*	0.1000
Lithium, total	mg/L	MW-13	07/19/2017		0.5400	*	0.1000
Lithium, total	mg/L	MW-13	08/08/2017		0.2200	*	0.1000
Lithium, total	mg/L	MW-13	05/09/2018	ND	0.1000		0.1000
Lithium, total	mg/L	MW-13	09/12/2018	ND	0.1000		0.1000
Lithium, total	mg/L	MW-13	05/17/2019	ND	0.0200		0.1000
Lithium, total	mg/L	MW-13	11/06/2019		0.0286		0.1000

* - 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
Lithium, total	mg/L	MW-13	05/05/2020		0.0396		0.1000
Lithium, total	mg/L	MW-13	11/04/2020		0.2380	*	0.1000
Lithium, total	mg/L	MW-2R	09/28/2016		1.1000	*	0.1000
Lithium, total	mg/L	MW-2R	10/19/2016		0.8200	*	0.1000
Lithium, total	mg/L	MW-2R	11/09/2016		0.7800	*	0.1000
Lithium, total	mg/L	MW-2R	12/12/2016		0.5100	*	0.1000
Lithium, total	mg/L	MW-2R	03/16/2017		0.2800	*	0.1000
Lithium, total	mg/L	MW-2R	03/17/2017		0.4100	*	0.1000
Lithium, total	mg/L	MW-2R	03/24/2017		0.5300	*	0.1000
Lithium, total	mg/L	MW-2R	04/20/2017		0.7800	*	0.1000
Lithium, total	mg/L	MW-2R	04/24/2017		0.8400	*	0.1000
Lithium, total	mg/L	MW-2R	05/16/2017		1.1000	*	0.1000
Lithium, total	mg/L	MW-2R	06/20/2017		1.1000	*	0.1000
Lithium, total	mg/L	MW-2R	08/08/2017		1.0000	*	0.1000
Lithium, total	mg/L	MW-2R	05/09/2018		0.9600	*	0.1000
Lithium, total	mg/L	MW-2R	09/12/2018		0.8000	*	0.1000
Lithium, total	mg/L	MW-2R	05/16/2019		0.6160	*	0.1000
Lithium, total	mg/L	MW-2R	11/06/2019		0.4950	*	0.1000
Lithium, total	mg/L	MW-2R	05/13/2020		0.6380	*	0.1000
Lithium, total	mg/L	MW-2R	11/03/2020		0.5220	*	0.1000
Lithium, total	mg/L	MW-3	09/28/2016		2.0000	*	0.1000
Lithium, total	mg/L	MW-3	10/19/2016		1.9000	*	0.1000
Lithium, total	mg/L	MW-3	11/09/2016		2.2000	*	0.1000
Lithium, total	mg/L	MW-3	12/12/2016		2.2000	*	0.1000
Lithium, total	mg/L	MW-3	02/05/2017		2.1000	*	0.1000
Lithium, total	mg/L	MW-3	03/24/2017		2.1000	*	0.1000
Lithium, total	mg/L	MW-3	05/25/2017		2.0000	*	0.1000
Lithium, total	mg/L	MW-3	06/20/2017		2.0000	*	0.1000
Lithium, total	mg/L	MW-3	08/08/2017		1.6000	*	0.1000
Lithium, total	mg/L	MW-3	05/09/2018		2.6000	*	0.1000

* - 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
Lithium, total	mg/L	MW-3	09/12/2018		2.6000	*	0.1000
Lithium, total	mg/L	MW-3	05/16/2019		1.2600	*	0.1000
Lithium, total	mg/L	MW-3	11/06/2019		1.9300	*	0.1000
Lithium, total	mg/L	MW-3	05/13/2020		1.5200	*	0.1000
Lithium, total	mg/L	MW-3	11/03/2020		1.7600	*	0.1000
Lithium, total	mg/L	MW-4C	09/28/2016		0.3100	*	0.1000
Lithium, total	mg/L	MW-4C	10/19/2016		0.2800	*	0.1000
Lithium, total	mg/L	MW-4C	11/09/2016		0.3300	*	0.1000
Lithium, total	mg/L	MW-4C	12/12/2016		0.2600	*	0.1000
Lithium, total	mg/L	MW-4C	02/05/2017		0.3100	*	0.1000
Lithium, total	mg/L	MW-4C	03/25/2017		0.2900	*	0.1000
Lithium, total	mg/L	MW-4C	05/25/2017		0.3300	*	0.1000
Lithium, total	mg/L	MW-4C	06/20/2017		0.2500	*	0.1000
Lithium, total	mg/L	MW-4C	08/08/2017		0.2300	*	0.1000
Lithium, total	mg/L	MW-4C	05/09/2018		0.2500	*	0.1000
Lithium, total	mg/L	MW-4C	09/12/2018		0.2800	*	0.1000
Lithium, total	mg/L	MW-4C	05/16/2019		0.3160	*	0.1000
Lithium, total	mg/L	MW-4C	11/06/2019		0.2840	*	0.1000
Lithium, total	mg/L	MW-4C	05/13/2020		0.2420	*	0.1000
Lithium, total	mg/L	MW-4C	11/03/2020		0.2870	*	0.1000
Molybdenum, total	mg/L	MW-3	09/28/2016		0.3500	*	0.1000
Molybdenum, total	mg/L	MW-3	10/19/2016		0.3300	*	0.1000
Molybdenum, total	mg/L	MW-3	11/09/2016		0.2800	*	0.1000
Molybdenum, total	mg/L	MW-3	12/12/2016		0.3900	*	0.1000
Molybdenum, total	mg/L	MW-3	02/05/2017		0.6600	*	0.1000
Molybdenum, total	mg/L	MW-3	03/24/2017		0.6600	*	0.1000
Molybdenum, total	mg/L	MW-3	05/25/2017		0.5700	*	0.1000
Molybdenum, total	mg/L	MW-3	06/20/2017		0.5100	*	0.1000
Molybdenum, total	mg/L	MW-3	08/08/2017		0.3300	*	0.1000
Molybdenum, total	mg/L	MW-3	05/09/2018		0.3900	*	0.1000

* - 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	MW-3	09/12/2018		0.5200	*	0.1000
Molybdenum, total	mg/L	MW-3	05/16/2019		0.3380	*	0.1000
Molybdenum, total	mg/L	MW-3	11/06/2019		0.5080	*	0.1000
Molybdenum, total	mg/L	MW-3	05/13/2020		0.5290	*	0.1000
Molybdenum, total	mg/L	MW-3	11/03/2020		0.5490	*	0.1000

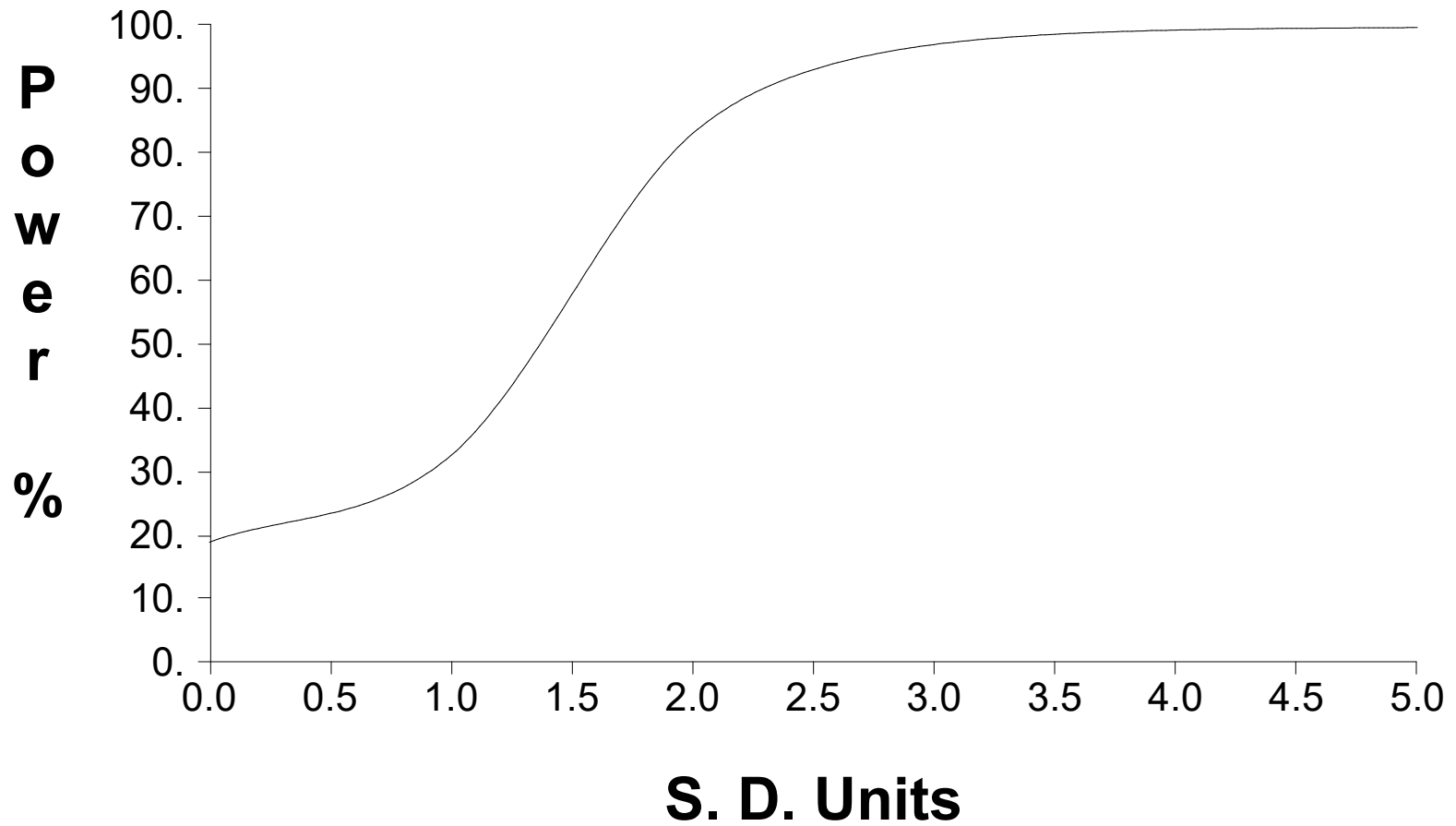
* - Significantly increased over background.

** - 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-1	09/28/2016	ND	0.0001	0.0050	**
Antimony, total	mg/L	MW-1	10/19/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-1	11/09/2016	ND	0.0500	0.0050	**
Antimony, total	mg/L	MW-1	12/12/2016	ND	0.0050		
Antimony, total	mg/L	MW-1	02/05/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	03/24/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	05/16/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	06/20/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	08/08/2017	ND	0.0060	0.0050	**
Antimony, total	mg/L	MW-1	05/10/2018	ND	0.0050		
Antimony, total	mg/L	MW-1	09/12/2018	ND	0.0014	0.0050	**
Antimony, total	mg/L	MW-1	05/17/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-1	11/06/2019	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-1	11/03/2020	ND	0.0010	0.0050	**
Antimony, total	mg/L	MW-1	05/05/2021	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-1	09/28/2016		0.0039		
Arsenic, total	mg/L	MW-1	10/19/2016	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	11/09/2016		0.0051		
Arsenic, total	mg/L	MW-1	12/12/2016	ND	0.0050		
Arsenic, total	mg/L	MW-1	02/05/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	03/24/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	05/16/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	06/20/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	08/08/2017	ND	0.0100	0.0050	**
Arsenic, total	mg/L	MW-1	05/10/2018	ND	0.0050		
Arsenic, total	mg/L	MW-1	09/12/2018	ND	0.0012	0.0050	**
Arsenic, total	mg/L	MW-1	05/17/2019	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-1	11/06/2019	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-1	11/03/2020	ND	0.0010	0.0050	**
Arsenic, total	mg/L	MW-1	05/05/2021	ND	0.0010	0.0050	**
Barium, total	mg/L	MW-1	09/28/2016		0.0430		
Barium, total	mg/L	MW-1	10/19/2016		0.0510		
Barium, total	mg/L	MW-1	11/09/2016		0.0590		
Barium, total	mg/L	MW-1	12/12/2016		0.0560		
Barium, total	mg/L	MW-1	02/05/2017		0.0520		
Barium, total	mg/L	MW-1	03/24/2017		0.0500		
Barium, total	mg/L	MW-1	05/16/2017		0.0480		
Barium, total	mg/L	MW-1	06/20/2017		0.0490		
Barium, total	mg/L	MW-1	08/08/2017		0.0470		
Barium, total	mg/L	MW-1	05/10/2018		0.0470		
Barium, total	mg/L	MW-1	09/12/2018		0.0490		
Barium, total	mg/L	MW-1	05/17/2019		0.0294		
Barium, total	mg/L	MW-1	11/06/2019		0.0419		
Barium, total	mg/L	MW-1	05/06/2020		0.0426		
Barium, total	mg/L	MW-1	11/03/2020		0.0413		
Barium, total	mg/L	MW-1	05/05/2021		0.0522		
Beryllium, total	mg/L	MW-1	09/28/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-1	10/19/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-1	11/09/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-1	12/12/2016	ND	0.0100	0.0010	**
Beryllium, total	mg/L	MW-1	02/05/2017	ND	0.0040	0.0010	**
Beryllium, total	mg/L	MW-1	03/24/2017	ND	0.0010		
Beryllium, total	mg/L	MW-1	05/16/2017	ND	0.0010		
Beryllium, total	mg/L	MW-1	06/20/2017	ND	0.0010		
Beryllium, total	mg/L	MW-1	08/08/2017	ND	0.0010		
Beryllium, total	mg/L	MW-1	05/10/2018	ND	0.0050	0.0010	**
Beryllium, total	mg/L	MW-1	09/12/2018	ND	0.0007	0.0010	**
Beryllium, total	mg/L	MW-1	05/17/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-1	11/06/2019	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-1	05/06/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-1	11/03/2020	ND	0.0002	0.0010	**
Beryllium, total	mg/L	MW-1	05/05/2021	ND	0.0002	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	
Cadmium, total	mg/L	MW-1	09/28/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-1	10/19/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-1	11/09/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-1	12/12/2016	ND	0.0100	0.0020	**
Cadmium, total	mg/L	MW-1	02/05/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-1	03/24/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-1	05/16/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-1	06/20/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-1	08/08/2017	ND	0.0010	0.0020	**
Cadmium, total	mg/L	MW-1	05/10/2018	ND	0.0050	0.0020	**
Cadmium, total	mg/L	MW-1	09/12/2018	ND	0.0006	0.0020	**
Cadmium, total	mg/L	MW-1	05/17/2019	ND	0.0020		
Cadmium, total	mg/L	MW-1	11/06/2019	ND	0.0020		
Cadmium, total	mg/L	MW-1	05/06/2020	ND	0.0020		
Cadmium, total	mg/L	MW-1	11/03/2020	ND	0.0020		
Cadmium, total	mg/L	MW-1	05/05/2021	ND	0.0020		
Chromium, total	mg/L	MW-1	09/28/2016	ND	0.0100		
Chromium, total	mg/L	MW-1	10/19/2016	ND	0.0100		
Chromium, total	mg/L	MW-1	11/09/2016	ND	0.0100		
Chromium, total	mg/L	MW-1	12/12/2016	ND	0.0100		
Chromium, total	mg/L	MW-1	02/05/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	03/24/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	05/16/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	06/20/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	08/08/2017	ND	0.0100		
Chromium, total	mg/L	MW-1	05/10/2018	ND	0.0100		
Chromium, total	mg/L	MW-1	05/17/2019	ND	0.0100		
Chromium, total	mg/L	MW-1	05/06/2020	ND	0.0100		
Chromium, total	mg/L	MW-1	05/05/2021	ND	0.0100		
Cobalt, total	mg/L	MW-1	09/28/2016	ND	0.0200		
Cobalt, total	mg/L	MW-1	10/19/2016	ND	0.0200		
Cobalt, total	mg/L	MW-1	11/09/2016	ND	0.0200		
Cobalt, total	mg/L	MW-1	12/12/2016	ND	0.0200		
Cobalt, total	mg/L	MW-1	02/05/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	03/24/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	05/16/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	06/20/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	08/08/2017	ND	0.0200		
Cobalt, total	mg/L	MW-1	05/10/2018	ND	0.0200		
Cobalt, total	mg/L	MW-1	09/12/2018	ND	0.0036	0.0200	**
Cobalt, total	mg/L	MW-1	05/17/2019	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-1	11/06/2019	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-1	11/03/2020	ND	0.0010	0.0200	**
Cobalt, total	mg/L	MW-1	05/05/2021	ND	0.0010	0.0200	**
Fluoride	mg/L	MW-1	09/28/2016	ND	5.0000	5.0000	**
Fluoride	mg/L	MW-1	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-1	11/09/2016	ND	5.0000	5.0000	**
Fluoride	mg/L	MW-1	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-1	02/05/2017	ND	5.0000		
Fluoride	mg/L	MW-1	03/24/2017	ND	5.0000		
Fluoride	mg/L	MW-1	05/16/2017	ND	5.0000		
Fluoride	mg/L	MW-1	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-1	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-1	05/10/2018	ND	5.0000		
Fluoride	mg/L	MW-1	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-1	05/17/2019	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-1	11/06/2019		0.1200		
Fluoride	mg/L	MW-1	05/06/2020		0.1300		
Fluoride	mg/L	MW-1	11/03/2020		0.1400		
Fluoride	mg/L	MW-1	05/05/2021		0.1000		
Lead, total	mg/L	MW-1	09/28/2016	ND	0.0100		
Lead, total	mg/L	MW-1	10/19/2016	ND	0.0100		
Lead, total	mg/L	MW-1	11/09/2016	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-1	12/12/2016	ND	0.0100		
Lead, total	mg/L	MW-1	02/05/2017	ND	0.0100		
Lead, total	mg/L	MW-1	03/24/2017	ND	0.0100		
Lead, total	mg/L	MW-1	05/16/2017	ND	0.0100		
Lead, total	mg/L	MW-1	06/20/2017	ND	0.0100		
Lead, total	mg/L	MW-1	08/08/2017	ND	0.0100		
Lead, total	mg/L	MW-1	05/10/2018	ND	0.0100		
Lead, total	mg/L	MW-1	05/17/2019	ND	0.0100		
Lead, total	mg/L	MW-1	11/06/2019	ND	0.0100		
Lead, total	mg/L	MW-1	05/06/2020	ND	0.0100		
Lead, total	mg/L	MW-1	11/03/2020	ND	0.0100		
Lead, total	mg/L	MW-1	05/05/2021	ND	0.0100		
Lithium, total	mg/L	MW-1	09/28/2016	ND	0.0028	0.0200	**
Lithium, total	mg/L	MW-1	10/19/2016	ND	0.1000	0.0200	**
Lithium, total	mg/L	MW-1	11/09/2016		0.0041		
Lithium, total	mg/L	MW-1	12/12/2016	ND	0.1000	0.0200	**
Lithium, total	mg/L	MW-1	02/05/2017		0.0052		
Lithium, total	mg/L	MW-1	03/24/2017	ND	0.1000	0.0200	**
Lithium, total	mg/L	MW-1	05/16/2017	ND	0.1000	0.0200	**
Lithium, total	mg/L	MW-1	06/20/2017	ND	0.1000	0.0200	**
Lithium, total	mg/L	MW-1	08/08/2017	ND	0.1000	0.0200	**
Lithium, total	mg/L	MW-1	05/10/2018	ND	0.0062	0.0200	**
Lithium, total	mg/L	MW-1	09/12/2018	ND	0.1000	0.0200	**
Lithium, total	mg/L	MW-1	05/17/2019	ND	0.0200		
Lithium, total	mg/L	MW-1	11/06/2019	ND	0.0200		
Lithium, total	mg/L	MW-1	05/06/2020	ND	0.0200		
Lithium, total	mg/L	MW-1	11/03/2020	ND	0.0200		
Lithium, total	mg/L	MW-1	05/05/2021	ND	0.0200		
Mercury, total	mg/L	MW-1	09/28/2016	ND	0.0002		
Mercury, total	mg/L	MW-1	10/19/2016	ND	0.0002		
Mercury, total	mg/L	MW-1	11/09/2016	ND	0.0002		
Mercury, total	mg/L	MW-1	12/12/2016	ND	0.0002		
Mercury, total	mg/L	MW-1	02/05/2017	ND	0.0002		
Mercury, total	mg/L	MW-1	03/24/2017	ND	0.0002		
Mercury, total	mg/L	MW-1	05/16/2017	ND	0.0002		
Mercury, total	mg/L	MW-1	06/20/2017		0.0007		
Mercury, total	mg/L	MW-1	08/08/2017	ND	0.0002		
Mercury, total	mg/L	MW-1	05/10/2018	ND	0.0002		
Mercury, total	mg/L	MW-1	05/17/2019	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-1	05/06/2020	ND	0.0020	0.0002	**
Mercury, total	mg/L	MW-1	05/05/2021	ND	0.0020	0.0002	**
Molybdenum, total	mg/L	MW-1	09/28/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-1	10/19/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-1	11/09/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-1	12/12/2016	ND	0.1000		
Molybdenum, total	mg/L	MW-1	02/05/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-1	03/24/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-1	05/16/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-1	06/20/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-1	08/08/2017	ND	0.1000		
Molybdenum, total	mg/L	MW-1	05/10/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-1	09/12/2018	ND	0.1000		
Molybdenum, total	mg/L	MW-1	05/17/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-1	11/06/2019	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-1	05/06/2020	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-1	11/03/2020	ND	0.0100	0.1000	**
Molybdenum, total	mg/L	MW-1	05/05/2021	ND	0.0100	0.1000	**
Radium 226/228 Combined	pCi/L	MW-1	09/28/2016		2.6000		
Radium 226/228 Combined	pCi/L	MW-1	10/19/2016		1.3000		
Radium 226/228 Combined	pCi/L	MW-1	11/09/2016		1.2800		
Radium 226/228 Combined	pCi/L	MW-1	12/12/2016		1.1200		
Radium 226/228 Combined	pCi/L	MW-1	02/05/2017		1.8600		
Radium 226/228 Combined	pCi/L	MW-1	03/24/2017	ND	0.5700	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	05/16/2017		0.8200		

* - 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	
Radium 226/228 Combined	pCi/L	MW-1	06/20/2017		4.4600		
Radium 226/228 Combined	pCi/L	MW-1	08/08/2017		1.4300		
Radium 226/228 Combined	pCi/L	MW-1	05/10/2018	ND	1.0000	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	09/12/2018	ND	1.0000	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	05/17/2019	ND	1.7800	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	11/06/2019	ND	1.4700		
Radium 226/228 Combined	pCi/L	MW-1	05/06/2020	ND	1.8200	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	11/03/2020		1.1300		
Radium 226/228 Combined	pCi/L	MW-1	05/05/2021	ND	1.6400	1.4700	**
Selenium, total	mg/L	MW-1	09/28/2016	ND	0.0016	0.0050	**
Selenium, total	mg/L	MW-1	10/19/2016	ND	0.0100	0.0050	**
Selenium, total	mg/L	MW-1	11/09/2016		0.0086		
Selenium, total	mg/L	MW-1	12/12/2016	ND	0.0050		
Selenium, total	mg/L	MW-1	02/05/2017	ND	0.0300	0.0050	**
Selenium, total	mg/L	MW-1	03/24/2017	ND	0.0050		
Selenium, total	mg/L	MW-1	05/16/2017	ND	0.0050		
Selenium, total	mg/L	MW-1	06/20/2017	ND	0.0050		
Selenium, total	mg/L	MW-1	08/08/2017	ND	0.0050		
Selenium, total	mg/L	MW-1	05/10/2018	ND	0.0050		
Selenium, total	mg/L	MW-1	09/12/2018	ND	0.0009	0.0050	**
Selenium, total	mg/L	MW-1	05/17/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-1	11/06/2019	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-1	11/03/2020	ND	0.0010	0.0050	**
Selenium, total	mg/L	MW-1	05/05/2021	ND	0.0010	0.0050	**
Thallium, total	mg/L	MW-1	09/28/2016	ND	0.0500	0.0020	**
Thallium, total	mg/L	MW-1	10/19/2016	ND	0.0500	0.0020	**
Thallium, total	mg/L	MW-1	11/09/2016	ND	0.0500	0.0020	**
Thallium, total	mg/L	MW-1	12/12/2016	ND	0.0500	0.0020	**
Thallium, total	mg/L	MW-1	02/05/2017	ND	0.0020		
Thallium, total	mg/L	MW-1	03/24/2017	ND	0.0050	0.0020	**
Thallium, total	mg/L	MW-1	05/16/2017	ND	0.0050	0.0020	**
Thallium, total	mg/L	MW-1	06/20/2017	ND	0.0050	0.0020	**
Thallium, total	mg/L	MW-1	08/08/2017	ND	0.0050	0.0020	**
Thallium, total	mg/L	MW-1	05/10/2018	ND	0.0010	0.0020	**
Thallium, total	mg/L	MW-1	09/12/2018	ND	0.0006	0.0020	**
Thallium, total	mg/L	MW-1	05/17/2019	ND	0.0010	0.0020	**
Thallium, total	mg/L	MW-1	11/06/2019	ND	0.0010	0.0020	**
Thallium, total	mg/L	MW-1	05/06/2020	ND	0.0010	0.0020	**
Thallium, total	mg/L	MW-1	11/03/2020	ND	0.0010	0.0020	**
Thallium, total	mg/L	MW-1	05/05/2021	ND	0.0010	0.0020	**

* - 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	MW-10	05/05/2021	ND	0.0010		0.0050
Antimony, total	mg/L	MW-11	05/06/2021	ND	0.0010		0.0050
Antimony, total	mg/L	MW-12	05/06/2021	ND	0.0010		0.0050
Antimony, total	mg/L	MW-13	05/06/2021	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	05/05/2021	ND	0.0010		0.0050
Antimony, total	mg/L	MW-4C	05/05/2021	ND	0.0010		0.0050
Arsenic, total	mg/L	MW-10	05/05/2021		0.0964	***	0.0051
Arsenic, total	mg/L	MW-11	05/06/2021	ND	0.0010	**	0.0051
Arsenic, total	mg/L	MW-12	05/06/2021		0.0030		0.0051
Arsenic, total	mg/L	MW-13	05/06/2021	ND	0.0010		0.0051
Arsenic, total	mg/L	MW-2R	05/05/2021		0.0062	***	0.0051
Arsenic, total	mg/L	MW-3	05/05/2021		0.0170	***	0.0051
Arsenic, total	mg/L	MW-4C	05/05/2021	ND	0.0010		0.0051
Barium, total	mg/L	MW-10	05/05/2021		0.1200	***	0.0659
Barium, total	mg/L	MW-11	05/06/2021		0.0428	**	0.0659
Barium, total	mg/L	MW-12	05/06/2021		0.0422		0.0659
Barium, total	mg/L	MW-13	05/06/2021		0.0174		0.0659
Barium, total	mg/L	MW-2R	05/05/2021		0.0446		0.0659
Barium, total	mg/L	MW-3	05/05/2021		0.0373		0.0659
Barium, total	mg/L	MW-4C	05/05/2021		0.0286		0.0659
Beryllium, total	mg/L	MW-10	05/05/2021		0.0013	*	0.0010
Beryllium, total	mg/L	MW-11	05/06/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	MW-12	05/06/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	MW-13	05/06/2021	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	05/05/2021	ND	0.0002		0.0010
Beryllium, total	mg/L	MW-4C	05/05/2021	ND	0.0002		0.0010
Cadmium, total	mg/L	MW-10	05/05/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-11	05/06/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-12	05/06/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-13	05/06/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-2R	05/05/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-3	05/05/2021	ND	0.0020		0.0020
Cadmium, total	mg/L	MW-4C	05/05/2021	ND	0.0020		0.0020
Chromium, total	mg/L	MW-10	05/05/2021		0.0111	*	0.0100
Chromium, total	mg/L	MW-11	05/06/2021	ND	0.0100		0.0100
Chromium, total	mg/L	MW-12	05/06/2021	ND	0.0100		0.0100
Chromium, total	mg/L	MW-13	05/06/2021	ND	0.0100		0.0100
Chromium, total	mg/L	MW-2R	05/05/2021	ND	0.0100		0.0100
Chromium, total	mg/L	MW-3	05/05/2021	ND	0.0100		0.0100
Chromium, total	mg/L	MW-4C	05/05/2021	ND	0.0100		0.0100
Cobalt, total	mg/L	MW-10	05/05/2021		0.0055		0.0200
Cobalt, total	mg/L	MW-11	05/06/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	MW-12	05/06/2021		0.0013		0.0200
Cobalt, total	mg/L	MW-13	05/06/2021	ND	0.0010		0.0200
Cobalt, total	mg/L	MW-2R	05/05/2021		0.0029		0.0200
Cobalt, total	mg/L	MW-3	05/05/2021		0.0021		0.0200
Cobalt, total	mg/L	MW-4C	05/05/2021		0.0012		0.0200
Fluoride	mg/L	MW-10	05/05/2021		0.4200		5.0000
Fluoride	mg/L	MW-11	05/06/2021		0.1200		5.0000
Fluoride	mg/L	MW-12	05/06/2021		0.1200		5.0000
Fluoride	mg/L	MW-13	05/06/2021		0.6500		5.0000
Fluoride	mg/L	MW-2R	05/05/2021	ND	0.1000		5.0000
Fluoride	mg/L	MW-3	05/05/2021		0.1400		5.0000
Fluoride	mg/L	MW-4C	05/05/2021	ND	0.1000		5.0000
Lead, total	mg/L	MW-10	05/05/2021		0.0105	*	0.0100
Lead, total	mg/L	MW-11	05/06/2021	ND	0.0100	**	0.0100
Lead, total	mg/L	MW-12	05/06/2021	ND	0.0100		0.0100
Lead, total	mg/L	MW-13	05/06/2021	ND	0.0100		0.0100
Lead, total	mg/L	MW-2R	05/05/2021	ND	0.0100		0.0100
Lead, total	mg/L	MW-3	05/05/2021	ND	0.0100		0.0100

* - 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	MW-4C	05/05/2021	ND	0.0100		0.0100
Lithium, total	mg/L	MW-10	05/05/2021		0.0409	***	0.0200
Lithium, total	mg/L	MW-11	05/06/2021	ND	0.0200		0.0200
Lithium, total	mg/L	MW-12	05/06/2021	ND	0.0200		0.0200
Lithium, total	mg/L	MW-13	05/06/2021	ND	0.0200	**	0.0200
Lithium, total	mg/L	MW-2R	05/05/2021		0.8900	***	0.0200
Lithium, total	mg/L	MW-3	05/05/2021		1.8200	***	0.0200
Lithium, total	mg/L	MW-4C	05/05/2021		0.3590	***	0.0200
Mercury, total	mg/L	MW-10	05/05/2021	ND	0.0020		0.0007
Mercury, total	mg/L	MW-11	05/06/2021	ND	0.0020		0.0007
Mercury, total	mg/L	MW-12	05/06/2021	ND	0.0020		0.0007
Mercury, total	mg/L	MW-13	05/06/2021	ND	0.0020		0.0007
Mercury, total	mg/L	MW-2R	05/05/2021	ND	0.0020		0.0007
Mercury, total	mg/L	MW-3	05/05/2021	ND	0.0020		0.0007
Mercury, total	mg/L	MW-4C	05/05/2021	ND	0.0020		0.0007
Molybdenum, total	mg/L	MW-10	05/05/2021		0.0275		0.1000
Molybdenum, total	mg/L	MW-11	05/06/2021	ND	0.0100		0.1000
Molybdenum, total	mg/L	MW-12	05/06/2021	ND	0.0100		0.1000
Molybdenum, total	mg/L	MW-13	05/06/2021		0.0453		0.1000
Molybdenum, total	mg/L	MW-2R	05/05/2021		0.0103		0.1000
Molybdenum, total	mg/L	MW-3	05/05/2021		0.5320	***	0.1000
Molybdenum, total	mg/L	MW-4C	05/05/2021	ND	0.0100		0.1000
Radium 226/228 Combined	pCi/L	MW-10	05/05/2021		1.4200		4.4600
Radium 226/228 Combined	pCi/L	MW-11	05/06/2021	ND	1.7700		4.4600
Radium 226/228 Combined	pCi/L	MW-12	05/06/2021	ND	1.8300		4.4600
Radium 226/228 Combined	pCi/L	MW-13	05/06/2021	ND	1.9800		4.4600
Radium 226/228 Combined	pCi/L	MW-2R	05/05/2021		1.5900		4.4600
Radium 226/228 Combined	pCi/L	MW-3	05/05/2021		2.5100		4.4600
Radium 226/228 Combined	pCi/L	MW-4C	05/05/2021		2.0900		4.4600
Selenium, total	mg/L	MW-10	05/05/2021		0.0013		0.0086
Selenium, total	mg/L	MW-11	05/06/2021		0.0034		0.0086
Selenium, total	mg/L	MW-12	05/06/2021	ND	0.0010		0.0086
Selenium, total	mg/L	MW-13	05/06/2021		0.0084		0.0086
Selenium, total	mg/L	MW-2R	05/05/2021	ND	0.0010		0.0086
Selenium, total	mg/L	MW-3	05/05/2021	ND	0.0010		0.0086
Selenium, total	mg/L	MW-4C	05/05/2021	ND	0.0010		0.0086
Thallium, total	mg/L	MW-10	05/05/2021	ND	0.0010		0.0020
Thallium, total	mg/L	MW-11	05/06/2021	ND	0.0010		0.0020
Thallium, total	mg/L	MW-12	05/06/2021	ND	0.0010		0.0020
Thallium, total	mg/L	MW-13	05/06/2021	ND	0.0010		0.0020
Thallium, total	mg/L	MW-2R	05/05/2021	ND	0.0010		0.0020
Thallium, total	mg/L	MW-3	05/05/2021	ND	0.0010		0.0020
Thallium, total	mg/L	MW-4C	05/05/2021	ND	0.0010		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 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient			Downgradient		
	Detect	N	Proportion	Detect	N	Proportion
Antimony, total	0	16	0.000	3	115	0.026
Arsenic, total	2	16	0.125	37	115	0.322
Barium, total	16	16	1.000	114	115	0.991
Beryllium, total	0	16	0.000	5	115	0.043
Cadmium, total	0	16	0.000	0	115	0.000
Chromium, total	0	13	0.000	1	94	0.011
Cobalt, total	0	16	0.000	22	115	0.191
Fluoride	4	16	0.250	35	115	0.304
Lead, total	0	15	0.000	4	108	0.037
Lithium, total	2	16	0.125	68	115	0.591
Mercury, total	1	13	0.077	4	94	0.043
Molybdenum, total	0	16	0.000	29	115	0.252
Radium 226/228 Combined	9	16	0.563	74	110	0.673
Selenium, total	1	16	0.063	30	115	0.261
Thallium, total	0	16	0.000	3	115	0.026

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
Antimony, total	0	16	0.000	4.567	4.567					2.326
Arsenic, total	2	16	0.125	9.241	9.476					2.326
Barium, total	16	16	1.000	0.532	1.886					2.326
Beryllium, total	0	16	0.000	4.567	4.567					2.326
Cadmium, total	0	16	0.000	4.567	4.567					2.326
Chromium, total	0	13	0.000	3.936	3.936					2.326
Cobalt, total	0	16	0.000	4.567	4.567					2.326
Fluoride	4	16	0.250	5.423	5.308					2.326
Lead, total	0	15	0.000	4.373	4.373					2.326
Lithium, total	2	16	0.125	7.183	7.100					2.326
Mercury, total	1	13	0.077	20.692	20.692					2.326
Molybdenum, total	0	16	0.000	4.567	4.567					2.326
Radium 226/228 Combined	9	16	0.563	4.671	2.813					2.326
Selenium, total	1	16	0.063	4.567	4.567					2.326
Thallium, total	0	16	0.000	4.567	4.567					2.326

* - 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	0	16					0.0050	nonpar	***	0.96
Arsenic, total	mg/L	2	16					0.0051	nonpar		0.96
Barium, total	mg/L	16	16	0.0474	0.0069	0.0100	2.6804	0.0659	normal		
Beryllium, total	mg/L	0	16					0.0010	nonpar	***	0.96
Cadmium, total	mg/L	0	16					0.0020	nonpar	***	0.96
Chromium, total	mg/L	0	13					0.0100	nonpar	***	0.94
Cobalt, total	mg/L	0	16					0.0200	nonpar	***	0.96
Fluoride	mg/L	4	16					5.0000	nonpar	***	0.96
Lead, total	mg/L	0	15					0.0100	nonpar	***	0.95
Lithium, total	mg/L	2	16					0.0200	nonpar	***	0.96
Mercury, total	mg/L	1	13					0.0007	nonpar		0.94
Molybdenum, total	mg/L	0	16					0.1000	nonpar	***	0.96
Radium 226/228 Combined	pCi/L	9	16					4.4600	nonpar		0.96
Selenium, total	mg/L	1	16					0.0086	nonpar		0.96
Thallium, total	mg/L	0	16					0.0020	nonpar	***	0.96

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
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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
Arsenic, total	mg/L	MW-10	03/16/2017		0.0480	*	0.0051
Arsenic, total	mg/L	MW-10	03/17/2017		0.0440	*	0.0051
Arsenic, total	mg/L	MW-10	03/24/2017		0.0760	*	0.0051
Arsenic, total	mg/L	MW-10	04/20/2017		0.0600	*	0.0051
Arsenic, total	mg/L	MW-10	04/24/2017		0.0570	*	0.0051
Arsenic, total	mg/L	MW-10	05/25/2017		0.0550	*	0.0051
Arsenic, total	mg/L	MW-10	06/20/2017		0.0490	*	0.0051
Arsenic, total	mg/L	MW-10	07/19/2017		0.0570	*	0.0051
Arsenic, total	mg/L	MW-10	08/08/2017		0.0580	*	0.0051
Arsenic, total	mg/L	MW-10	05/09/2018		0.0470	*	0.0051
Arsenic, total	mg/L	MW-10	09/12/2018		0.0630	*	0.0051
Arsenic, total	mg/L	MW-10	05/17/2019		0.0303	*	0.0051
Arsenic, total	mg/L	MW-10	11/06/2019		0.1270	*	0.0051
Arsenic, total	mg/L	MW-10	05/05/2020		0.0954	*	0.0051
Arsenic, total	mg/L	MW-10	11/04/2020		0.1040	*	0.0051
Arsenic, total	mg/L	MW-10	05/05/2021		0.0964	*	0.0051
Arsenic, total	mg/L	MW-11	03/16/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	03/17/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	03/24/2017	ND	0.0400		0.0051
Arsenic, total	mg/L	MW-11	04/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	04/24/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	05/25/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	06/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	07/19/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	08/08/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-11	05/09/2018	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-11	09/12/2018	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-11	05/17/2019	ND	0.0010		0.0051
Arsenic, total	mg/L	MW-11	11/06/2019		0.0082	*	0.0051
Arsenic, total	mg/L	MW-11	05/05/2020	ND	0.0010		0.0051
Arsenic, total	mg/L	MW-11	11/04/2020		0.0107	*	0.0051
Arsenic, total	mg/L	MW-11	05/06/2021	ND	0.0010		0.0051
Arsenic, total	mg/L	MW-2R	09/28/2016		0.0043		0.0051
Arsenic, total	mg/L	MW-2R	10/19/2016	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	11/09/2016		0.0064	*	0.0051
Arsenic, total	mg/L	MW-2R	12/12/2016	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-2R	03/16/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	03/17/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	03/24/2017	ND	0.0400		0.0051
Arsenic, total	mg/L	MW-2R	04/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	04/24/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	05/16/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	06/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	08/08/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-2R	05/09/2018		0.0310	*	0.0051
Arsenic, total	mg/L	MW-2R	09/12/2018		0.0110	*	0.0051
Arsenic, total	mg/L	MW-2R	05/16/2019		0.0083	*	0.0051
Arsenic, total	mg/L	MW-2R	11/06/2019		0.0105	*	0.0051
Arsenic, total	mg/L	MW-2R	05/13/2020		0.0147	*	0.0051
Arsenic, total	mg/L	MW-2R	11/03/2020		0.0089	*	0.0051
Arsenic, total	mg/L	MW-2R	05/05/2021		0.0062	*	0.0051
Arsenic, total	mg/L	MW-3	09/28/2016		0.0040		0.0051
Arsenic, total	mg/L	MW-3	10/19/2016	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	11/09/2016		0.0074	*	0.0051
Arsenic, total	mg/L	MW-3	12/12/2016	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-3	02/05/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	03/24/2017	ND	0.0400		0.0051
Arsenic, total	mg/L	MW-3	05/25/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	06/20/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	08/08/2017	ND	0.0100		0.0051
Arsenic, total	mg/L	MW-3	05/09/2018	ND	0.0050		0.0051

* - 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
Arsenic, total	mg/L	MW-3	09/12/2018	ND	0.0050		0.0051
Arsenic, total	mg/L	MW-3	05/16/2019		0.0129	*	0.0051
Arsenic, total	mg/L	MW-3	11/06/2019		0.0103	*	0.0051
Arsenic, total	mg/L	MW-3	05/13/2020		0.0162	*	0.0051
Arsenic, total	mg/L	MW-3	11/03/2020		0.0205	*	0.0051
Arsenic, total	mg/L	MW-3	05/05/2021		0.0170	*	0.0051
Barium, total	mg/L	MW-10	03/16/2017		0.1400	*	0.0659
Barium, total	mg/L	MW-10	03/17/2017		0.1600	*	0.0659
Barium, total	mg/L	MW-10	03/24/2017		0.1300	*	0.0659
Barium, total	mg/L	MW-10	04/20/2017		0.1100	*	0.0659
Barium, total	mg/L	MW-10	04/24/2017		0.1400	*	0.0659
Barium, total	mg/L	MW-10	05/25/2017		0.1300	*	0.0659
Barium, total	mg/L	MW-10	06/20/2017		0.1300	*	0.0659
Barium, total	mg/L	MW-10	07/19/2017		0.0990	*	0.0659
Barium, total	mg/L	MW-10	08/08/2017		0.1100	*	0.0659
Barium, total	mg/L	MW-10	05/09/2018		0.0680	*	0.0659
Barium, total	mg/L	MW-10	09/12/2018		0.0640		0.0659
Barium, total	mg/L	MW-10	05/17/2019		0.0412		0.0659
Barium, total	mg/L	MW-10	11/06/2019		0.1500	*	0.0659
Barium, total	mg/L	MW-10	05/05/2020		0.0685	*	0.0659
Barium, total	mg/L	MW-10	11/04/2020		0.0698	*	0.0659
Barium, total	mg/L	MW-10	05/05/2021		0.1200	*	0.0659
Barium, total	mg/L	MW-11	03/16/2017		0.0340		0.0659
Barium, total	mg/L	MW-11	03/17/2017		0.0340		0.0659
Barium, total	mg/L	MW-11	03/24/2017		0.0300		0.0659
Barium, total	mg/L	MW-11	04/20/2017		0.0340		0.0659
Barium, total	mg/L	MW-11	04/24/2017		0.0290		0.0659
Barium, total	mg/L	MW-11	05/25/2017		0.0320		0.0659
Barium, total	mg/L	MW-11	06/20/2017		0.0270		0.0659
Barium, total	mg/L	MW-11	07/19/2017		0.0250		0.0659
Barium, total	mg/L	MW-11	08/08/2017		0.0280		0.0659
Barium, total	mg/L	MW-11	05/09/2018		0.0270		0.0659
Barium, total	mg/L	MW-11	09/12/2018		0.0300		0.0659
Barium, total	mg/L	MW-11	05/17/2019		0.0302		0.0659
Barium, total	mg/L	MW-11	11/06/2019		0.0585		0.0659
Barium, total	mg/L	MW-11	05/05/2020		0.0307		0.0659
Barium, total	mg/L	MW-11	11/04/2020		0.0892	*	0.0659
Barium, total	mg/L	MW-11	05/06/2021		0.0428		0.0659
Beryllium, total	mg/L	MW-10	03/16/2017	ND	0.0010		0.0010
Beryllium, total	mg/L	MW-10	03/17/2017	ND	0.0010		0.0010
Beryllium, total	mg/L	MW-10	03/24/2017	ND	0.0040		0.0010
Beryllium, total	mg/L	MW-10	04/20/2017	ND	0.0010		0.0010
Beryllium, total	mg/L	MW-10	04/24/2017	ND	0.0010		0.0010
Beryllium, total	mg/L	MW-10	05/25/2017	ND	0.0010		0.0010
Beryllium, total	mg/L	MW-10	06/20/2017	ND	0.0010		0.0010
Beryllium, total	mg/L	MW-10	07/19/2017	ND	0.0010		0.0010
Beryllium, total	mg/L	MW-10	08/08/2017	ND	0.0010		0.0010
Beryllium, total	mg/L	MW-10	05/09/2018	ND	0.0050		0.0010
Beryllium, total	mg/L	MW-10	09/12/2018	ND	0.0007		0.0010
Beryllium, total	mg/L	MW-10	05/17/2019	ND	0.0002		0.0010
Beryllium, total	mg/L	MW-10	11/06/2019		0.0033	*	0.0010
Beryllium, total	mg/L	MW-10	05/05/2020	ND	0.0002		0.0010
Beryllium, total	mg/L	MW-10	11/04/2020		0.0005		0.0010
Beryllium, total	mg/L	MW-10	05/05/2021		0.0013	*	0.0010
Chromium, total	mg/L	MW-10	03/16/2017	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	03/17/2017	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	03/24/2017	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	04/20/2017	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	04/24/2017	ND	0.1000		0.0100
Chromium, total	mg/L	MW-10	05/25/2017	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	06/20/2017	ND	0.0100		0.0100

* - 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
Chromium, total	mg/L	MW-10	07/19/2017	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	08/08/2017	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	05/09/2018	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	05/17/2019	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	05/05/2020	ND	0.0100		0.0100
Chromium, total	mg/L	MW-10	05/05/2021		0.0111	*	0.0100
Lead, total	mg/L	MW-10	03/16/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	03/17/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	03/24/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	04/20/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	04/24/2017	ND	0.1000		0.0100
Lead, total	mg/L	MW-10	05/25/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	06/20/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	07/19/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	08/08/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	05/09/2018	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	05/17/2019	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	11/06/2019		0.0295	*	0.0100
Lead, total	mg/L	MW-10	05/05/2020	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	11/04/2020	ND	0.0100		0.0100
Lead, total	mg/L	MW-10	05/05/2021		0.0105	*	0.0100
Lead, total	mg/L	MW-11	03/16/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	03/17/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	03/24/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	04/20/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	04/24/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	05/25/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	06/20/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	07/19/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	08/08/2017	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	05/09/2018	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	05/17/2019	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	11/06/2019	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	05/05/2020	ND	0.0100		0.0100
Lead, total	mg/L	MW-11	11/04/2020		0.0100	**	0.0100
Lead, total	mg/L	MW-11	05/06/2021	ND	0.0100		0.0100
Lithium, total	mg/L	MW-10	03/16/2017		0.0320	*	0.0200
Lithium, total	mg/L	MW-10	03/17/2017	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	03/24/2017	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	04/20/2017	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	04/24/2017	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	05/25/2017	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	06/20/2017	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	07/19/2017	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	08/08/2017	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	05/09/2018	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	09/12/2018	ND	0.1000		0.0200
Lithium, total	mg/L	MW-10	05/17/2019	ND	0.0200		0.0200
Lithium, total	mg/L	MW-10	11/06/2019		0.0485	*	0.0200
Lithium, total	mg/L	MW-10	05/05/2020		0.0566	*	0.0200
Lithium, total	mg/L	MW-10	11/04/2020		0.0400	*	0.0200
Lithium, total	mg/L	MW-10	05/05/2021		0.0409	*	0.0200
Lithium, total	mg/L	MW-13	03/16/2017		0.7500	*	0.0200
Lithium, total	mg/L	MW-13	03/17/2017		0.7400	*	0.0200
Lithium, total	mg/L	MW-13	03/24/2017		0.6500	*	0.0200
Lithium, total	mg/L	MW-13	04/20/2017		1.1000	*	0.0200
Lithium, total	mg/L	MW-13	04/24/2017		1.1000	*	0.0200
Lithium, total	mg/L	MW-13	05/25/2017		0.8400	*	0.0200
Lithium, total	mg/L	MW-13	06/20/2017		1.4000	*	0.0200
Lithium, total	mg/L	MW-13	07/19/2017		0.5400	*	0.0200
Lithium, total	mg/L	MW-13	08/08/2017		0.2200	*	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
Lithium, total	mg/L	MW-13	05/09/2018	ND	0.1000		0.0200
Lithium, total	mg/L	MW-13	09/12/2018	ND	0.1000		0.0200
Lithium, total	mg/L	MW-13	05/17/2019	ND	0.0200		0.0200
Lithium, total	mg/L	MW-13	11/06/2019		0.0286	*	0.0200
Lithium, total	mg/L	MW-13	05/05/2020		0.0396	*	0.0200
Lithium, total	mg/L	MW-13	11/04/2020		0.2380	*	0.0200
Lithium, total	mg/L	MW-13	05/06/2021	ND	0.0200		0.0200
Lithium, total	mg/L	MW-2R	09/28/2016		1.1000	*	0.0200
Lithium, total	mg/L	MW-2R	10/19/2016		0.8200	*	0.0200
Lithium, total	mg/L	MW-2R	11/09/2016		0.7800	*	0.0200
Lithium, total	mg/L	MW-2R	12/12/2016		0.5100	*	0.0200
Lithium, total	mg/L	MW-2R	03/16/2017		0.2800	*	0.0200
Lithium, total	mg/L	MW-2R	03/17/2017		0.4100	*	0.0200
Lithium, total	mg/L	MW-2R	03/24/2017		0.5300	*	0.0200
Lithium, total	mg/L	MW-2R	04/20/2017		0.7800	*	0.0200
Lithium, total	mg/L	MW-2R	04/24/2017		0.8400	*	0.0200
Lithium, total	mg/L	MW-2R	05/16/2017		1.1000	*	0.0200
Lithium, total	mg/L	MW-2R	06/20/2017		1.1000	*	0.0200
Lithium, total	mg/L	MW-2R	08/08/2017		1.0000	*	0.0200
Lithium, total	mg/L	MW-2R	05/09/2018		0.9600	*	0.0200
Lithium, total	mg/L	MW-2R	09/12/2018		0.8000	*	0.0200
Lithium, total	mg/L	MW-2R	05/16/2019		0.6160	*	0.0200
Lithium, total	mg/L	MW-2R	11/06/2019		0.4950	*	0.0200
Lithium, total	mg/L	MW-2R	05/13/2020		0.6380	*	0.0200
Lithium, total	mg/L	MW-2R	11/03/2020		0.5220	*	0.0200
Lithium, total	mg/L	MW-2R	05/05/2021		0.8900	*	0.0200
Lithium, total	mg/L	MW-3	09/28/2016		2.0000	*	0.0200
Lithium, total	mg/L	MW-3	10/19/2016		1.9000	*	0.0200
Lithium, total	mg/L	MW-3	11/09/2016		2.2000	*	0.0200
Lithium, total	mg/L	MW-3	12/12/2016		2.2000	*	0.0200
Lithium, total	mg/L	MW-3	02/05/2017		2.1000	*	0.0200
Lithium, total	mg/L	MW-3	03/24/2017		2.1000	*	0.0200
Lithium, total	mg/L	MW-3	05/25/2017		2.0000	*	0.0200
Lithium, total	mg/L	MW-3	06/20/2017		2.0000	*	0.0200
Lithium, total	mg/L	MW-3	08/08/2017		1.6000	*	0.0200
Lithium, total	mg/L	MW-3	05/09/2018		2.6000	*	0.0200
Lithium, total	mg/L	MW-3	09/12/2018		2.6000	*	0.0200
Lithium, total	mg/L	MW-3	05/16/2019		1.2600	*	0.0200
Lithium, total	mg/L	MW-3	11/06/2019		1.9300	*	0.0200
Lithium, total	mg/L	MW-3	05/13/2020		1.5200	*	0.0200
Lithium, total	mg/L	MW-3	11/03/2020		1.7600	*	0.0200
Lithium, total	mg/L	MW-3	05/05/2021		1.8200	*	0.0200
Lithium, total	mg/L	MW-4C	09/28/2016		0.3100	*	0.0200
Lithium, total	mg/L	MW-4C	10/19/2016		0.2800	*	0.0200
Lithium, total	mg/L	MW-4C	11/09/2016		0.3300	*	0.0200
Lithium, total	mg/L	MW-4C	12/12/2016		0.2600	*	0.0200
Lithium, total	mg/L	MW-4C	02/05/2017		0.3100	*	0.0200
Lithium, total	mg/L	MW-4C	03/25/2017		0.2900	*	0.0200
Lithium, total	mg/L	MW-4C	05/25/2017		0.3300	*	0.0200
Lithium, total	mg/L	MW-4C	06/20/2017		0.2500	*	0.0200
Lithium, total	mg/L	MW-4C	08/08/2017		0.2300	*	0.0200
Lithium, total	mg/L	MW-4C	05/09/2018		0.2500	*	0.0200
Lithium, total	mg/L	MW-4C	09/12/2018		0.2800	*	0.0200
Lithium, total	mg/L	MW-4C	05/16/2019		0.3160	*	0.0200
Lithium, total	mg/L	MW-4C	11/06/2019		0.2840	*	0.0200
Lithium, total	mg/L	MW-4C	05/13/2020		0.2420	*	0.0200
Lithium, total	mg/L	MW-4C	11/03/2020		0.2870	*	0.0200
Lithium, total	mg/L	MW-4C	05/05/2021		0.3590	*	0.0200
Molybdenum, total	mg/L	MW-3	09/28/2016		0.3500	*	0.1000
Molybdenum, total	mg/L	MW-3	10/19/2016		0.3300	*	0.1000
Molybdenum, total	mg/L	MW-3	11/09/2016		0.2800	*	0.1000

* - 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	MW-3	12/12/2016	0.3900 *	0.1000
Molybdenum, total	mg/L	MW-3	02/05/2017	0.6600 *	0.1000
Molybdenum, total	mg/L	MW-3	03/24/2017	0.6600 *	0.1000
Molybdenum, total	mg/L	MW-3	05/25/2017	0.5700 *	0.1000
Molybdenum, total	mg/L	MW-3	06/20/2017	0.5100 *	0.1000
Molybdenum, total	mg/L	MW-3	08/08/2017	0.3300 *	0.1000
Molybdenum, total	mg/L	MW-3	05/09/2018	0.3900 *	0.1000
Molybdenum, total	mg/L	MW-3	09/12/2018	0.5200 *	0.1000
Molybdenum, total	mg/L	MW-3	05/16/2019	0.3380 *	0.1000
Molybdenum, total	mg/L	MW-3	11/06/2019	0.5080 *	0.1000
Molybdenum, total	mg/L	MW-3	05/13/2020	0.5290 *	0.1000
Molybdenum, total	mg/L	MW-3	11/03/2020	0.5490 *	0.1000
Molybdenum, total	mg/L	MW-3	05/05/2021	0.5320 *	0.1000

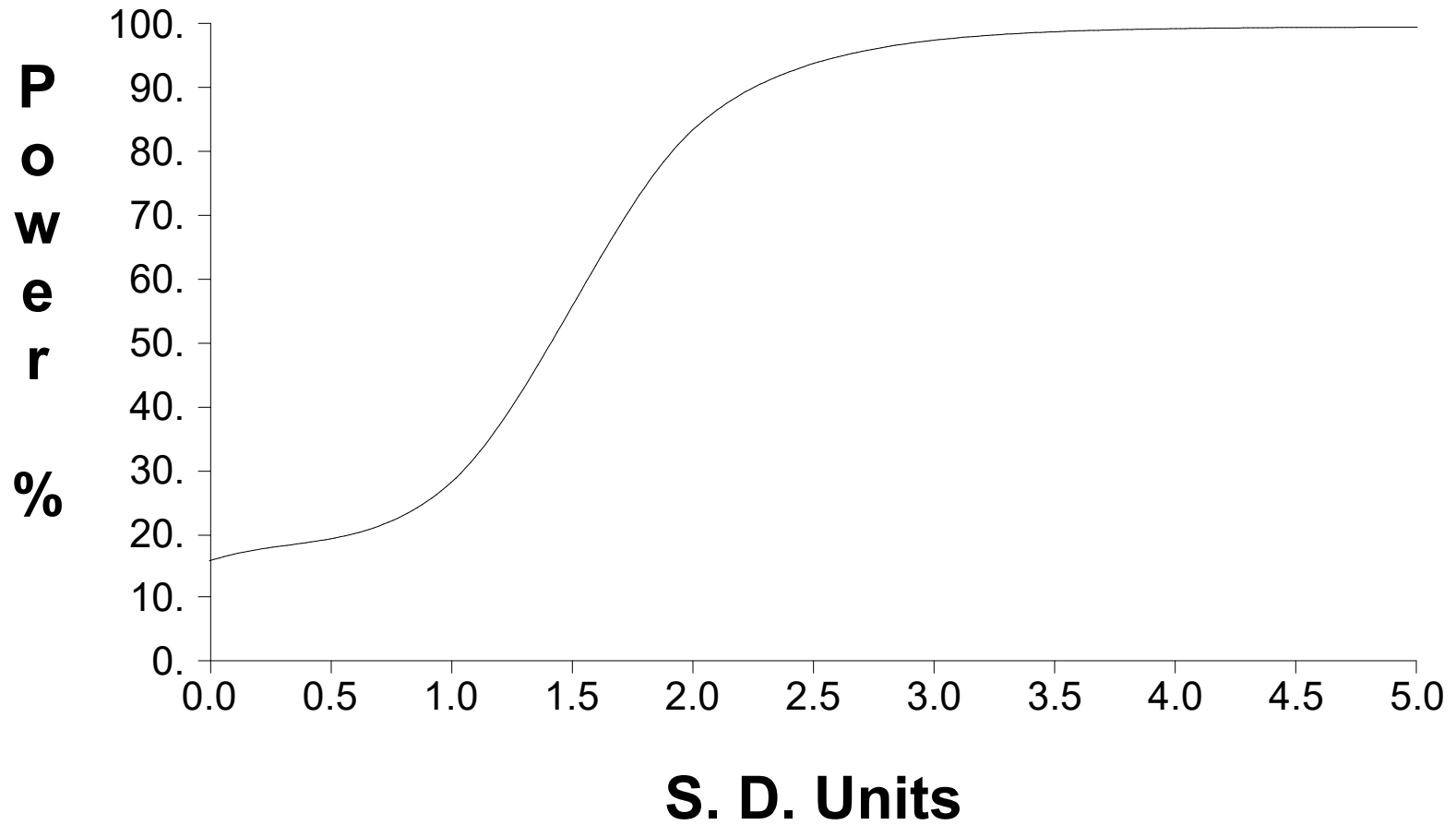
* - Significantly increased over background.

** - 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
Petersburg Landfill
Indianapolis Power and Light Company
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF00874

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	10	2000	4	5	100	6**	4**	15	40**	2	100	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)	5	5.1	66.1	1	2	10	20	5	10	100	0.7	100	8.6	5	4.46
MW-2R	September 2018	3	0	34	1	1	5	10	2.5	5	818	0	50	1	2	0.114
	May 2019	3	0	29	1	1	5	4	2.5	5	638	0	17	2	2	0.194
	November 2019	3	3	28	1	1	5	2	2.5	5	477	0	17	2	2	0.179
	May 2020	3	8	36	1	1	8	1	0.505	5	490	0	5	2	2	0.366
	November 2020	3	7	36	1	1	5	3	0	5	486	0	0	2	2	0.543
MW-3	September 2018	3	5	35	2	2	5	10	2.5	5	1624	0	328	2	2	0.311
	May 2019	3	2	30	2	1	5	3	0.564	0	1204	0	291	2	2	0.211
	November 2019	3	4	30	2	1	5	1	0	0	1343	0	334	2	2	0
	May 2020	2	6	31	1	1	5	0	0	0	1140	0	367	2	2	0
	November 2020	2	10.3	30	1	1	5	2	0.096	0	1274	0	367	2	2	0
MW-4C	September 2018	3	5	16	2	2	5	10	2.5	5	228	0	50	2	2	0.055
	May 2019	3	5	16	2	1	5	2	0.497	5	225	0	50	2	2	0.096
	November 2019	3	5	16	2	1	5	2	0	5	251	0	50	2	2	0.403
	May 2020	3	2	27	1	1	5	2	0	5	245	0	50	2	2	0.403
	November 2020	2	2	26	1	1	5	0	0.092	5	246	0	50	2	2	0.352
MW-10	September 2018	3	48	59	1	1	5	5	2.5	5	50	0	50	2	2	0.390
	May 2019	3	33	37	1	1	5	5	0.572	5	50	0	50	2	2	0.390
	November 2019	2	17	25	0	1	0	5	0	0	49	0	29	2	2	0.457
	May 2020	2	30	25	0	1	5	3	0	0	47	0	18	2	2	0.489
	November 2020	2	40	27	0	1	5	2	0.241	0	41	0	10	2	2	0.487
MW-11	September 2018	3	5	25	1	1	5	10	2.5	5	50	0	50	2	2	0.133
	May 2019	3	5	27	1	1	5	10	0.522	5	50	0	50	2	2	0.042
	November 2019	3	4	19	0	1	3	3	0	5	50	0	50	2	2	0
	May 2020	3	4	21	0	1	5	3	0	5	50	0	50	2	2	0
	November 2020	3	4	19	0	1	5	1	0.126	3	50	0	50	2	2	0
MW-12	September 2018	3	5	25	1	1	5	10	0.25	5	50	0	50	2	2	0
	May 2019	3	5	25	1	1	5	10	0.149	5	50	0	50	2	2	0
	November 2019	3	5	23	1	1	5	10	0.109	5	50	0	50	2	2	0.144
	May 2020	3	5	25	1	1	5	10	0.101	5	50	0	50	2	2	0.144
	November 2020	3	5	27	1	1	5	10	0.125	5	50	0	50	2	2	0.386
MW-13	September 2018	3	5	9	1	1	5	10	1.075	5	0	0	50	1	2	0.108
	May 2019	3	5	7	1	1	5	10	0.983	5	0	0	48	0	2	0
	November 2019	1	5	7	1	1	5	10	0.318	5	32	0	39	0	2	0
	May 2020	1	5	18	1	1	5	10	0.054	5	30	0	39	1	2	0.435
	November 2020	1	5	18	1	1	5	10	0.613	5	0	0	33	2	2	0.435

Notes:

GWPS = Groundwater Protection Standard

MCL = Maximum Contaminant Level based on National Primary Drinking Water Regulations

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 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	MW-10	4	0.003	0.001	1.176	0.002	0.003	0.006		
Antimony, total	mg/L	MW-11	4	0.003	0.000	1.176	0.003	0.003	0.006		
Antimony, total	mg/L	MW-12	4	0.003	0.000	1.176	0.003	0.003	0.006		
Antimony, total	mg/L	MW-13	4	0.003	0.001	1.176	0.001	0.004	0.006		
Antimony, total	mg/L	MW-2R	4	0.003	0.000	1.176	0.003	0.003	0.006		
Antimony, total	mg/L	MW-3	4	0.003	0.000	1.176	0.002	0.003	0.006		
Antimony, total	mg/L	MW-4C	4	0.003	0.000	1.176	0.002	0.003	0.006		
Arsenic, total	mg/L	MW-10	4	0.089	0.041	1.176	0.040	0.138	0.010		**
Arsenic, total	mg/L	MW-11	4	0.007	0.003	1.176	0.004	0.010	0.010		
Arsenic, total	mg/L	MW-12	4	0.005	0.000	1.176	0.005	0.005	0.010		
Arsenic, total	mg/L	MW-13	4	0.005	0.000	1.176	0.005	0.005	0.010		
Arsenic, total	mg/L	MW-2R	4	0.011	0.003	1.176	0.007	0.014	0.010		
Arsenic, total	mg/L	MW-3	4	0.015	0.004	1.176	0.010	0.020	0.010		
Arsenic, total	mg/L	MW-4C	4	0.003	0.000	1.176	0.002	0.003	0.010		
Barium, total	mg/L	MW-10	4	0.082	0.047	1.176	0.027	0.138	2.000		
Barium, total	mg/L	MW-11	4	0.052	0.028	1.176	0.019	0.085	2.000		
Barium, total	mg/L	MW-12	4	0.029	0.002	1.176	0.027	0.032	2.000	dec	
Barium, total	mg/L	MW-13	4	0.022	0.003	1.176	0.018	0.026	2.000		
Barium, total	mg/L	MW-2R	4	0.040	0.004	1.176	0.036	0.045	2.000		
Barium, total	mg/L	MW-3	4	0.039	0.007	1.176	0.030	0.047	2.000		
Barium, total	mg/L	MW-4C	4	0.029	0.002	1.176	0.026	0.031	2.000		
Beryllium, total	mg/L	MW-10	4	0.001	0.001	1.176	0.000	0.003	0.004		
Beryllium, total	mg/L	MW-11	4	0.001	0.000	1.176	0.000	0.001	0.004		
Beryllium, total	mg/L	MW-12	4	0.001	0.000	1.176	0.001	0.001	0.004		
Beryllium, total	mg/L	MW-13	4	0.001	0.000	1.176	0.001	0.001	0.004		
Beryllium, total	mg/L	MW-2R	4	0.001	0.000	1.176	0.001	0.001	0.004		
Beryllium, total	mg/L	MW-3	4	0.001	0.000	1.176	0.001	0.001	0.004		
Beryllium, total	mg/L	MW-4C	4	0.001	0.000	1.176	0.001	0.001	0.004		
Cadmium, total	mg/L	MW-10	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	MW-11	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	MW-12	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	MW-13	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	MW-2R	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	MW-3	4	0.001	0.000	1.176	0.001	0.001	0.005		
Cadmium, total	mg/L	MW-4C	4	0.001	0.000	1.176	0.001	0.001	0.005		
Chromium, total	mg/L	MW-10	4	0.005	0.000	1.176	0.005	0.005	0.010		
Chromium, total	mg/L	MW-11	4	0.005	0.000	1.176	0.005	0.005	0.010		
Chromium, total	mg/L	MW-12	4	0.005	0.000	1.176	0.005	0.005	0.010		
Chromium, total	mg/L	MW-13	4	0.005	0.000	1.176	0.005	0.005	0.010		
Chromium, total	mg/L	MW-2R	4	0.005	0.000	1.176	0.005	0.005	0.010		
Chromium, total	mg/L	MW-3	4	0.005	0.000	1.176	0.005	0.005	0.010		
Chromium, total	mg/L	MW-4C	4	0.005	0.000	1.176	0.005	0.005	0.010		
Cobalt, total	mg/L	MW-10	4	0.007	0.004	1.176	0.002	0.011	0.006		
Cobalt, total	mg/L	MW-11	4	0.006	0.004	1.176	0.001	0.011	0.006		**
Cobalt, total	mg/L	MW-12	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	MW-13	4	0.010	0.000	1.176	0.010	0.010	0.006		**
Cobalt, total	mg/L	MW-2R	4	0.003	0.000	1.176	0.003	0.003	0.006		
Cobalt, total	mg/L	MW-3	4	0.002	0.000	1.176	0.002	0.003	0.006		
Cobalt, total	mg/L	MW-4C	4	0.006	0.005	1.176	0.000	0.012	0.006		
Fluoride	mg/L	MW-10	4	0.410	0.144	1.176	0.241	0.579	4.000		
Fluoride	mg/L	MW-11	4	0.153	0.022	1.176	0.126	0.179	4.000		
Fluoride	mg/L	MW-12	4	0.143	0.015	1.176	0.125	0.160	4.000		
Fluoride	mg/L	MW-13	4	0.705	0.079	1.176	0.613	0.797	4.000		
Fluoride	mg/L	MW-2R	4	1.310	1.374	1.176	0.000	2.926	4.000		
Fluoride	mg/L	MW-3	4	0.210	0.097	1.176	0.096	0.324	4.000		
Fluoride	mg/L	MW-4C	4	0.135	0.037	1.176	0.092	0.178	4.000		
Lead, total	mg/L	MW-10	4	0.011	0.012	1.176	0.000	0.026	0.015		
Lead, total	mg/L	MW-11	4	0.006	0.002	1.176	0.003	0.009	0.015		
Lead, total	mg/L	MW-12	4	0.005	0.000	1.176	0.005	0.005	0.015		
Lead, total	mg/L	MW-13	4	0.005	0.000	1.176	0.005	0.005	0.015		
Lead, total	mg/L	MW-2R	4	0.005	0.000	1.176	0.005	0.005	0.015		
Lead, total	mg/L	MW-3	4	0.016	0.021	1.176	0.000	0.041	0.015		
Lead, total	mg/L	MW-4C	4	0.005	0.000	1.176	0.005	0.005	0.015		
Lithium, total	mg/L	MW-10	4	0.049	0.007	1.176	0.041	0.057	0.040		**

* - 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	MW-11	4	0.050	0.000	1.176	0.050	0.050	0.040		**
Lithium, total	mg/L	MW-12	4	0.050	0.000	1.176	0.050	0.050	0.040		**
Lithium, total	mg/L	MW-13	4	0.089	0.100	1.176	0.000	0.206	0.040	dec	
Lithium, total	mg/L	MW-2R	4	0.568	0.070	1.176	0.486	0.650	0.040		**
Lithium, total	mg/L	MW-3	4	1.618	0.292	1.176	1.274	1.961	0.040		**
Lithium, total	mg/L	MW-4C	4	0.282	0.030	1.176	0.246	0.318	0.040		**
Mercury, total	mg/L	MW-10	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	MW-11	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	MW-12	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	MW-13	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	MW-2R	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	MW-3	4	0.000	0.000	1.176	0.000	0.000	0.002		
Mercury, total	mg/L	MW-4C	4	0.000	0.000	1.176	0.000	0.000	0.002		
Molybdenum, total	mg/L	MW-10	4	0.028	0.015	1.176	0.010	0.046	0.100		
Molybdenum, total	mg/L	MW-11	4	0.050	0.000	1.176	0.050	0.050	0.100		
Molybdenum, total	mg/L	MW-12	4	0.050	0.000	1.176	0.050	0.050	0.100		
Molybdenum, total	mg/L	MW-13	4	0.053	0.017	1.176	0.033	0.072	0.100		
Molybdenum, total	mg/L	MW-2R	4	0.021	0.019	1.176	0.000	0.044	0.100		
Molybdenum, total	mg/L	MW-3	4	0.481	0.097	1.176	0.367	0.595	0.100		**
Molybdenum, total	mg/L	MW-4C	4	0.050	0.000	1.176	0.050	0.050	0.100		
Radium 226/228 Combined	pCi/L	MW-10	4	0.992	0.430	1.176	0.487	1.498	5.585		
Radium 226/228 Combined	pCi/L	MW-11	4	2.235	2.793	1.176	0.000	5.520	5.585		
Radium 226/228 Combined	pCi/L	MW-12	4	0.896	0.434	1.176	0.386	1.406	5.585		
Radium 226/228 Combined	pCi/L	MW-13	4	0.548	0.096	1.176	0.435	0.662	5.585		
Radium 226/228 Combined	pCi/L	MW-2R	4	0.888	0.293	1.176	0.543	1.233	5.585		
Radium 226/228 Combined	pCi/L	MW-3	4	1.931	1.718	1.176	0.000	3.951	5.585		
Radium 226/228 Combined	pCi/L	MW-4C	4	0.752	0.340	1.176	0.352	1.152	5.585		
Selenium, total	mg/L	MW-10	4	0.002	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	MW-11	4	0.003	0.000	1.176	0.002	0.004	0.050		
Selenium, total	mg/L	MW-12	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	MW-13	4	0.004	0.001	1.176	0.002	0.005	0.050	dec	
Selenium, total	mg/L	MW-2R	4	0.003	0.000	1.176	0.002	0.003	0.050		

* - 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	
Selenium, total	mg/L	MW-3	4	0.003	0.000	1.176	0.002	0.003	0.050		
Selenium, total	mg/L	MW-4C	4	0.003	0.000	1.176	0.002	0.003	0.050		
Thallium, total	mg/L	MW-10	4	0.002	0.000	1.176	0.002	0.003	0.002		**
Thallium, total	mg/L	MW-11	4	0.003	0.000	1.176	0.002	0.003	0.002		**
Thallium, total	mg/L	MW-12	4	0.003	0.000	1.176	0.002	0.003	0.002		**
Thallium, total	mg/L	MW-13	4	0.003	0.000	1.176	0.002	0.003	0.002		**
Thallium, total	mg/L	MW-2R	4	0.003	0.000	1.176	0.002	0.003	0.002		**
Thallium, total	mg/L	MW-3	4	0.003	0.000	1.176	0.002	0.003	0.002		**
Thallium, total	mg/L	MW-4C	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

May 2021

Table 1: 95% LCL Compared to GWPS
Petersburg RWS I Landfill
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	10	2000	4	5	100	6**	4**	15	40	2	100	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	5.1	65.9	1	2	10	20	5	10	20	0.7	100	8.6	2	4.46
MW-2R	September 2018	3	0	34	1	1	5	10	2.5	5	818	0	50	1	2	0.114
	May 2019	3	0	29	1	1	5	4	2.5	5	638	0	17	2	2	0.194
	November 2019	3	3	28	1	1	5	2	2.5	5	477	0	17	2	2	0.179
	May 2020	3	8	36	1	1	5	1	0.505	5	490	0	5	2	2	0.366
	November 2020	3	7	36	1	1	5	3	0	5	486	0	0	2	2	0.543
	May 2021	3	6	40	1	1	5	3	0	5	424	0	0	2	2	0.453
MW-3	September 2018	3	5	35	2	2	5	10	2.5	5	1624	0	328	2	2	0.311
	May 2019	3	2	30	2	1	5	3	0.564	0	1204	0	291	2	2	0.211
	November 2019	3	4	30	2	1	5	1	0	0	1343	0	334	2	2	0
	May 2020	2	6	31	1	1	5	0	0	0	1140	0	367	2	2	0
	November 2020	2	10.3	30	1	1	5	2	0.096	0	1274	0	367	2	2	0
	May 2021	2	11	37	1	1	5	2	0.076	5	1554	0	510	2	1	0.575
MW-4C	September 2018	3	5	16	2	2	5	10	2.5	5	228	0	50	2	2	0.055
	May 2019	3	5	16	2	1	5	2	0.497	5	225	0	50	2	2	0.096
	November 2019	3	5	16	2	1	5	2	0	5	251	0	50	2	2	0.403
	May 2020	3	2	27	1	1	5	2	0	5	245	0	50	2	2	0.403
	November 2020	2	2	26	1	1	5	0	0.092	5	246	0	50	2	2	0.352
	May 2021	2	2	28	1	1	5	0	0	5	236	0	50	2	1	0.189
MW-10	September 2018	3	48	59	1	1	5	5	2.5	5	50	0	50	2	2	0.390
	May 2019	3	33	37	1	1	5	5	0.572	5	50	0	50	2	2	0.390
	November 2019	2	17	25	0	1	0	5	0	0	49	0	29	2	2	0.457
	May 2020	2	30	25	0	1	5	3	0	0	47	0	18	2	2	0.489
	November 2020	2	40	27	0	1	5	2	0.241	0	41	0	10	2	2	0.487
	May 2021	2	88	55	0	1	3	2	0.413	0	37	0	16	1	2	1.127
MW-11	September 2018	3	5	25	1	1	5	10	2.5	5	50	0	50	2	2	0.133
	May 2019	3	5	27	1	1	5	10	0.522	5	50	0	50	2	2	0.042
	November 2019	3	4	19	0	1	3	3	0	5	50	0	50	2	2	0
	May 2020	3	4	21	0	1	5	3	0	5	50	0	50	2	2	0
	November 2020	3	4	19	0	1	5	1	0.126	3	50	0	50	2	2	0
	May 2021	3	4	26	0	1	5	1	0.115	3	50	0	50	2	2	0
MW-12	September 2018	3	5	25	1	1	5	10	0.25	5	50	0	50	2	2	0
	May 2019	3	5	25	1	1	5	10	0.149	5	50	0	50	2	2	0
	November 2019	3	5	23	1	1	5	10	0.109	5	50	0	50	2	2	0.144
	May 2020	3	5	25	1	1	5	10	0.101	5	50	0	50	2	2	0.144
	November 2020	3	5	27	1	1	5	10	0.125	5	50	0	50	2	2	0.386
	May 2021	3	3	25	1	1	5	3	0.119	5	50	0	50	2	2	0.377

Table 1: 95% LCL Compared to GWPS
Petersburg RWS I Landfill
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	10	2000	4	5	100	6**	4**	15	40	2	100	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	5.1	65.9	1	2	10	20	5	10	20	0.7	100	8.6	2	4.46
MW-13	September 2018	3	5	9	1	1	5	10	1.075	5	0	0	50	1	2	0.108
	May 2019	3	5	7	1	1	5	10	0.983	5	0	0	48	0	2	0
	November 2019	1	5	7	1	1	5	10	0.318	5	32	0	39	0	2	0
	May 2020	1	5	18	1	1	5	10	0.054	5	30	0	39	1	2	0.435
	November 2020	1	5	18	1	1	5	10	0.613	5	0	0	33	2	2	0.435
	May 2021	1	5	17	1	1	5	10	0.597	5	0	0	32	2	2	0.522

Notes:

GWPS = Groundwater Protection Standard

MCL = Maximum Contaminant Level based on National Primary Drinking Water Regulations

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 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	MW-10	4	0.003	0.001	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	MW-11	4	0.003	0.000	1.176	0.003	0.003	0.006	
Antimony, total	mg/L	MW-12	4	0.003	0.000	1.176	0.003	0.003	0.006	
Antimony, total	mg/L	MW-13	4	0.003	0.001	1.176	0.001	0.004	0.006	
Antimony, total	mg/L	MW-2R	4	0.003	0.000	1.176	0.003	0.003	0.006	
Antimony, total	mg/L	MW-3	4	0.003	0.000	1.176	0.002	0.003	0.006	
Antimony, total	mg/L	MW-4C	4	0.003	0.000	1.176	0.002	0.003	0.006	
Arsenic, total	mg/L	MW-10	4	0.106	0.015	1.176	0.088	0.123	0.010	**
Arsenic, total	mg/L	MW-11	4	0.007	0.003	1.176	0.004	0.010	0.010	
Arsenic, total	mg/L	MW-12	4	0.005	0.001	1.176	0.003	0.006	0.010	
Arsenic, total	mg/L	MW-13	4	0.005	0.000	1.176	0.005	0.005	0.010	
Arsenic, total	mg/L	MW-2R	4	0.010	0.004	1.176	0.006	0.014	0.010	
Arsenic, total	mg/L	MW-3	4	0.016	0.004	1.176	0.011	0.021	0.010	**
Arsenic, total	mg/L	MW-4C	4	0.003	0.000	1.176	0.002	0.003	0.010	
Barium, total	mg/L	MW-10	4	0.102	0.040	1.176	0.055	0.149	2.000	
Barium, total	mg/L	MW-11	4	0.055	0.025	1.176	0.026	0.085	2.000	
Barium, total	mg/L	MW-12	4	0.033	0.007	1.176	0.025	0.041	2.000	dec
Barium, total	mg/L	MW-13	4	0.022	0.004	1.176	0.017	0.026	2.000	
Barium, total	mg/L	MW-2R	4	0.043	0.003	1.176	0.040	0.046	2.000	
Barium, total	mg/L	MW-3	4	0.041	0.003	1.176	0.037	0.044	2.000	
Barium, total	mg/L	MW-4C	4	0.029	0.001	1.176	0.028	0.030	2.000	
Beryllium, total	mg/L	MW-10	4	0.001	0.001	1.176	0.000	0.003	0.004	
Beryllium, total	mg/L	MW-11	4	0.001	0.000	1.176	0.000	0.001	0.004	
Beryllium, total	mg/L	MW-12	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	MW-13	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	MW-2R	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	MW-3	4	0.001	0.000	1.176	0.001	0.001	0.004	
Beryllium, total	mg/L	MW-4C	4	0.001	0.000	1.176	0.001	0.001	0.004	
Cadmium, total	mg/L	MW-10	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	MW-11	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	MW-12	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	MW-13	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	MW-2R	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	MW-3	4	0.001	0.000	1.176	0.001	0.001	0.005	
Cadmium, total	mg/L	MW-4C	4	0.001	0.000	1.176	0.001	0.001	0.005	
Chromium, total	mg/L	MW-10	4	0.007	0.003	1.176	0.003	0.010	0.010	
Chromium, total	mg/L	MW-11	4	0.005	0.000	1.176	0.005	0.005	0.010	
Chromium, total	mg/L	MW-12	4	0.005	0.000	1.176	0.005	0.005	0.010	
Chromium, total	mg/L	MW-13	4	0.005	0.000	1.176	0.005	0.005	0.010	
Chromium, total	mg/L	MW-2R	4	0.005	0.000	1.176	0.005	0.005	0.010	
Chromium, total	mg/L	MW-3	4	0.005	0.000	1.176	0.005	0.005	0.010	
Chromium, total	mg/L	MW-4C	4	0.005	0.000	1.176	0.005	0.005	0.010	
Cobalt, total	mg/L	MW-10	4	0.005	0.003	1.176	0.002	0.009	0.006	
Cobalt, total	mg/L	MW-11	4	0.006	0.004	1.176	0.001	0.011	0.006	
Cobalt, total	mg/L	MW-12	4	0.008	0.004	1.176	0.003	0.013	0.006	
Cobalt, total	mg/L	MW-13	4	0.010	0.000	1.176	0.010	0.010	0.006	**
Cobalt, total	mg/L	MW-2R	4	0.003	0.000	1.176	0.003	0.003	0.006	
Cobalt, total	mg/L	MW-3	4	0.002	0.000	1.176	0.002	0.003	0.006	
Cobalt, total	mg/L	MW-4C	4	0.006	0.005	1.176	0.000	0.012	0.006	
Fluoride	mg/L	MW-10	4	0.465	0.044	1.176	0.413	0.517	4.000	
Fluoride	mg/L	MW-11	4	0.148	0.028	1.176	0.115	0.180	4.000	
Fluoride	mg/L	MW-12	4	0.140	0.018	1.176	0.119	0.161	4.000	
Fluoride	mg/L	MW-13	4	0.695	0.083	1.176	0.597	0.793	4.000	
Fluoride	mg/L	MW-2R	4	1.310	1.374	1.176	0.000	2.926	4.000	
Fluoride	mg/L	MW-3	4	0.198	0.103	1.176	0.076	0.319	4.000	
Fluoride	mg/L	MW-4C	4	0.733	1.179	1.176	0.000	2.119	4.000	
Lead, total	mg/L	MW-10	4	0.012	0.012	1.176	0.000	0.026	0.015	
Lead, total	mg/L	MW-11	4	0.006	0.003	1.176	0.003	0.009	0.015	
Lead, total	mg/L	MW-12	4	0.005	0.000	1.176	0.005	0.005	0.015	
Lead, total	mg/L	MW-13	4	0.005	0.000	1.176	0.005	0.005	0.015	
Lead, total	mg/L	MW-2R	4	0.005	0.000	1.176	0.005	0.005	0.015	
Lead, total	mg/L	MW-3	4	0.005	0.000	1.176	0.005	0.005	0.015	

* - 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
Lead, total	mg/L	MW-4C	4	0.005	0.000	1.176	0.005	0.005	0.015	
Lithium, total	mg/L	MW-10	4	0.047	0.008	1.176	0.037	0.056	0.040	
Lithium, total	mg/L	MW-11	4	0.050	0.000	1.176	0.050	0.050	0.040	**
Lithium, total	mg/L	MW-12	4	0.050	0.000	1.176	0.050	0.050	0.040	**
Lithium, total	mg/L	MW-13	4	0.079	0.107	1.176	0.000	0.205	0.040	
Lithium, total	mg/L	MW-2R	4	0.636	0.180	1.176	0.424	0.848	0.040	**
Lithium, total	mg/L	MW-3	4	1.758	0.173	1.176	1.554	1.961	0.040	**
Lithium, total	mg/L	MW-4C	4	0.293	0.049	1.176	0.236	0.350	0.040	**
Mercury, total	mg/L	MW-10	4	0.000	0.000	1.176	0.000	0.000	0.002	
Mercury, total	mg/L	MW-11	4	0.000	0.000	1.176	0.000	0.000	0.002	
Mercury, total	mg/L	MW-12	4	0.000	0.000	1.176	0.000	0.000	0.002	
Mercury, total	mg/L	MW-13	4	0.000	0.000	1.176	0.000	0.000	0.002	
Mercury, total	mg/L	MW-2R	4	0.000	0.000	1.176	0.000	0.000	0.002	
Mercury, total	mg/L	MW-3	4	0.000	0.000	1.176	0.000	0.000	0.002	
Mercury, total	mg/L	MW-4C	4	0.000	0.000	1.176	0.000	0.000	0.002	
Molybdenum, total	mg/L	MW-10	4	0.022	0.005	1.176	0.016	0.029	0.100	
Molybdenum, total	mg/L	MW-11	4	0.050	0.000	1.176	0.050	0.050	0.100	
Molybdenum, total	mg/L	MW-12	4	0.050	0.000	1.176	0.050	0.050	0.100	
Molybdenum, total	mg/L	MW-13	4	0.052	0.017	1.176	0.032	0.072	0.100	
Molybdenum, total	mg/L	MW-2R	4	0.021	0.019	1.176	0.000	0.044	0.100	
Molybdenum, total	mg/L	MW-3	4	0.530	0.017	1.176	0.510	0.549	0.100	**
Molybdenum, total	mg/L	MW-4C	4	0.050	0.000	1.176	0.050	0.050	0.100	
Radium 226/228 Combined	pCi/L	MW-10	4	1.260	0.113	1.176	1.127	1.393	5.000	
Radium 226/228 Combined	pCi/L	MW-11	4	2.235	2.793	1.176	0.000	5.520	5.000	
Radium 226/228 Combined	pCi/L	MW-12	4	0.749	0.316	1.176	0.377	1.121	5.000	
Radium 226/228 Combined	pCi/L	MW-13	4	0.597	0.064	1.176	0.522	0.672	5.000	
Radium 226/228 Combined	pCi/L	MW-2R	4	0.988	0.455	1.176	0.453	1.522	5.000	
Radium 226/228 Combined	pCi/L	MW-3	4	2.372	1.528	1.176	0.575	4.169	5.000	
Radium 226/228 Combined	pCi/L	MW-4C	4	1.078	0.756	1.176	0.189	1.966	5.000	
Selenium, total	mg/L	MW-10	4	0.002	0.001	1.176	0.001	0.003	0.050	
Selenium, total	mg/L	MW-11	4	0.003	0.000	1.176	0.002	0.004	0.050	
Selenium, total	mg/L	MW-12	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	MW-13	4	0.005	0.002	1.176	0.002	0.008	0.050	
Selenium, total	mg/L	MW-2R	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	MW-3	4	0.003	0.000	1.176	0.002	0.003	0.050	
Selenium, total	mg/L	MW-4C	4	0.003	0.000	1.176	0.002	0.003	0.050	
Thallium, total	mg/L	MW-10	4	0.002	0.000	1.176	0.002	0.003	0.002	
Thallium, total	mg/L	MW-11	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	MW-12	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	MW-13	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	MW-2R	4	0.003	0.000	1.176	0.002	0.003	0.002	**
Thallium, total	mg/L	MW-3	4	0.001	0.000	1.176	0.001	0.001	0.002	
Thallium, total	mg/L	MW-4C	4	0.001	0.000	1.176	0.001	0.001	0.002	

* - Insufficient Data
 ** - Significant Exceedance
 LCL = Lower Confidence Limit
 UCL = Upper Confidence Limit