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

Re: **2022 CCR Annual Groundwater Monitoring and Corrective Action Report**
Indianapolis Power & Light Company d/b/a AES Indiana (AESI)
Petersburg Generating Station – Ash Pond System
Petersburg, Indiana
ATC Project No. 170LF01278

Dear Mr. Heger:

ATC Group Services LLC (ATC) has prepared this 2022 CCR Annual Groundwater Monitoring and Corrective Action Report for the Ash Pond System at the AESI Petersburg Generating Station located outside Petersburg, Pike County, Indiana. This report has been prepared to comply with reporting requirements described in the United States Environmental Protection Agency's (USEPA) Coal Combustion Residuals (CCR) Rule § 257.90(e). This annual report documents the status of the groundwater monitoring and corrective action program for the ash pond system and includes information required by § 257.90(e)(1) through § 257.90(e)(6).

Federal CCR Rule § 257.90(e)(6) specifies the following:

A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following: (i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95; (ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95; (iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e): (A) Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and (B) Provide the date when the assessment monitoring program was initiated for the CCR unit. (iv) If it was determined that there was a statistically significant level above the

groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following: (A) Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase; (B) Provide the date when the assessment of corrective measures was initiated for the CCR unit; (C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and (D) Provide the date when the assessment of corrective measures was completed for the CCR unit. (v) Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection; and (vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

Overview of 2022 Groundwater Monitoring and Corrective Action

For the duration of the 2022 reporting period, the CCR units at the Petersburg Generating Station – Ash Pond System were being monitored under the Assessment Monitoring Program defined in § 257.95. Pursuant to 40 CFR 257.94(e)(2), 257.94(e)(3) and 257.95(b), the facility had previously established an Assessment Monitoring Program in accordance with the requirements of § 257.95 on July 16, 2018. Therefore, evaluation of statistically significant increase over background for one or more constituents listed in Appendix III to this part pursuant to § 257.94(e) was not performed in 2022.

At the end of the 2022 reporting period, it was determined that the following Appendix IV constituents were present at statistically significant levels (SSLs) above the associated groundwater protection standards (GWPS) pursuant to § 257.95(g)[1]. The SSLs are as follows:

<u>Cadmium</u>

Shallow: AP-8[2]

<u>Cobalt</u>

Shallow: AP-8[3]

<u>Molybdenum</u>

Deep: AP-2A

The above listed SSLs are not new constituent SSLs and were previously identified. Therefore, no new SSL notification was required pursuant to § 257.94(e).

[1] SSLs provided are based on the May 2022 monitoring event as November 2022 sampling data was not finalized in 2022.

[2] An Alternate Source Demonstration (ASD) was successfully completed pursuant to § 257.95(g)(3)(ii) in October 2019 for total cadmium in monitoring well AP-8. The ASD report was provided as an attachment to the 2019 CCR Annual Groundwater Monitoring and Corrective Action Report dated January 30, 2020 for the AESI Petersburg Generating Station – Ash Pond System.

[3] An ASD was successfully completed pursuant to § 257.95(g)(3)(ii) in October 2019 for total cobalt in monitoring well AP-8. The ASD report was provided as an attachment to the 2019 CCR Annual Groundwater Monitoring and Corrective Action Report dated January 30, 2020 for the AESI Petersburg Generating Station – Ash Pond System.

The assessment of corrective measures was initiated for the Petersburg Generating Station CCR regulated units on April 15, 2019 in response to SSLs of Appendix IV constituents exceeding GWPS. Pursuant to 40 CFR §257.96(a), a demonstration of need for a 60-day extension for the assessment of corrective measures was completed on July 12, 2019. The Corrective Measures Assessment (CMA) Report was completed and placed in the facility operating record on September 13, 2019 and subsequently amended on October 11, 2019. Groundwater nature and extent work is ongoing at the facility in support of characterizing the extent of the CCR impacted groundwater and further support of the CMA. Once the N&E is sufficiently completed, a public meeting will be held, a remedy will be selected pursuant to § 257.97, and implementation of the selected remedy will be initiated thereafter in accordance with § 257.98.

Federal CCR Rule § 257.90(e) specifies the following:

> *For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2019, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1).*

The following key actions have been completed in 2022 to comply with 40 CFR 257.90-98:

- Efforts to determine the nature and extent (N&E) of the Appendix IV SSLs continued pursuant to § 257.95(g) including but not limited to the installation of additional monitoring equipment[4], review of groundwater analytical results/data to improve the groundwater site conceptual model.

- November 2021 laboratory analytical reports were finalized and placed in the facility operating record pursuant to 40 CFR 257.95(d)(1).

- Semi-annual assessment monitoring sampling events were conducted in 2022 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 2022. Pursuant to 40 CFR 257.95(d)(1), semi-annual sampling of all

[4] N&E monitoring wells MW-36A, MW-36B, MW-36I, MW-37A, MW-37B, MW-37I, MW-38A, MW-38B, MW-38I, MW-39A, MW-39B, MW-39I, MW-40A, MW-40B, MW-40I, MW-41A, MW-41B, MW-41I, MW-42A, MW-42B, MW-42I, MW-43A, MW-43B, MW-43I, MW-44A, MW-44B, MW-44I, MW-45A, MW-45B, MW-45I, MW-46A, MW-46B, MW-46I, MW-47A, MW-47B, and MW-47 were installed in 2022. Well locations are depicted on Figure 2.

Appendix III parameters and Appendix IV constituents detected in response to 40 CFR 257.95(b) was conducted in 2022. All sampling events were performed consistent with 40 CFR 257.93(e). Subsequent SSL evaluation of the November 2021 and May 2022 data were performed within 90 days of completing the sampling and analysis pursuant to § 257.93(h)(2)[5].

- Semi-Annual Remedy Selection Progress Reports pursuant to § 257.97(a) for the period of September 14, 2021 through March 10, 2022, and for the period of March 11, 2022 through September 14, 2022 were completed and placed in the facility's operating record and posted to AESI's CCR Website.

- AESI developed a revised groundwater Sampling and Analysis Plan (SAP) for the Ash Pond System dated May 23, 2022 that was submitted to IDEM. Based on a review of the SAP, IDEM provided comments in a letter dated June 24, 2022. A Revised SAP dated July 20, 2022 was submitted. IDEM provided additional comments in a letter dated September 19, 2022. A Revised SAP dated October 18, 2022 was submitted to IDEM for review. IDEM provided approval of the Revised SAP in a letter dated November 15, 2022.

- AESI completed five (5) vertical profile borings and collected groundwater grab samples from three (3) intervals (shallow, intermediate, deep) north of Pond C to provide groundwater screening data to determine proposed monitoring well locations.

- AESI completed installation of twelve (12) supplemental N&E nested monitoring wells MW-36 through MW-47 (shallow, intermediate, deep; 36 wells total), at locations proximal to the White River to collect groundwater data to further define the horizontal and vertical extent of Appendix IV constituents detected above GWPS.

- AESI completed installation of six (6) monitoring wells (AP-9B, AP-9I, AP-10B, MW-10I, AP-11B, and AP-11I) at existing wells locations between September and October 2022 in order to enhance the existing CCR network.

- Groundwater samples were collected between August/October 2022 from twenty-one (21) newly installed N&E nested monitoring wells and one existing N&E well.

To report on the activities conducted during the prior calendar year and document compliance with the CCR Rule, the specific requirements listed in § 257.90(e)(1) through § 257.90(e)(5) are provided below in bold/italic type followed by a short narrative addressing how that specific requirement has been met.

[5] Sampling results for the November 2021 and May 2022 semi-annual assessment monitoring events are summarized in Table 3 and Table 4, respectively. Please refer to Section § 257.90(e)(4) on Page 7 of this report regarding SSL evaluation results.

At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

§ 257.90(e)(1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

AESI operates the Petersburg Station, located approximately four miles north of Petersburg, Indiana. It is located at 6925 North State Road 57, Petersburg, Indiana. A Site Location Map is provided as Figure 1. A map showing the location of each CCR management unit, associated upgradient and downgradient CCR monitoring wells, and N&E monitoring equipment installed between 2019 and 2022 is provided as Figure 2.

§ 257.90(e)(2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

The CCR groundwater monitoring network at the Petersburg Ash Pond System consists of seventeen (17) monitoring wells: three (3) upgradient monitoring wells MW-2R, MW-3, and MW-4C and fourteen (14) downgradient monitoring wells; AP-1R, AP-2A, AP-2BO, AP-3, AP-3A, AP-4A, AP-4B, AP-4I, AP-5, AP-5A, AP-6A, AP-6B, AP-7, and AP-8.

In addition to the CCR ash pond groundwater monitoring system, five (5) N&E wells (AP-9A, AP-10A, MW-19B, MW-19I, and MW-19A). Monitoring Wells MW-19B, MW-19I and MW-19B were installed at the facility boundary pursuant to § 257.95(g)(1)(iii). These wells were installed to characterize the nature and extent of the impacted groundwater plume and to support the CMA.

Two nested piezometers (PZ-1A, PZ-1B, PZ-1I, PZ-2A, PZ-2B and PZ-2I) were installed adjacent to the discharge canal downgradient of the Ash Pond System in April 2020.

AESI installed an additional N&E monitoring well nest (MW-20A, MW-20I, and MW-20B) along the White River at the facility boundary in April 2020 to better define the lateral extent of Appendix IV constituents. A three-well nest (MW-21B, MW-21I, and MW-21A) was installed in January 2021 to better define the southerly lateral extent of Appendix IV constituents.

No monitoring wells were abandoned during the 2022 reporting period.

To characterize the N&E of the release and any relevant site condition that may affect the remedy ultimately selected, as required by § 257.95(g)(1), additional investigation activities were completed in 2022 as follows:

- Vertical groundwater profile borings were installed a five locations (GWP-101, GWP-106, GWP-108, GWP-109, and GWP-110) in August 2022. The temporary wells were installed in order to provide supplemental groundwater data to define the horizontal and vertical extent of Appendix IV constituents north of the Ash Pond System near the White River.

- AESI installed 36 additional N&E monitoring wells (MW-36A, MW-36B, MW-36I, MW-37A, MW-37B, MW-37I, MW-38A, MW-38B, MW-38I, MW-39A, MW-39B, MW-39I, MW-40A, MW-40B, MW-40I, MW-41A, MW-41B, MW-41I, MW-42A, MW-42B, MW-42I, MW-43A, MW-43B, MW-43I, MW-44A, MW-44B, MW-44I, MW-45A, MW-45B, MW-45I, MW-46A, MW-46B, MW-46I, MW-47A, MW-47B, and MW-47) at locations proximal to the White River between August and October 2022 to better define the vertical and lateral extent of Appendix IV constituents along the northern and western facility limits adjacent to the White River.

- Six monitoring wells (AP-9B, AP-9I, AP-10B, AP-10I, AP-11B, and AP-11I) were installed at the facility between September and October 2022 in order to enhance the vertical and lateral extent of the existing Ash Pond System CCR network.

- Planning, coordination, and necessary permitting for the installation of additional temporary monitoring wells to assist with delineation activities was completed throughout 2022.

The location of the CCR groundwater monitoring well network and N&E wells/piezometers are depicted on Figure 2.

§ 257.90(e)(3) In addition to all the monitoring data obtained under § 257.90 through § 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

Table 1 provides a summary of the number of groundwater samples collected at each CCR monitoring well and N&E well, sampling dates, and designation of whether samples were required by the detection or assessment monitoring program. Groundwater elevation data is provided in Table 2.

Semi-annual assessment and N&E monitoring (AP-9A, AP-10A, MW-19A, MW-19B, MW-19I, MW-20A, MW-20B, MW-20I, MW-21A, MW-21B, MW-21I, MW-25A, MW-25B, MW-25I, MW-26A, MW-26B, MW-26I, MW-27B, MW-28A, MW-28B, MW-28I, MW-29A, MW-29B, and MW-29I) groundwater analytical results for the November 2021 sampling event are summarized in Table 3; these results were not finalized by the end of 2021 for inclusion in the associated 2021 Annual Report. Semi-annual assessment and N&E monitoring (AP-9A, AP-10A, MW-19B, MW-19I, MW-19A, MW-20B, MW-20I, MW-20A, MW-25A, MW-25B, MW-25I, MW-26A, MW-26B, MW-26I, MW-27B, MW-28A, MW-28B, MW-28I, MW-29A, MW-29B, and MW-29I) groundwater analytical results for the May 2022 sampling event are summarized in Table 4.

N&E monitoring results for the August 2022 groundwater profiling boring sampling event (GWP-101S, GWP-106D, GWP-106I, GWP-106S, GWP-108D, GWP-108I, GWP-108S, GWP-109D, GWP-109I, GWP-109S, GWP-110D, GWP-110I, and GWP-110S) are summarized in Table 5. Soil analytical results collected from the screened zone of the new N&E wells are summarized in Table 6. N&E monitoring results for the August/October 2022 N&E sampling event (AP-11A, MW-36A, MW-36B, MW-36I, MW-37A, MW-37B, MW-37I, MW-38A, MW-38B, MW-38I, MW-39A, MW-39B, MW-39I, MW-40A, MW-40B, MW-40I, MW-41A, MW-41B, MW-41I, MW-42A, MW-42B, MW-42I, MW-43A, MW-43B, MW-43I, MW-44A, MW-44B, MW-44I, MW-45A, MW-45B, and MW-45I) are summarized in Table 7.

Groundwater results for the November 2022 combined semi-annual assessment monitoring and N&E sampling event were not finalized in 2022 and therefore are not included with this submittal.

Potentiometric surface maps for the November 2021 sampling event are provided as Figure 3 and Figure 4. Potentiometric surface maps for the May 2022 sampling event are provided as Figure 5 and Figure 6. Flow rate vectors are depicted on the maps. Gauging summary tables and flow velocity calculations for each event are provided as supporting documentation in Attachment A. Laboratory certificates of analysis are provided in Attachment B.

STATISTICAL EVALUATION PROCEDURES

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

This plan is based on the use of the commercial software DUMPStat[6] (Version 3.0). The DUMPStat program uses statistical tests, procedures, and testing sequences described in Statistical Methods for Groundwater Monitoring[7] (Gibbons et. al., 2009). The statistical methods for the PGS ash pond CCR monitoring system are designed to be consistent with ASTM International Standard Guide for Developing Appropriate Statistical Approaches for Groundwater Detection Monitoring Programs *at Waste Disposal Facilities* (D6312-17) along with federal and state guidance, and are also consistent with Indiana's regulations addressing statistical evaluation of groundwater at solid waste landfills.

The CCR ash pond groundwater monitoring system at the PGS consists of seventeen (17) monitoring wells: three (3) upgradient monitoring wells MW-2R, MW-3, and MW-4C and fourteen (14) downgradient monitoring wells; AP-1R, AP-2A, AP-2BO, AP-3, AP-3A, AP-4A, AP-4B, AP-4I, AP-5, AP-5A, AP-6A, AP-6B, AP-7, and AP-8. Original monitoring wells MW-1, MW-2, and MW-3 were installed in 1986. Monitoring well MW-2 was replaced by monitoring well MW-2R in 2017. Monitoring well MW-4C was installed in 1992. With the exception of AP-1R and AP-2BO, the AP- series wells were installed between 2014 and 2015. Wells AP-1R and AP-2BO were installed in 2016 as replacements to original wells AP-1 and AP-2B, respectively. The wells were installed in accordance with the requirements of Federal CCR Rule § 257.91.

Statistical levels defined in this evaluation plan depend, in part, on the values defined for certain settings in DUMPStat. The Plan is based on making interwell comparisons for all wells and all parameters. The background database contains results from September 2016 through the respective November 2021 and May 2022 semi-annual events for the upgradient monitoring wells, and from September 2016 through the respective November 2021 and May 2022 semi-annual events for the downgradient wells. The minimum

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

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

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 2022 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 SSL evaluation of the November 2021 and May 2022 data were performed within 90 days of completing the sampling and analysis pursuant to § 257.93(h)(2).

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.

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

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

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 C-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 C-4). The statistics are then calculated and the prediction limits established (Attachment C, Table C-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 C-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 C-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.

False Positive Rates and Statistical Power

Included in this attachment is the power curve calculated by DUMPStat at the site for this interwell monitoring plan. As indicated in the US EPA Unified Guidance[8] 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.

Interwell Statistics Comparisons

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

Background Sample Size

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

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 Level[9] for those Appendix IV constituents (cobalt, lithium, molybdenum) that do not have a defined MCL.

Appendix IV parameters are evaluated by calculating the lower confidence limit (LCL) on the mean of the last four reported concentrations for each Appendix IV parameter in each downgradient (compliance) well to the GWPS. This approach is discussed in technical literature (Gibbons and Coleman, 2001, Equation 19.5, p. 231)[10] 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:

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

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

9 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).

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

LCL = lower confidence limit for mean;

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

m = number of sample measurements;

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

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

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

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

§ 257.90(e)(4) A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels);

AESI Petersburg operated under the assessment monitoring program in accordance with § 257.95 during 2022. No transition between monitoring programs was conducted in 2022.

During 2022, statistical evaluations of the November 2021 and May 2022 analytical data were performed in order to determine whether there was a SSL of a new Appendix IV constituent detected above the relevant GWPS in accordance with § 257.95(g) and 257.93(h). The evaluations were completed in May 2022 and October 2022, respectively. Based on the evaluations, it was determined that the Appendix IV constituents that exceeded the GWPS include cadmium, cobalt, and molybdenum; however, these are the same constituent SSLs previously identified. Since there were no new Appendix IV constituents identified, an additional notification was not triggered pursuant to 40 CFR 257.95(g). SSLs and associated wells are summarized on Page 2.

§ 257.90(e)(5) Other information required to be included in the annual report as specified in § 257.90 through § 257.98.

Table 8A and Table 8B summarize the groundwater protection standards established in accordance with § 257.95(d)(2) and § 257.95(h) associated with the November 2021 and May 2022 semi-annual assessment monitoring events, respectively.

Projected key activities for the upcoming year include the following:

- Assessment monitoring sampling events in accordance with § 257.95 and consistent with § 257.90(e).

- Finalize November 2022 analytical data and complete statistical evaluation of November 2022 analytical data to determine whether there is a SSL above GWPS for Appendix IV constituents in accordance with § 257.95(g) and 257.93(h). Perform SSL evaluations of final May 2023 assessment monitoring analytical data.

- Install temporary monitoring wells as needed in order to delineate N&E at the facility.

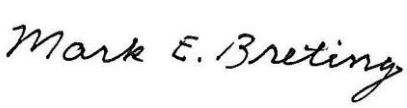
- After delineation of groundwater impacts is determined to be complete, begin preparing estimates quantity of Appendix IV material released.

- Potentially conduct a public meeting to discuss the results of the corrective measures assessment at least 30 days prior to the selection of remedy pursuant to § 257.96(e).

- Prepare semi-annual report(s) describing progress in selecting and designing the remedy pursuant to § 257.97(a).

We appreciate the opportunity to assist with AESI's CCR Rule groundwater monitoring program at Petersburg Station's Ash Pond System. Please contact either of the undersigned at 317.849.4990 if you have any questions regarding this report.

Sincerely,
ATC Group Services LLC





Mark E. Breting, L.P.G.
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Robert T. Duncan, L.P.G.
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Mr. Erwin Leidolf

FIGURES

Figure 1: Site Location Map
Figure 2: Groundwater Monitoring System – CCR Network Wells and N&E Wells
Figure 3: Potentiometric Surface Map – Shallow Zone – October 31, 2021
Figure 4: Potentiometric Surface Map – Deep Zone – October 31, 2021
Figure 5: Potentiometric Surface Map – Deep Zone - May 1, 2022
Figure 6: Potentiometric Surface Map – Shallow Zone - May 1, 2022

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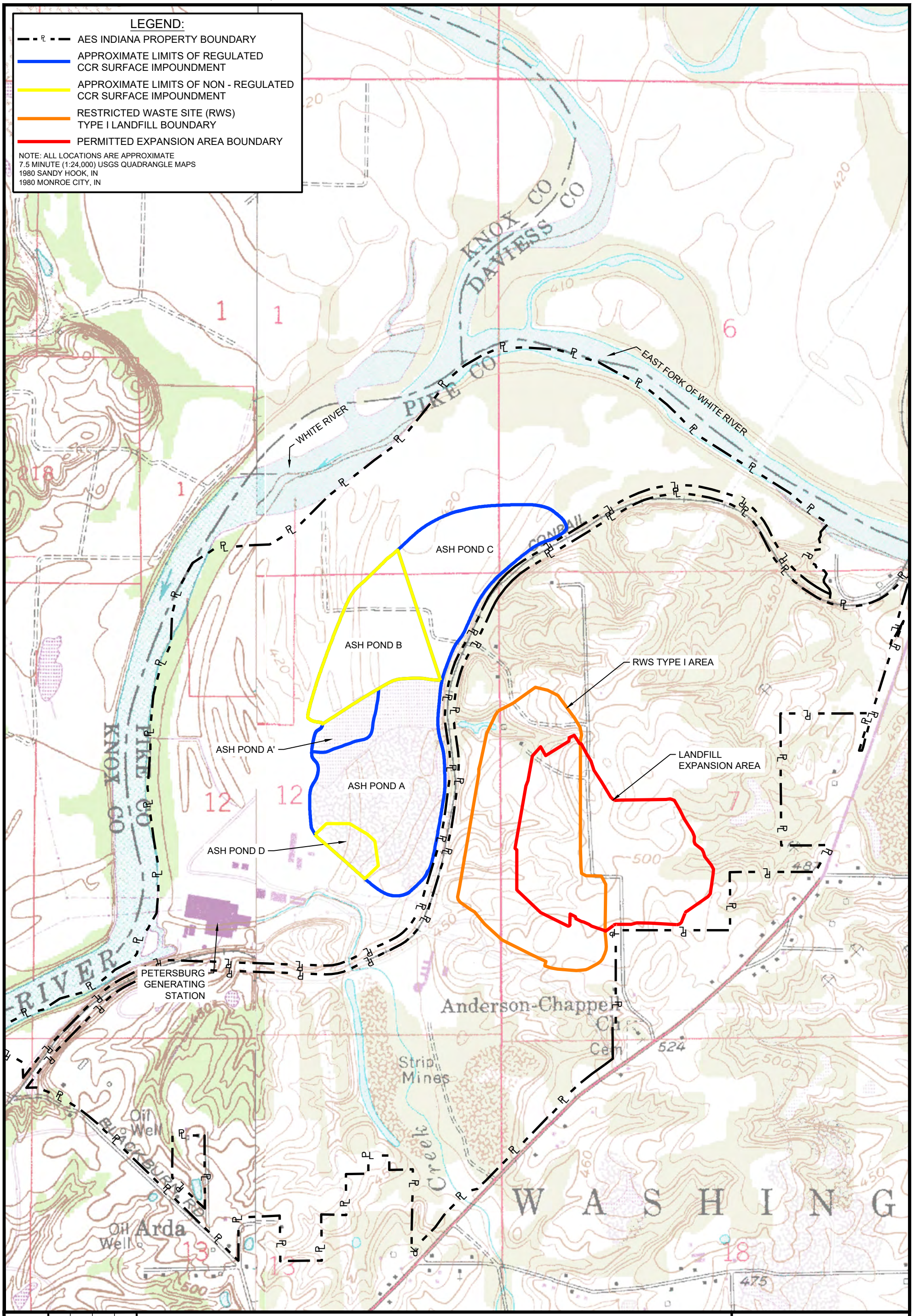

Figure: 1	Project Number: 170LF01113		SITE LOCATION MAP AES INDIANA PETERSBURG GENERATING STATION ASH POND SYSTEM PETERSBURG, INDIANA
Scale: AS SHOWN	Date: 01/26/2023	Drn. By: BM / Ckd. By: MB	

ATLAS

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LEGEND:

- AP-1 — CCR MONITORING WELL (Well Identification)
- MW-1 — EXISTING NATURE AND EXTENT MONITORING WELL (Well Identification)
- PZ-2A — EXISTING NATURE AND EXTENT PIEZOMETER (Well Identification)
- GWP-101 — 2022 NATURE AND EXTENT BORING (Boring Identification)
- MW-1 — 2022 NATURE AND EXTENT MONITORING WELL (Well Identification)
- AES INDIANA PROPERTY BOUNDARY
- APPROXIMATE LIMITS OF CCR SURFACE IMPOUNDMENT

FOR WELL IDENTIFICATIONS, THE SUFFIXES "B", "I", AND "A" CORRESPOND TO WELLS SCREENED WITHIN SHALLOW, INTERMEDIATE, OR DEEP PORTIONS OF THE UNCONSOLIDATED AQUIFER MATERIAL THAT OVERLIES BEDROCK.

MW-47A MW-47I MW-47B
MW-46A MW-46I MW-46B
MW-45A MW-45I MW-45B
GWP-106
GWP-106S/I/D
MW-36A MW-36I MW-36B
GWP-108
GWP-108S/I/D
GWP-110
GWP-110S/I/D
AP-11A AP-11I AP-11B
GWP-109
GWP-109S/I/D
MW-25A MW-25I MW-25B
GWP-101
GWP-101S
AP-6B
AP-6A
MW-37A MW-37I MW-37B
AP-7
MW-38B MW-38I MW-38B
AP-5A
AP-5
ASH POND C
MW-39A MW-39I MW-39B
AP-8
MW-29A MW-29I MW-29B
MW-40A MW-40I MW-40B
AP-4A AP-4I AP-4B
ASH POND B
MW-41A MW-41I MW-41B
MW-20B MW-20I MW-20A
AP-3A
AP-3
AP-10A AP-10I AP-10B
MW-19A MW-19I MW-19B
PZ-2B PZ-2I PZ-2A
PZ-1B PZ-1I PZ-1A
ASH POND A'
MW-28A MW-28I MW-28B
AP-9A AP-9I AP-9B
MW-26A MW-26I MW-26B
AP-2B0
AP-2A
MW-4C
MW-42A MW-42I MW-42B
MW-21A MW-21I MW-21B
MW-43A MW-43I MW-43B
ASH POND A
AP-1R
MW-3
MW-44A MW-44I MW-44B
MW-27B
ASH POND D
MW-2R

N

600 0 200 400 600

SCALE: 1" = 600'

Figure:	2
Scale:	AS SHOWN
Drn. By:	BM
Ckd. By:	MB
Date:	01/26/2023
Project Number:	170LF01113

GROUNDWATER MONITORING SYSTEM
CCR NETWORK WELLS AND N AND E WELLS

AES INDIANA PETERSBURG GENERATING STATION
ASH POND SYSTEM
PETERSBURG, INDIANA

ATLAS

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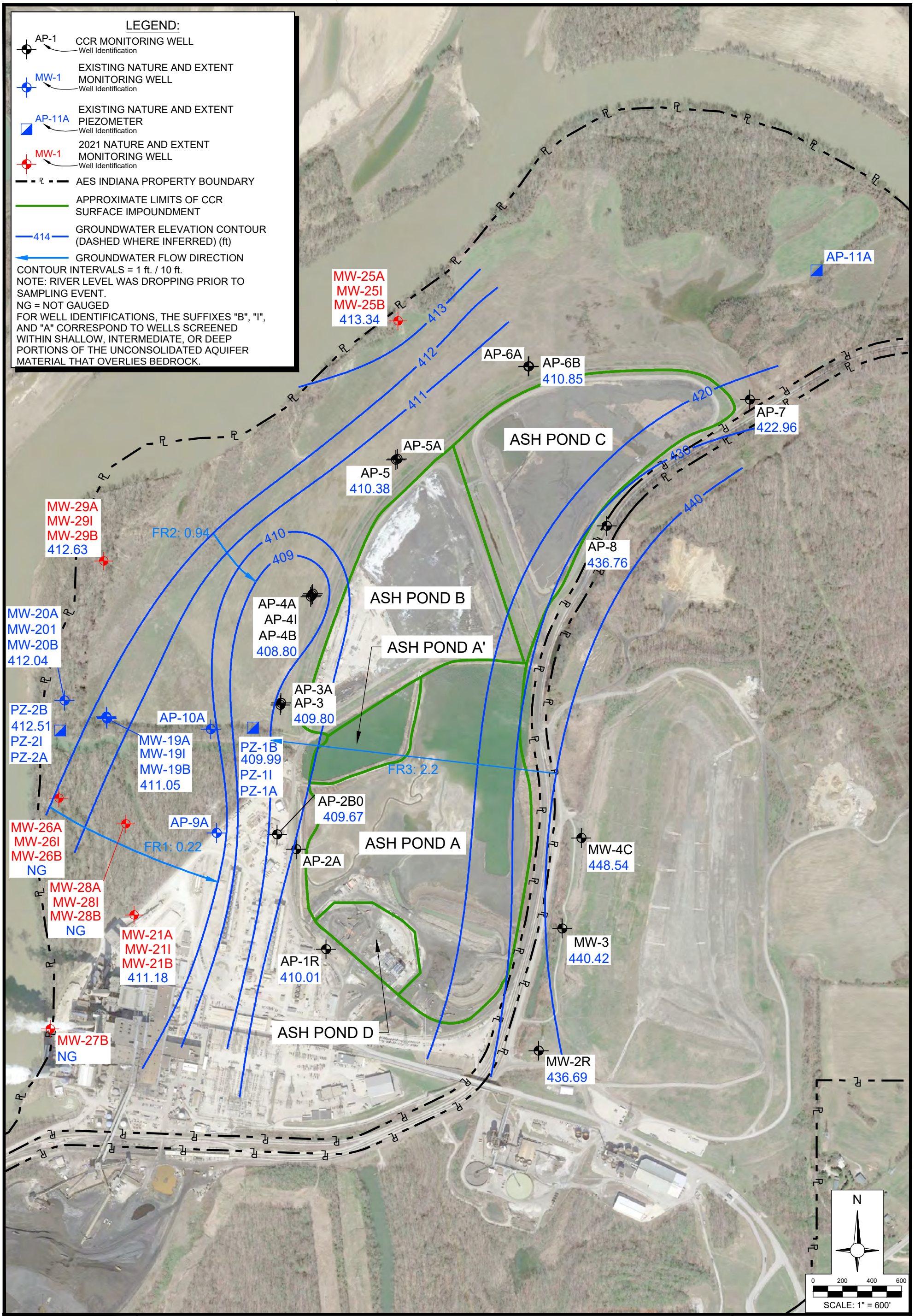

Figure:	3
Scale:	AS SHOWN
Drn. By:	BM
Ckd. By:	MB
Date:	01/19/2023
Project Number:	170LF01278

GROUNDWATER ELEVATION POTENTIOMETRIC SURFACE MAP (SHALLOW ZONE) OCTOBER 31, 2021

AES INDIANA PETERSBURG GENERATING STATION
ASH POND SYSTEM
PETERSBURG, INDIANA

ATC

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LEGEND:

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

CONTOUR INTERVALS = 1.0 ft.
* SUSPECT READING; DATA POINT NOT USED TO CONTOUR MAP
NOTE: RIVER LEVEL WAS DROPPING PRIOR TO SAMPLING EVENT.
NG = NOT GAUGED

FOR WELL IDENTIFICATIONS, THE SUFFIXES "B", "I", AND "A" CORRESPOND TO WELLS SCREENED WITHIN SHALLOW, INTERMEDIATE, OR DEEP PORTIONS OF THE UNCONSOLIDATED AQUIFER MATERIAL THAT OVERLIES BEDROCK.

MW-25A 413.33 MW-25I MW-25B
AP-11A 412.41
AP-6B
AP-6A 410.80
AP-7
AP-5
AP-5A 410.62
ASH POND C
AP-8
MW-29A 412.63 MW-29I MW-29B
FR2: 0.67
ASH POND B
AP-4A 408.81 AP-4I AP-4B
MW-20A 412.32 MW-201 MW-20B
AP-3A 409.06
AP-3
PZ-2A 412.52 PZ-2B PZ-2I
MW-19A 411.23
MW-19I MW-19B
AP-10A 409.87
PZ-1B PZ-1I PZ-1A 409.95
ASH POND A'
MW-26A NG
FR1:0.22
MW-26I MW-26B
AP-2B0
AP-2A 409.41
MW-28A NG MW-28I MW-28B
AP-9A 409.88
ASH POND A
MW-4C
MW-21A 411.14 MW-21I MW-21B
MW-3
AP-1R
ASH POND D
MW-27B
MW-2R

413 412 411 410 409

N

0 200 400 600
SCALE: 1" = 600'

Figure: 4

Scale: AS SHOWN

Drn. By: BM
Ckd. By: MB

Date: 01/19/2023

Project Number: 170LF01278

GROUNDWATER ELEVATION POTENTIOMETRIC SURFACE MAP (DEEP ZONE) OCTOBER 31, 2021

AES INDIANA PETERSBURG GENERATING STATION
ASH POND SYSTEM
PETERSBURG, INDIANA

ATC

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LEGEND:

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

CONTOUR INTERVALS = 0.5 ft.
NOTE: RIVER LEVEL WAS DROPPING PRIOR TO SAMPLING EVENT.

FOR WELL IDENTIFICATIONS, THE SUFFIXES "B", "I", AND "A" CORRESPOND TO WELLS SCREENED WITHIN SHALLOW, INTERMEDIATE, OR DEEP PORTIONS OF THE UNCONSOLIDATED AQUIFER MATERIAL THAT OVERLIES BEDROCK.

MW-25A
MW-25I
MW-25B
414.12

AP-11A

AP-6A
AP-6B
415.00

AP-7
423.70

AP-5A
AP-5
414.37

ASH POND C

MW-29A
MW-29I
MW-29B
414.65

AP-8
438.39

FR1: 0.30

ASH POND B

MW-20A
MW-20I
MW-20B
413.87

AP-4A
AP-4I
AP-4B
414.27

AP-3A
AP-3
414.84

PZ-2B
413.70
PZ-2I

PZ-2A

MW-19A
MW-19I
MW-19B
413.81

AP-10A

PZ-1B
414.34
PZ-1I
PZ-1A

ASH POND A'

MW-26A

MW-26I
MW-26B
413.51

AP-2B0
414.09

MW-28A
MW-28I
MW-28B
413.78

AP-9A
414.00

AP-2A

MW-4C
448.75

FR2: 1.7

ASH POND A

MW-21A
MW-21I
MW-21B
414.08

AP-1R
415.78

MW-3
441.25

ASH POND D

MW-27B
413.15

MW-2R
442.51

USGS STATION 03373980
GAUGE HEIGHT 11.72 FT
(412.42 FT MSL)
5/1/2022 14:00

N

0 200 400 600
SCALE: 1" = 600'

Figure: 5

Scale: AS SHOWN

Drn. By: BH

Ckd. By: MB

Date: 01/23/2023

Project Number: 170LF01278

GROUNDWATER ELEVATION POTENTIOMETRIC SURFACE MAP (SHALLOW ZONE)
MAY 1, 2022

AES INDIANA PETERSBURG GENERATING STATION
ASH POND SYSTEM
PETERSBURG, INDIANA

ATC

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LEGEND:

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

CONTOUR INTERVALS = 0.5 ft.
* SUSPECT READING; DATA POINT NOT USED TO CONTOUR MAP
NOTE: RIVER LEVEL WAS DROPPING PRIOR TO SAMPLING EVENT.
FOR WELL IDENTIFICATIONS, THE SUFFIXES "B", "I", AND "A" CORRESPOND TO WELLS SCREENED WITHIN SHALLOW, INTERMEDIATE, OR DEEP PORTIONS OF THE UNCONSOLIDATED AQUIFER MATERIAL THAT OVERLIES BEDROCK.

MW-25A 414.16 MW-25I MW-25B
AP-11A 414.79
AP-6A 414.92
AP-6B
AP-7
AP-5A 414.50
AP-5
ASH POND C
FR1: 0.24
MW-29A 414.79 MW-29I MW-29B
414.5
414
AP-8
MW-20A 413.81 MW-20I MW-20B
AP-4A 414.26 AP-4I AP-4B
ASH POND B
415
FR2: 0.17
AP-3A 414.01
AP-3
MW-19A 413.59 MW-19I MW-19B
PZ-2B PZ-2I
PZ-2A 413.60
AP-10A 413.49
PZ-1B PZ-1I PZ-1A 414.43
ASH POND A'
MW-26A 413.41
MW-28A 413.80 MW-28I MW-28B
MW-26I MW-26B
413.5
AP-2B0
AP-9A 414.00
AP-2A 413.90*
MW-4C
MW-21A 414.00 MW-21I MW-21B
ASH POND A
AP-1R
MW-3
ASH POND D
MW-27B
MW-2R
USGS STATION 03373980
GAUGE HEIGHT 11.72 FT
(412.42 FT MSL)
5/1/2022 14:00

N
0 200 400 600
SCALE: 1" = 600'

Figure: 9
Scale: AS SHOWN
Drn. By: BH
Ckd. By: MB
Date: 01/23/2023
Project Number: 170LF01278

GROUNDWATER ELEVATION POTENTIOMETRIC SURFACE MAP (DEEP ZONE) MAY 1, 2022

AES INDIANA PETERSBURG GENERATING STATION
ASH POND SYSTEM
PETERSBURG, INDIANA

ATC

TABLES

Table 1:	Well Sampling Summary
Table 2:	Groundwater Elevation Data
Table 3:	Summary of Monitoring Results – November 2021
Table 4:	Summary of Monitoring Results – May 2022
Table 5:	Summary of Monitoring Results – August 2022 Groundwater Vertical Profiling Locations
Table 6:	Summary of Soil Results – 2022 Monitoring Well Locations
Table 7:	Summary of Monitoring Results – August-October 2022 N&E Wells
Table 8A:	Groundwater Protection Standards Summary – November 2021
Table 8B:	Groundwater Protection Standards Summary – May 2022

Table 1
Well Sampling Summary
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Identification	Date Installed	Upgradient/Background, Downgradient, or Nature & Extent	Number of Samples	Sample Date	Detection or Assessment Monitoring Program
MW-2 (2R)	MW-2 - 1986 MW-2R - 2/1/2017	Downgradient	2	5/8/2022 11/7/2022	Assessment
MW-3	1986	Downgradient	2	5/8/2022 11/7/2022	Assessment
MW-4C	9/29/1992	Downgradient	2	5/8/2022 11/8/2022	Assessment
AP-1R	4/5/2016	Downgradient	2	5/12/2022 11/2/2022	Assessment
AP-2BO	4/5/2016	Downgradient	2	5/12/2022 11/2/2022	Assessment
AP-2A	6/11/2014	Downgradient	2	5/12/2022 11/2/2022	Assessment
AP-3	6/9/2014	Downgradient	2	5/15/2022 11/2/2022	Assessment
AP-3A	5/13/2015	Downgradient	2	5/15/2022 11/2/2022	Assessment
AP-4B	6/17/2014	Downgradient	2	5/15/2022 11/3/2022	Assessment
AP-4I	6/16/2014	Downgradient	2	5/15/2022 11/3/2022	Assessment
AP-4A	6/16/2014	Downgradient	2	5/15/2022 11/3/2022	Assessment
AP-5	6/17/2014	Downgradient	2	5/15/2022 11/3/2022	Assessment
AP-5A	5/12/2015	Downgradient	2	5/15/2022 11/3/2022	Assessment
AP-6B	6/18/2014	Downgradient	2	5/15/2022 11/30/2022	Assessment
AP-6A	6/17/2014	Downgradient	2	5/15/2022 11/3/2022	Assessment
AP-7	6/10/2014	Downgradient	2	5/12/2022 11/3/2022	Assessment
AP-8	6/10/2014	Downgradient	2	5/12/2022 11/3/2022	Assessment
AP-9A	5/30/2019	Nature & Extent	2	5/16/2022 11/6/2022	Assessment
AP-10A	8/2/2019	Nature & Extent	2	5/3/2022 11/6/2022	Assessment
AP-11B	9/9/2022	Nature & Extent	1	12/21/2022	Assessment
AP-11I	9/8/2022	Nature & Extent	1	12/21/2022	Assessment
AP-11A	7/30/2019	Nature & Extent	2	8/24/2022 12/21/2022	Assessment

Final Date: 1/26/2023
Revised on 3/1/2023

Table 1
Well Sampling Summary
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Identification	Date Installed	Upgradient/Background, Downgradient, or Nature & Extent	Number of Samples	Sample Date	Detection or Assessment Monitoring Program
MW-19B	8/1/2019	Nature & Extent	2	5/3/2022	Assessment
				11/6/2022	Assessment
MW-19I	8/1/2019	Nature & Extent	2	5/3/2022	Assessment
				11/6/2022	Assessment
MW-19A	8/1/2019	Nature & Extent	2	5/3/2022	Assessment
				11/6/2022	Assessment
MW-20B	4/21/2020	Nature & Extent	1	5/3/2022	Assessment
MW-20I	4/21/2020	Nature & Extent	2	5/3/2022	Assessment
				11/6/2022	
MW-20A	4/22/2020	Nature & Extent	2	5/3/2022	Assessment
				11/6/2022	
MW-21B	4/21/2020	Nature & Extent	2	5/3/2022	Assessment
				11/29/2022	
MW-21I	4/21/2020	Nature & Extent	2	5/3/2022	Assessment
				11/29/2022	
MW-21A	4/22/2020	Nature & Extent	2	5/3/2022	Assessment
				11/21/2022	
MW-25B	8/24/2021	Nature & Extent	2	5/2/2022	Assessment
				11/2/2022	
MW-25I	8/24/2021	Nature & Extent	2	5/2/2022	Assessment
				11/4/2022	
MW-25A	8/23/2021	Nature & Extent	2	5/2/2022	Assessment
				11/2/2022	
MW-26B	8/26/2021	Nature & Extent	2	7/14/2022	Assessment
				11/3/2022	
MW-26I	8/26/2021	Nature & Extent	2	7/14/2022	Assessment
				11/4/2022	
MW-26A	8/26/2021	Nature & Extent	2	7/14/2022	Assessment
				11/3/2022	
MW-27B	8/31/2021	Nature & Extent	2	6/20/2022	Assessment
				12/20/2022	
MW-28B	8/25/2021	Nature & Extent	2	7/14/2022	Assessment
				12/7/2022	
MW-28I	8/25/2021	Nature & Extent	2	7/14/2022	Assessment
				12/19/2022	
MW-28A	8/25/2021	Nature & Extent	2	7/14/2022	Assessment
				12/19/2022	
MW-29B	8/20/2021	Nature & Extent	2	5/2/2022	Assessment
				11/22/2022	
MW-29I	8/19/2021	Nature & Extent	2	5/2/2022	Assessment
				11/21/2022	

Final Date: 1/26/2023
Revised on 3/1/2023

Table 1
Well Sampling Summary
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Identification	Date Installed	Upgradient/Background, Downgradient, or Nature & Extent	Number of Samples	Sample Date	Detection or Assessment Monitoring Program
MW-29A	8/19/2021	Nature & Extent	2	5/2/2022 11/21/2022	Assessment
MW-36B	8/19/2022	Nature & Extent	2	9/1/2022 11/14/2022	Assessment
MW-36I	8/19/2022	Nature & Extent	2	9/1/2022 11/15/2022	Assessment
MW-36A	8/18/2022	Nature & Extent	2	8/31/2022 11/14/2022	Assessment
MW-37B	8/22/2022	Nature & Extent	2	9/2/2022 11/16/2022	Assessment
MW-37I	8/22/2022	Nature & Extent	2	9/2/2022 11/15/2022	Assessment
MW-37A	8/22/2022	Nature & Extent	2	9/1/2022 11/15/2022	Assessment
MW-38B	10/19/2022	Nature & Extent	1	11/10/2022	Assessment
MW-38I	10/19/2022	Nature & Extent	1	11/10/2022	Assessment
MW-38A	10/18/2022	Nature & Extent	1	11/10/2022	Assessment
MW-39B	10/20/2022	Nature & Extent	1	11/17/2022	Assessment
MW-39I	10/20/2022	Nature & Extent	1	11/17/2022	Assessment
MW-39A	10/19/2022	Nature & Extent	1	11/17/2022	Assessment
MW-40B	8/24/2022	Nature & Extent	2	9/6/2022 12/1/2022	Assessment
MW-40I	8/23/2022	Nature & Extent	2	9/6/2022 11/30/2022	Assessment
MW-40A	8/23/2022	Nature & Extent	2	9/7/2022 12/1/2022	Assessment
MW-41B	10/20/2022	Nature & Extent	1	12/1/2022	Assessment
MW-41I	10/20/2022	Nature & Extent	1	12/2/2022	Assessment
MW-41A	10/19/2022	Nature & Extent	1	12/2/2022	Assessment
MW-42B	8/31/2022	Nature & Extent	2	9/13/2022 12/20/2022	Assessment
MW-42I	8/31/2022	Nature & Extent	2	9/12/2022 12/19/2022	Assessment
MW-42A	8/31/2022	Nature & Extent	2	9/13/2022 12/20/2022	Assessment
MW-43B	8/30/2022	Nature & Extent	2	9/8/2022 12/20/2022	Assessment
MW-43I	8/30/2022	Nature & Extent	2	9/9/2022 12/20/2022	Assessment
MW-43A	8/30/2022	Nature & Extent	2	9/9/2022 12/20/2022	Assessment
MW-44B	8/25/2022	Nature & Extent	2	9/7/2022 12/20/2022	Assessment

Final Date: 1/26/2023
Revised on 3/1/2023

Table 1
Well Sampling Summary
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Identification	Date Installed	Upgradient/Background, Downgradient, or Nature & Extent	Number of Samples	Sample Date	Detection or Assessment Monitoring Program
MW-44I	8/25/2022	Nature & Extent	2	9/8/2022 12/20/2022	Assessment
MW-44A	8/25/2022	Nature & Extent	2	9/8/2022 12/20/2022	Assessment
MW-45B	9/14/2022	Nature & Extent	1	12/7/2022	Assessment
MW-45I	9/14/2022	Nature & Extent	1	12/6/2022	Assessment
MW-45A	9/13/2022	Nature & Extent	1	12/6/2022	Assessment
MW-46B	10/6/2022	Nature & Extent	1	11/11/2022	Assessment
MW-46I	10/6/2022	Nature & Extent	1	11/9/2022	Assessment
MW-46A	10/5/2022	Nature & Extent	1	11/9/2022	Assessment
MW-47B	10/17/2022	Nature & Extent	1	11/8/2022	Assessment
MW-47I	10/17/2022	Nature & Extent	1	11/9/2022	Assessment
MW-47A	10/14/2022	Nature & Extent	1	11/11/2022	Assessment

Notes

For well identifications, the suffixes "B", "I", and "A" correspond to wells screened within shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.

MW-20B was dry in November 2022.

Final Date: 1/26/2023
Revised on 3/1/2023

Table 2
Groundwater Elevation Data
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
AP-1R	5/1/2022	443.08	27.30	415.78
	11/1/2022		37.86	405.22
AP-2BO	5/1/2022	436.86	22.77	414.09
	11/1/2022		32.91	403.95
AP-2A	5/1/2022	437.87	23.97	413.90
	11/1/2022		34.09	403.78
AP-3	5/1/2022	421.59	6.75	414.84
	11/1/2022		16.97	404.62
AP-3A	5/1/2022	421.56	7.55	414.01
	11/1/2022		17.81	403.75
AP-4B	5/1/2022	421.72	7.45	414.27
	11/1/2022		18.13	403.59
AP-4I	5/1/2022	421.82	7.53	414.29
	11/1/2022		18.16	403.66
AP-4A	5/1/2022	421.69	7.43	414.26
	11/1/2022		18.08	403.61
AP-5	5/1/2022	422.01	7.64	414.37
	11/1/2022		18.38	403.63
AP-5A	5/1/2022	422.52	8.02	414.50
	11/1/2022		18.76	403.76
AP-6B	5/1/2022	424.40	9.40	415.00
	11/1/2022		DRY	NA
AP-6A	5/1/2022	424.33	9.41	414.92
	11/1/2022		20.44	403.89
AP-7	5/1/2022	434.62	10.92	423.70
	11/1/2022		12.65	421.97
AP-8	5/1/2022	444.20	5.81	438.39
	11/1/2022		8.14	436.06
MW-2 (2R)	5/1/2022	455.00	12.49	442.51
	11/1/2022		18.97	436.03
MW-3	5/1/2022	450.71	9.46	441.25
	11/1/2022		10.30	440.41

Final Date: 1/26/2023
Revised on 3/1/2023

Table 2
Groundwater Elevation Data
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-4C	5/1/2022	454.44	5.69	448.75
	11/1/2022		6.15	448.29
AP-9B	11/4/2022	434.26	31.16	403.10
AP-9I	11/4/2022	434.19	30.03	404.16
AP-9A	5/1/2022	436.83	22.83	414.00
	11/1/2022		33.05	403.78
AP-10B	11/1/2022	Not Surveyed	21.59	NA
AP-10I	11/1/2022	Not Surveyed	21.43	NA
AP-10A	5/1/2022	422.41	8.92	413.49
	11/1/2022		19.01	403.40
AP-11B	11/1/2022	425.35	20.84	404.51
AP-11I	11/1/2022	425.48	21.00	404.48
AP-11A	5/1/2022	424.64	9.85	414.79
	8/24/2022		19.00	405.64
	11/1/2022		20.88	403.76
MW-19B	5/1/2022	421.51	7.70	413.81
	11/1/2022		DRY	NA
MW-19I	5/1/2022	421.28	7.72	413.56
	11/1/2022		18.26	403.02
MW-19A	5/1/2022	421.41	7.82	413.59
	11/1/2022		18.38	403.03
MW-20B	5/1/2022	423.97	10.10	413.87
	11/1/2022		DRY	NA
MW-20I	5/1/2022	424.00	10.16	413.84
	11/1/2022		20.76	403.24
MW-20A	5/1/2022	424.23	10.42	413.81
	11/1/2022		24.98	399.25
MW-21B	5/1/2022	437.24	23.16	414.08
	11/1/2022		33.79	403.45
MW-21I	5/1/2022	437.33	23.25	414.08
	11/1/2022		32.69	404.64

Table 2
Groundwater Elevation Data
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-21A	5/1/2022	437.09	23.09	414.00
	11/1/2022		33.61	403.48
MW-25B	5/1/2022	427.43	13.31	414.12
	11/1/2022		23.57	403.86
MW-25I	5/1/2022	427.43	13.27	414.16
	11/1/2022		24.59	402.84
MW-25A	5/1/2022	427.59	13.43	414.16
	11/1/2022		23.73	403.86
MW-26B	5/1/2022	423.13	9.62	413.51
	11/1/2022		20.07	403.06
MW-26I	5/1/2022	423.25	9.80	413.45
	11/1/2022		20.16	403.09
MW-26A	5/1/2022	423.03	9.62	413.41
	11/1/2022		19.98	403.05
MW-27B	5/1/2022	420.46	7.31	413.15
	11/1/2022		17.65	402.81
MW-28B	5/1/2022	424.43	10.65	413.78
	11/1/2022		21.00	403.43
MW-28I	5/1/2022	424.26	10.86	413.40
	11/1/2022		21.04	403.22
MW-28A	5/1/2022	424.68	10.88	413.80
	11/1/2022		21.23	403.45
MW-29B	5/1/2022	428.17	13.52	414.65
	11/1/2022		24.29	403.88
MW-29I	5/1/2022	427.78	13.18	414.60
	11/1/2022		23.88	403.90
MW-29A	5/1/2022	427.13	12.34	414.79
	11/1/2022		23.21	403.92
MW-36B	9/1/2022	425.13	22.15	402.98
	11/1/2022		23.35	401.78
MW-36I	9/1/2022	425.12	22.10	403.02
	11/1/2022		23.29	401.83

Table 2
Groundwater Elevation Data
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-36A	8/31/2022	426.94	20.80	406.14
	11/1/2022		22.98	403.96
MW-37B	9/2/2022	423.49	17.90	405.59
	11/1/2022		19.85	403.64
MW-37I	9/2/2022	423.64	17.95	405.69
	11/1/2022		19.94	403.70
MW-37A	9/1/2022	423.56	18.60	404.96
	11/1/2022		19.88	403.68
MW-38B	11/1/2022	425.34	21.58	403.76
MW-38I	11/1/2022	425.13	21.28	403.85
MW-38A	11/1/2022	425.20	21.35	403.85
MW-39B	11/1/2022	426.58	23.31	403.27
MW-39I	11/1/2022	426.81	23.06	403.75
MW-39A	11/1/2022	426.94	22.80	404.14
MW-40B	9/6/2022	423.69	17.75	405.94
	11/1/2022		19.87	403.82
MW-40I	9/6/2022	423.73	17.80	405.93
	11/1/2022		19.92	403.81
MW-40A	9/7/2022	423.62	17.65	405.97
	11/1/2022		19.78	403.84
MW-41B	11/1/2022	425.31	22.03	403.28
MW-41I	11/1/2022	425.66	22.32	403.34
MW-41A	11/1/2022	425.82	22.50	403.32
MW-42B	9/13/2022	422.18	17.15	405.03
	11/1/2022		19.10	403.08
MW-42I	9/12/2022	421.88	16.65	405.23
	11/1/2022		18.72	403.16
MW-42A	9/13/2022	421.71	16.70	405.01
	11/1/2022		18.60	403.11
MW-43B	9/8/2022	419.84	14.10	405.74
	11/1/2022		16.89	402.95

Table 2
Groundwater Elevation Data
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-43I	9/9/2022	419.96	14.25	405.71
	11/1/2022		16.69	403.27
MW-43A	9/9/2022	419.88	14.20	405.68
	11/1/2022		16.88	403.00
MW-44B	9/7/2022	418.79	13.30	405.49
	11/1/2022		15.80	402.99
MW-44I	9/8/2022	418.08	12.30	405.78
	11/1/2022		15.09	402.99
MW-44A	9/8/2022	418.22	13.30	404.92
	11/1/2022		15.20	403.02
MW-45B	10/3/2022	428.34	23.65	404.69
	11/1/2022		24.09	404.25
MW-45I	10/3/2022	428.58	24.00	404.58
	11/1/2022		24.36	404.22
MW-45A	10/3/2022	428.37	23.89	404.48
	11/1/2022		23.95	404.42
MW-46B	11/1/2022	424.75	20.71	404.04
MW-46I	11/1/2022	424.71	20.63	404.08
MW-46A	11/1/2022	424.52	20.40	404.12
MW-47B	11/1/2022	427.31	23.33	403.98
MW-47I	11/1/2022	427.54	23.49	404.05
MW-47A	11/1/2022	427.50	23.33	404.17
PZ-1B	5/1/2022	422.54	8.20	414.34
	11/1/2022		18.22	404.32
PZ-1A	5/1/2022	423.63	9.20	414.43
	11/1/2022		19.30	404.33
PZ-2B	5/1/2022	423.50	9.80	413.70
	11/1/2022		20.31	403.19

Table 2
Groundwater Elevation Data
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
PZ-2I	5/1/2022	423.02	9.39	413.63
	11/1/2022		19.85	403.17
PZ-2A	5/1/2022	422.55	8.95	413.60
	11/1/2022		19.40	403.15

Notes:
TOC = Top of Casing
ft-MSL = feet above Mean Sea Level
NA = Not available
For well identifications, the suffixes "B", "I", and "A" correspond to wells screened within shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.
New wells AP-10B and AP-10I had not been surveyed by the end of 2022.

Final Date: 1/26/2023
Revised on 3/1/2023

Table 3

Summary of Monitoring Results - November 2021
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-1R	AP-2BO	AP-2A	AP-3	AP-3A	AP-4B
Sample Date		11/4/2021	11/7/2021	11/4/2021	11/7/2021	11/7/2021	11/7/2021
Lab ID		50302144001	50302232001	50302144002	50302232002	50302232003	50302232006
Static Water Elevation (ft MSL)		410.01	409.67	409.41	409.8	409.06	408.8
Field Parameters	**Units**						
Temperature	°C	19.03	15.43	17.26	16.95	16.03	17.76
Dissolved Oxygen, Field	mg/L	0.25	0.72	0.13	1.88	0.23	0.72
Conductivity, Field	uS/cm	1547.70	1775.80	1709.50	1060.80	2013.10	848.79
ORP, Field	mV	-103.7	62.0	-109.9	97.4	-49	83.5
pH, Field	Std. Units	6.85	6.54	6.98	6.38	6.78	6.30
Analytical Data							
Alkalinity, Total as CaCO3	mg/L	242	165	40.5	370	52.4	451
Alkalinity,Bicarbonate (CaCO3)	mg/L	242	165	40.5	370	52.4	451
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	<200	205	<200	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	1.8	2.5	3.6	<1.0	1.8	<1.0
Barium, Total	ug/L	68.9	26.0	46.5	38.2	34.5	108
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	9100	16600	17200	4000	27800	910
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	446000	580000	600000	376000	722000	236000
Chloride	mg/L	136	95.9	93.8	31.5	156	16.5
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	<1.0	3.4	<1.0	<1.0	<1.0	<1.0
Dissolved Organic Carbon	mg/L	1.6	3.5	2.2	1.6	2.9	2.2
Fluoride	mg/L	<0.10	<0.10	0.16	<0.10	<0.10	<0.10
Iron, Total	ug/L	11900	316	5130	<100	6740	<100
Iron, Ferrous	mg/L	<0.20	<0.20	0.29	<0.20	1.6	<0.20
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	<20.0	25.8	99.2	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	60400	32600	4350	43800	16300	42700
Manganese, Total	ug/L	9300	2480	756	329	2420	<10.0
Manganese, Dissolved	ug/L	8970	2750	820	328	2500	<10.0
Molybdenum, Total	ug/L	13.5	158	1790	<10.0	536	<10.0
Molybdenum, Dissolved	ug/L	13.0	151	1690	<10.0	548	<10.0
Nitrogen, Nitrate	mg/L	<0.10	0.66	<0.10	3.7	<0.10	21.1
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50
Phosphate as P04	mg/L	2.0	0.2	0.32	<0.15	0.16	<0.15
Potassium, Total	ug/L	2040	13700	42700	5360	15800	1050
Radium-226	pCi/L	<0.134	<0.135	0.566	0.251	0.527	0.214
Radium-228	pCi/L	0.509	0.879	0.866	0.622	1.1	<0.338
Selenium, Total	ug/L	<1.0	<1.0	<1.0	2.2	<1.0	9.2
Silica, Total	ug/L	20800	11900	8650	14800	11800	13500
Sodium, Total	ug/L	52500	36200	45400	27100	49200	9560
Sulfate	mg/L	1040	1470	1460	728	1740	217
Sulfide	mg/L	<0.10	<0.10	0.14	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	1990	2450	2300	1500	2890	856
Total Organic Carbon	mg/L	1.7	3.5	1.4	<1.0	2.7	1.3
Total Radium	pCi/L	<0.643	1.01	1.43	0.873	1.63	0.552
pH at 25 Degrees C	Std. Units	7.0	7.4	7.3	7.3	7.2	7.2

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

For well identifications, the suffixes "B", "I", and "A" correspond to wells screened within shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.

Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Final Date: 1/30/2023
Revised on 3/1/2023

Table 3

Summary of Monitoring Results - November 2021
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-4I	AP-4A	AP-5	AP-5A	AP-6B	AP-6A
Sample Date		11/7/2021	11/7/2021	11/7/2021	11/7/2021	11/7/2021	11/7/2021
Lab ID		50302232005	50302232004	50302232007	50302232008	50302232010	50302232009
Static Water Elevation (ft MSL)		408.82	408.81	410.38	410.62	410.85	410.8
Field Parameters	**Units**						
Temperature	°C	17.13	16.75	17.51	18.90	17.07	17.65
Dissolved Oxygen, Field	mg/L	0.53	0.26	0.21	0.30	1.92	0.26
Conductivity, Field	uS/cm	1898.40	2044.70	1268.70	1794.00	953.56	1372.30
ORP, Field	mV	29.2	-26.1	123.4	-39.3	123.7	-34.5
pH, Field	Std. Units	6.75	6.65	6.44	6.79	5.82	6.63
Analytical Data							
Alkalinity, Total as CaCO3	mg/L	99.7	143	277	107	203	310
Alkalinity,Bicarbonate (CaCO3)	mg/L	99.7	143	277	107	203	310
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	<200	<200	328	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium, Total	ug/L	29.1	30.9	35.0	31.1	29.8	25.8
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	13900	21600	5210	12500	1840	7320
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	582000	618000	390000	632000	256000	403000
Chloride	mg/L	106	125	34.5	46.4	19.0	31.1
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	2.4	<1.0	1.6	1.1	<1.0	<1.0
Dissolved Organic Carbon	mg/L	1.9	2.8	<1.0	2.6	<1.0	2.3
Fluoride	mg/L	0.17	<0.10	0.13	<0.10	<0.10	<0.10
Iron, Total	ug/L	2140	9260	282	11800	110	12400
Iron, Ferrous	mg/L	<0.20	1.6	<0.20	0.9	<0.20	0.4
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	<20.0	51.3	<20.0	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	23400	88400	37300	27800	44900	88800
Manganese, Total	ug/L	4030	2680	2350	1980	<10	1160
Manganese, Dissolved	ug/L	4250	2730	1530	1980	13.1	1150
Molybdenum, Total	ug/L	121	214	104	244	<10.0	<10.0
Molybdenum, Dissolved	ug/L	141	221	97.7	250	<10.0	<10.0
Nitrogen, Nitrate	mg/L	<0.10	<0.10	2.5	<0.10	1.3	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	<0.15	0.3	<0.15	0.21	<0.15	0.44
Potassium, Total	ug/L	10000	17000	12200	4570	<1000	2770
Radium-226	pCi/L	0.528	0.389	0.518	<0.118	<0	<0.144
Radium-228	pCi/L	1.16	1.32	1.66	0.882	<-0.0358	0.747
Selenium, Total	ug/L	<1.0	<1.0	1.2	<1.0	1.3	<1.0
Silica, Total	ug/L	9900	11800	13200	14200	11700	12600
Sodium, Total	ug/L	40400	53900	22700	56700	17800	19400
Sulfate	mg/L	1670	1790	826	1660	606	1030
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	2560	2900	1570	2560	1130	1910
Total Organic Carbon	mg/L	1.7	2.1	<1.0	1.5	<1.0	1.3
Total Radium	pCi/L	1.69	1.71	2.18	1.0	<0	0.891
pH at 25 Degrees C	Std. Units	7.2	7.2	7.5	7.2	7.4	7.2

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

For well identifications, the suffixes "B", "I", and "A" correspond to wells screened within shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.

Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Final Date: 1/30/2023
Revised on 3/1/2023

Table 3
Summary of Monitoring Results - November 2021
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-7	AP-8	AP-9A	AP-10A	MW-2R	MW-3
Sample Date		11/3/2021	12/9/2021	11/9/2021	11/9/2021	11/1/2021	11/1/2021
Lab ID		50302013001	50304777001	50302464001	50302464002	50301711001	50301711002
Static Water Elevation (ft MSL)		422.96	436.76	409.88	409.87	436.69	440.42
Field Parameters	**Units**						
Temperature	°C	16.21	14.36	19.13	15.60	15.15	16.77
Dissolved Oxygen, Field	mg/L	0.19	0.01	0.26	0.63	0.17	0.20
Conductivity, Field	uS/cm	1316.60	1247.60	1951.00	1840.40	3027.60	2200.20
ORP, Field	mV	76.5	105.7	-80.4	-68.1	172.9	209.6
pH, Field	Std. Units	6.26	5.46	6.96	6.87	6.24	6.70
Analytical Data							
Alkalinity, Total as CaCO3	mg/L	525	40.5	54.7	50.2	151	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	525	40.5	54.7	50.2	151	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	910	<200	<200	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	4.3	7.2	1.5	1.1	9.9	17.9
Barium, Total	ug/L	81.2	19.2	41.2	30.5	54.0	38.2
Beryllium, Total	ug/L	<0.20	1.8	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	397	788	31700	27400	2160	896
Cadmium, Total	ug/L	<2.0	4.2	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	214000	147000	741000	684000	512000	243000
Chloride	mg/L	4.5	10.3	144	149	95.2	86.4
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	<1.0	319	<1.0	<1.0	2.2	2.3
Dissolved Organic Carbon	mg/L	2.1	4.1	1.5	3.5	1.1	NS
Fluoride	mg/L	0.15	0.41	<0.10	<0.10	<0.10	0.1
Iron, Total	ug/L	20400	114000	6050	7140	10500	<100
Iron, Ferrous	mg/L	<0.20	116	1.7	1.8	<0.20	NS
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	<20.0	45.7	41	20.9	912	1880
Magnesium, Total	ug/L	66300	41500	17200	8470	59900	15300
Manganese, Total	ug/L	1430	8620	1580	2260	5970	1070
Manganese, Dissolved	ug/L	1440	8050	1570	2300	6680	NS
Molybdenum, Total	ug/L	<10.0	<10.0	2010	651	11	501
Molybdenum, Dissolved	ug/L	<10.0	<10.0	2040	677	12.1	NS
Nitrogen, Nitrate	mg/L	<0.10	<0.10	<0.10	14.4	<0.10	NS
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<1.0	<0.10	NS
Phosphate as P04	mg/L	0.39	<0.15	0.49	0.17	0.56	NS
Potassium, Total	ug/L	2540	4050	33900	14500	95500	223000
Radium-226	pCi/L	<0.117	<0.104	<0.331	<-0.384	<0.0728	0.564
Radium-228	pCi/L	1.2	0.889	0.668	0.432	0.697	1.03
Selenium, Total	ug/L	<1.0	1.9	<1.0	<1.0	<1.0	<1.0
Silica, Total	ug/L	24400	39500	13200	10800	18000	15200
Sodium, Total	ug/L	11900	10900	44800	49800	124000	97400
Sulfate	mg/L	289	719	1710	1630	1630	858
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	NS
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	944	1100	2840	2660	2630	1670
Total Organic Carbon	mg/L	2.1	3.9	1.7	2.7	1.2	NS
Total Radium	pCi/L	1.32	0.993	0.999	<0.432	<0.77	1.59
pH at 25 Degrees C	Std. Units	6.7	5.5	7.2	7.1	7.1	7.5

Notes:
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Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

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Table 3
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Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-4C	MW-19B	MW-19I	MW-19A	MW-20B	MW-20I
Sample Date		11/1/2021	11/8/2021	11/8/2021	11/8/2021	11/8/2021	11/8/2021
Lab ID		50301711003	50302319003	50302319002	50302319001	50302319006	50302319005
Static Water Elevation (ft MSL)		448.54	411.05	411.17	411.23	412.04	412.29
Field Parameters	**Units**						
Temperature	°C	16.99	16.68	15.78	15.69	15.72	14.55
Dissolved Oxygen, Field	mg/L	1.04	1.52	0.17	0.09	0.15	0.17
Conductivity, Field	uS/cm	2738.50	434.35	432.51	1763.50	651.66	513.53
ORP, Field	mV	168.4	58.9	30.6	-67.7	74.3	43.8
pH, Field	Std. Units	6.51	6.62	6.67	6.74	6.20	6.54
Analytical Data							
Alkalinity, Total as CaCO3	mg/L	358	260	287	100	418	345
Alkalinity,Bicarbonate (CaCO3)	mg/L	358	260	287	100	418	345
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	<200	<200	<200	301	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	<1.0	<1.0	1.1	<1.0	<1.0
Barium, Total	ug/L	30.7	60.1	63.3	33.9	119	64.4
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	3940	702	964	23500	632	313
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	559000	99800	101000	622000	172000	128000
Chloride	mg/L	41.7	10.8	11.1	110	18.2	11.2
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	1.1	<1.0	<1.0	<1.0	<1.0	1.3
Dissolved Organic Carbon	mg/L	2.3	<1.0	<1.0	2.7	1.1	<1.0
Fluoride	mg/L	<0.10	0.13	<0.10	<0.10	<0.10	<0.10
Iron, Total	ug/L	<100	<100	<100	8970	322	<100
Iron, Ferrous	mg/L	<0.20	<0.20	<0.20	2.7	<0.20	<0.20
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	334	<20.0	<20.0	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	58300	20200	22600	26200	25300	26700
Manganese, Total	ug/L	1000	<10.0	1620	1750	140	1820
Manganese, Dissolved	ug/L	2250	<10.0	1670	1800	122	1920
Molybdenum, Total	ug/L	<10.0	<10.0	<10.0	847	<10.0	<10.0
Molybdenum, Dissolved	ug/L	<10.0	<10.0	<10.0	829	<10.0	<10.0
Nitrogen, Nitrate	mg/L	<0.10	3.6	<0.10	0.19	3.0	1.8
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	<0.15	<0.15	<0.15	0.19	<0.15	<0.15
Potassium, Total	ug/L	43900	1360	<1000	12400	1090	<1000
Radium-226	pCi/L	<0.116	0.277	<-0.072	0.247	<0.346	<0.267
Radium-228	pCi/L	1.13	0.76	0.474	0.768	0.522	0.638
Selenium, Total	ug/L	<1.0	3.3	<1.0	<1.0	3.7	1.7
Silica, Total	ug/L	21400	10500	8600	12100	14600	11100
Sodium, Total	ug/L	80800	9580	6650	42800	12200	5780
Sulfate	mg/L	1420	69.8	67.9	1580	80.7	47
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	2530	413	401	2460	618	476
Total Organic Carbon	mg/L	2.3	<1.0	<1.0	1.5	1.3	<1.0
Total Radium	pCi/L	1.25	1.04	<0.474	1.02	0.868	0.905
pH at 25 Degrees C	Std. Units	6.8	7.5	7.4	7.0	7.3	7.2

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Std. Units: standard units
mg/L: milligram per liter
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Table 3

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AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-20A	MW-21B	MW-21I	MW-21A	MW-25B	MW-25I
Sample Date		11/8/2021	11/9/2021	11/9/2021	11/9/2021	11/5/2021	11/4/2021
Lab ID		50302319004	50302460003	50302460002	50302460001	50302156001	50302141002
Static Water Elevation (ft MSL)		412.32	411.18	411.20	411.14	413.34	413.29
Field Parameters	**Units**						
Temperature	°C	14.27	18.00	17.03	16.18	13.68	14.21
Dissolved Oxygen, Field	mg/L	0.70	0.10	0.21	0.43	0.09	0.25
Conductivity, Field	uS/cm	1200.80	1465.40	1406.30	2370.40	903.24	2311.90
ORP, Field	mV	-52.2	82.2	106.4	136.6	-13.5	-16.20
pH, Field	Std. Units	6.57	6.65	6.96	7.20	6.94	7.02
Analytical Data							
Alkalinity, Total as CaCO3	mg/L	191	409	334	77.4	313	148
Alkalinity,Bicarbonate (CaCO3)	mg/L	191	409	334	77.4	313	148
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	<200	<200	<200	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	2.1	<1.0	<1.0	1.6	<1.0	<1.0
Barium, Total	ug/L	35.7	70.0	39.0	33.7	47.5	35.8
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	15800	879	2670	11000	3430	16800
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	455000	241000	239000	529000	170000	551000
Chloride	mg/L	79.3	65.0	72.5	106	15.2	49.5
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	<1.0	4.2	<1.0	<1.0	<1.0	<1.0
Dissolved Organic Carbon	mg/L	1.4	2.2	4.2	2.4	<1.0	1.3
Fluoride	mg/L	<0.10	<0.10	0.15	0.14	<0.10	<0.10
Iron, Total	ug/L	8290	374	5660	6360	450	11600
Iron, Ferrous	mg/L	1.3	<0.20	<0.20	1.2	<0.20	<0.20
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	<20.0	<20.0	<20.0	84.4	<20.0	<20.0
Magnesium, Total	ug/L	32600	55700	40200	41100	31700	56400
Manganese, Total	ug/L	1410	2130	1360	904	434	1660
Manganese, Dissolved	ug/L	1480	2140	1360	891	431	1650
Molybdenum, Total	ug/L	463	<10.0	89.1	204	<10.0	15.2
Molybdenum, Dissolved	ug/L	474	<10.0	92.4	210	<10.0	15.3
Nitrogen, Nitrate	mg/L	<0.10	<0.10	<0.10	<0.10	2.9	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	0.19	<0.15	0.96	0.77	<0.15	<0.15
Potassium, Total	ug/L	5910	1550	6560	19100	<1000	3120
Radium-226	pCi/L	<-0.406	0.454	0.75	<0.0732	0.233	<0.328
Radium-228	pCi/L	0.553	0.656	0.565	0.451	<0.224	0.618
Selenium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silica, Total	ug/L	12300	16900	14600	13000	14600	12000
Sodium, Total	ug/L	30700	37000	40100	72500	8920	26900
Sulfate	mg/L	1060	387	389	1520	246	1470
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	1850	1010	990	2200	705	2360
Total Organic Carbon	mg/L	1.2	1.8	1.9	1.9	<1.0	<1.0
Total Radium	pCi/L	<0.553	1.11	1.32	<0.524	0.457	0.946
pH at 25 Degrees C	Std. Units	7.2	7.2	7.4	7.0	7.3	7.1

Notes:
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Well ID		MW-25A	MW-26B	MW-26I	MW-26A	MW-27B	MW-28B
Sample Date		11/4/2021	11/3/2021	11/3/2021	11/3/2021	11/3/2021	11/4/2021
Lab ID		50302141001	50302004003	50302004002	50302004001	50302004004	50302141005
Static Water Elevation (ft MSL)		413.33	403.06	403.09	403.05	402.81	403.43
Field Parameters	**Units**						
Temperature	°C	14.25	13.37	14.02	13.73	17.14	15.51
Dissolved Oxygen, Field	mg/L	0.20	0.11	0.04	0.16	0.05	0.10
Conductivity, Field	uS/cm	2414.20	211.49	1780.50	176.60	1760.50	1490.40
ORP, Field	mV	2.40	66.80	90.10	102.10	116.30	77.40
pH, Field	Std. Units	7.21	6.85	7.13	7.20	6.78	7.00
Analytical Data							
Alkalinity, Total as CaCO3	mg/L	166	440	165	88.6	716	237
Alkalinity,Bicarbonate (CaCO3)	mg/L	166	440	165	88.6	716	237
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	<200	<200	<200	<200	251
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	1.0	<1.0	<1.0	1.6	33.1	2.3
Barium, Total	ug/L	31.0	59.1	75.8	33.7	449	61.4
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	13800	2840	15800	25400	7890	6930
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	528000	193000	398000	614000	227000	292000
Chloride	mg/L	41.2	30.1	79.8	99.1	121	61.7
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	<1.0	2.8	<1.0	<1.0	<1.0	5
Dissolved Organic Carbon	mg/L	1.9	1.4	2.0	2.6	13.4	1.8
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10	0.1	0.18
Iron, Total	ug/L	15000	299	9000	8770	27800	2720
Iron, Ferrous	mg/L	0.54	<0.20	<0.20	0.44	<0.20	<0.20
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	<20.0	28.2	33.4	<20.0	<20.0	50.7
Magnesium, Total	ug/L	71800	42800	35700	24400	70900	23800
Manganese, Total	ug/L	1750	2190	1660	2030	1140	2410
Manganese, Dissolved	ug/L	1820	2250	1710	2080	1450	2390
Molybdenum, Total	ug/L	<10.0	<10.0	558	1620	<10.0	490
Molybdenum, Dissolved	ug/L	<10.0	<10.0	556	1640	<10.0	508
Nitrogen, Nitrate	mg/L	<0.10	1.3	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	<0.15	<0.15	0.17	0.23	5.8	<0.15
Potassium, Total	ug/L	2430	5340	11100	10900	4180	19500
Radium-226	pCi/L	<0.192	0.655	<0.144	<0.0644	1.76	1.07
Radium-228	pCi/L	<-0.208	<0.334	1.14	<-0.217	0.897	0.787
Selenium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silica, Total	ug/L	16100	13800	12600	12500	28100	14000
Sodium, Total	ug/L	22900	21200	31600	31900	73800	43300
Sulfate	mg/L	1470	237	942	1390	132	594
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	2420	858	1760	2400	1130	1200
Total Organic Carbon	mg/L	1.4	<1.0	1.4	1.8	14.2	1.6
Total Radium	pCi/L	<0.192	0.989	1.28	<0.0644	2.66	1.86
pH at 25 Degrees C	Std. Units	7.2	7.1	7.1	7.0	7.0	7.3

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Well ID		MW-28I	MW-28A	MW-29B	MW-29I	MW-29A
Sample Date		11/4/2021	11/4/2021	11/8/2021	11/8/2021	11/8/2021
Lab ID		50302141004	50302141003	50302318003	50302318002	50302318001
Static Water Elevation (ft MSL)		403.22	403.45	412.63	412.68	412.63
Field Parameters	**Units**					
Temperature	°C	14.53	14.40	14.42	15.05	14.78
Dissolved Oxygen, Field	mg/L	0.06	0.16	0.94	0.18	0.18
Conductivity, Field	uS/cm	2602.00	2687.20	827.33	760.66	1150.70
ORP, Field	mV	86.30	107.80	73.50	79.70	115.30
pH, Field	Std. Units	7.60	7.48	6.93	7.12	7.11
Analytical Data						
Alkalinity, Total as CaCO3	mg/L	49.7	51.1	420	300	258
Alkalinity,Bicarbonate (CaCO3)	mg/L	49.7	51.1	420	300	258
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	<200	<200	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	1.3	1.2	<1.0	<1.0	<1.0
Barium, Total	ug/L	50.1	34.4	95.9	69.6	47.2
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	26800	26300	201	1000	5080
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	652000	640000	146000	123000	213000
Chloride	mg/L	118	114	10.5	13.9	31.1
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	<1.0	<1.0	1.9	<1.0	<1.0
Dissolved Organic Carbon	mg/L	2.2	2.0	<1.0	<1.0	1.3
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Iron, Total	ug/L	8810	9250	<100	6600	5870
Iron, Ferrous	mg/L	0.75	1.8	<0.20	<0.20	<0.20
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	<20.0	<20.0	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	11700	15900	25600	28000	35200
Manganese, Total	ug/L	2000	2020	2240	1340	1040
Manganese, Dissolved	ug/L	1960	2000	2360	1400	1140
Molybdenum, Total	ug/L	2520	2370	<10.0	<10.0	44
Molybdenum, Dissolved	ug/L	2540	2460	<10.0	<10.0	59.7
Nitrogen, Nitrate	mg/L	<0.10	<0.10	1.8	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	0.25	<0.15	<0.15	0.49	0.21
Potassium, Total	ug/L	39000	28900	<1000	<1000	1780
Radium-226	pCi/L	0.361	0.844	<-0.139	<0.266	0.305
Radium-228	pCi/L	0.752	0.689	<0.297	<0.256	<0.124
Selenium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0
Silica, Total	ug/L	12400	13100	12500	11400	11800
Sodium, Total	ug/L	32400	40100	7530	6640	15600
Sulfate	mg/L	1590	1580	49.1	118	441
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	2590	2600	528	484	907
Total Organic Carbon	mg/L	1.5	1.5	<1.0	<1.0	<1.0
Total Radium	pCi/L	1.11	1.53	<0.297	<0.522	<0.429
pH at 25 Degrees C	Std. Units	7.1	7.0	7.7	7.7	7.7

Notes:
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uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
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Revised on 3/1/2023

Table 4

Summary of Monitoring Results - May 2022
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-1R	AP-1R	AP-2BO	AP-2BO
Sample Date		5/12/2022	5/12/2022	5/12/2022	5/12/2022
Lab ID		50316448001	50316445001	50316448003	50316445003
Static Water Elevation (ft MSL)		415.78		414.09	
Field Parameters	**Units**				
Temperature	°C	22.97		20.76	
Dissolved Oxygen, Field	mg/L	0.78		0.85	
Conductivity, Field	uS/cm	2598.4		2897.4	
ORP, Field	mV	-148.3		-17.2	
pH, Field	Std. Units	7.15		7.04	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	254	NS	164	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	254	NS	164	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	NS	<2.0	NS
Aluminum, Total	ug/L	229	NS	<200	NS
Antimony, Total	ug/L	<1.0	NS	<1.0	NS
Arsenic, Total	ug/L	1.7	NS	2	NS
Barium, Total	ug/L	66.5	NS	25.8	NS
Beryllium, Total	ug/L	<0.20	NS	<0.20	NS
Boron, Total	ug/L	9520	NS	16500	NS
Cadmium, Total	ug/L	<0.20	NS	<0.20	NS
Calcium, Total	ug/L	435000	NS	548000	NS
Chloride	mg/L	145	144	113	105
Chromium, Total	ug/L	<2.0	NS	<2.0	NS
Cobalt, Total	ug/L	<1.0	NS	4.8	NS
Dissolved Organic Carbon	mg/L	2.1	NS	3.7	NS
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Iron, Ferrous	mg/L	<0.20	NS	<0.20	NS
Iron, Total	ug/L	12300	NS	404	NS
Lead, Total	ug/L	<1.0	NS	<1.0	NS
Lithium, Total	ug/L	<20.0	NS	<20.0	NS
Magnesium, Total	ug/L	65800	NS	36100	NS
Manganese, Dissolved	ug/L	9870	NS	2780	NS
Manganese, Total	ug/L	9490	NS	2800	NS
Mercury	ug/L	<0.20	NS	<0.20	NS
Molybdenum, Dissolved	ug/L	15.8	NS	164	NS
Molybdenum, Total	ug/L	13.4	NS	155	NS
Nitrogen, Nitrate	mg/L	<0.10	NS	<0.10	NS
Nitrogen, Nitrite	mg/L	<0.10	NS	<0.10	NS
pH at 25 Degrees C	Std. Units	7.1	7.1	7.2	7.2
Phosphate as P04	mg/L	2.0	NS	<0.15	NS
Potassium, Total	ug/L	2020	NS	13400	NS
Radium-226	pCi/L	0.293	NS	0.438	NS
Radium-228	pCi/L	0.891	NS	0.913	NS
Selenium, Total	ug/L	<1.0	NS	<1.0	NS
Silica, Total	ug/L	21000	NS	11900	NS
Sodium, Total	ug/L	58000	NS	35400	NS
Sulfate	mg/L	1050	1080	1460	1410
Sulfide	mg/L	<0.10	NS	<0.10	NS
Thallium, Total	ug/L	<1.0	NS	<1.0	NS
Total Dissolved Solids	mg/L	2190	1830	2270	2600
Total Organic Carbon	mg/L	1.6	NS	3.4	NS
Total Radium	pCi/L	1.18	NS	1.35	NS

Notes:
ft MSL: Elevation, feet mean sea level
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umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
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Revised on 3/1/2023

Table 4

Summary of Monitoring Results - May 2022
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-2A	AP-2A	AP-3	AP-3
Sample Date		5/12/2022	5/12/2022	5/15/2022	5/15/2022
Lab ID		50316448002	50316445002	50316561001	50316560001
Static Water Elevation (ft MSL)		413.90		414.84	
Field Parameters	**Units**				
Temperature	°C	29.08		15.36	
Dissolved Oxygen, Field	mg/L	1.53		6.52	
Conductivity, Field	uS/cm	2731.9		1131.4	
ORP, Field	mV	-3.3		96.4	
pH, Field	Std. Units	6.52		7.02	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	50.7	NS	421	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	50.7	NS	421	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	NS	<2.0	NS
Aluminum, Total	ug/L	<200	NS	<200	NS
Antimony, Total	ug/L	3.1	NS	<1.0	NS
Arsenic, Total	ug/L	16	NS	<1.0	NS
Barium, Total	ug/L	52.6	NS	18.2	NS
Beryllium, Total	ug/L	<0.20	NS	<0.20	NS
Boron, Total	ug/L	18600	NS	1480	NS
Cadmium, Total	ug/L	<0.20	NS	<0.20	NS
Calcium, Total	ug/L	638000	NS	169000	NS
Chloride	mg/L	130	122	12.3	12.3
Chromium, Total	ug/L	<2.0	NS	<2.0	NS
Cobalt, Total	ug/L	<1.0	NS	<1.0	NS
Dissolved Organic Carbon	mg/L	1.9	NS	2.3	NS
Fluoride	mg/L	<0.10	<0.10	0.13	0.13
Iron, Ferrous	mg/L	0.22	NS	<0.20	NS
Iron, Total	ug/L	4610	NS	<100	NS
Lead, Total	ug/L	1.5	NS	<1.0	NS
Lithium, Total	ug/L	66.8	NS	<20.0	NS
Magnesium, Total	ug/L	6740	NS	42600	NS
Manganese, Dissolved	ug/L	860	NS	<10.0	NS
Manganese, Total	ug/L	842	NS	40.6	NS
Mercury	ug/L	<0.20	NS	<0.20	NS
Molybdenum, Dissolved	ug/L	1300	NS	<10.0	NS
Molybdenum, Total	ug/L	1570	NS	1.1	NS
Nitrogen, Nitrate	mg/L	<0.10	NS	5.4	NS
Nitrogen, Nitrite	mg/L	<0.10	NS	<0.20	NS
pH at 25 Degrees C	Std. Units	7.3	7.3	7.1	7.0
Phosphate as P04	mg/L	1.1	NS	<0.15	NS
Potassium, Total	ug/L	41900	NS	<1000	NS
Radium-226	pCi/L	0.473	NS	<0.467	NS
Radium-228	pCi/L	1.32	NS	<0.67	NS
Selenium, Total	ug/L	<1.0	NS	2.9	NS
Silica, Total	ug/L	8380	NS	14500	NS
Sodium, Total	ug/L	45300	NS	11100	NS
Sulfate	mg/L	1550	1530	178	183
Sulfide	mg/L	<0.10	NS	<0.10	NS
Thallium, Total	ug/L	<1.0	NS	<1.0	NS
Total Dissolved Solids	mg/L	2530	2640	731	747
Total Organic Carbon	mg/L	1.7	NS	<1.0	NS
Total Radium	pCi/L	1.79	NS	<1.14	NS

Notes:
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mV: millivolt
Std. Units: standard units
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Table 4
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Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-3A	AP-3A	AP-4B	AP-4B
Sample Date		5/15/2022	5/15/2022	5/15/2022	5/15/2022
Lab ID		50316561002	50316560002	50316561005	50316560005
Static Water Elevation (ft MSL)		414.01		414.27	
Field Parameters	**Units**				
Temperature	°C	16.89		16.38	
Dissolved Oxygen, Field	mg/L	0.22		3.08	
Conductivity, Field	uS/cm	3344.8		1073.4	
ORP, Field	mV	-108		84.2	
pH, Field	Std. Units	7.35		6.57	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	76.3	NS	393	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	76.3	NS	393	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	NS	<2.0	NS
Aluminum, Total	ug/L	<200	NS	<200	NS
Antimony, Total	ug/L	<1.0	NS	<1.0	NS
Arsenic, Total	ug/L	1.4	NS	<1.0	NS
Barium, Total	ug/L	34.6	NS	97.5	NS
Beryllium, Total	ug/L	<0.20	NS	<0.20	NS
Boron, Total	ug/L	26900	NS	545	NS
Cadmium, Total	ug/L	<0.20	NS	<0.20	NS
Calcium, Total	ug/L	694000	NS	156000	NS
Chloride	mg/L	160	158	11.7	11.7
Chromium, Total	ug/L	<2.0	NS	<2.0	NS
Cobalt, Total	ug/L	<1.0	NS	<1.0	NS
Dissolved Organic Carbon	mg/L	3.2	NS	1.8	NS
Fluoride	mg/L	0.15	0.15	0.11	0.11
Iron, Ferrous	mg/L	0.23	NS	<0.20	NS
Iron, Total	ug/L	8050	NS	<100	NS
Lead, Total	ug/L	<1.0	NS	<1.0	NS
Lithium, Total	ug/L	<20.0	NS	<20.0	NS
Magnesium, Total	ug/L	46300	NS	32000	NS
Manganese, Dissolved	ug/L	2790	NS	<10.0	NS
Manganese, Total	ug/L	2920	NS	<10.0	NS
Mercury	ug/L	<0.20	NS	<0.20	NS
Molybdenum, Dissolved	ug/L	632	NS	<10.0	NS
Molybdenum, Total	ug/L	639	NS	<1.0	NS
Nitrogen, Nitrate	mg/L	<0.10	NS	15.2	NS
Nitrogen, Nitrite	mg/L	<0.10	NS	<1.0	NS
pH at 25 Degrees C	Std. Units	6.9	6.9	6.9	7.0
Phosphate as P04	mg/L	<0.15	NS	<0.15	NS
Potassium, Total	ug/L	16600	NS	<1000	NS
Radium-226	pCi/L	0.314	NS	<0.494	NS
Radium-228	pCi/L	0.667	NS	0.37	NS
Selenium, Total	ug/L	<1.0	NS	14.4	NS
Silica, Total	ug/L	13200	NS	9990	NS
Sodium, Total	ug/L	51400	NS	12000	NS
Sulfate	mg/L	1780	1740	104	103
Sulfide	mg/L	<0.10	NS	<0.10	NS
Thallium, Total	ug/L	<1.0	NS	<1.0	NS
Total Dissolved Solids	mg/L	2950	2880	648	640
Total Organic Carbon	mg/L	2.4	NS	1.1	NS
Total Radium	pCi/L	0.981	NS	<1.17	NS

Notes:
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ug/L: microgram per liter
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AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-4I	AP-4I	AP-4A	AP-4A
Sample Date		5/15/2022	5/15/2022	5/15/2022	5/15/2022
Lab ID		50316561004	50316560004	50316561003	50316560003
Static Water Elevation (ft MSL)		414.29		414.26	
Field Parameters	**Units**				
Temperature	°C	17.11		17.69	
Dissolved Oxygen, Field	mg/L	0.34		0.07	
Conductivity, Field	uS/cm	2812.5		3279.2	
ORP, Field	mV	24.8		15.0	
pH, Field	Std. Units	7.11		6.88	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	183	NS	141	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	183	NS	141	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	NS	<2.0	NS
Aluminum, Total	ug/L	<200	NS	<200	NS
Antimony, Total	ug/L	<1.0	NS	<1.0	NS
Arsenic, Total	ug/L	<1.0	NS	<1.0	NS
Barium, Total	ug/L	21.8	NS	26.8	NS
Beryllium, Total	ug/L	<0.20	NS	<0.20	NS
Boron, Total	ug/L	7900	NS	22300	NS
Cadmium, Total	ug/L	<0.20	NS	<0.20	NS
Calcium, Total	ug/L	640000	NS	654000	NS
Chloride	mg/L	86.2	88	127	128
Chromium, Total	ug/L	<2.0	NS	<2.0	NS
Cobalt, Total	ug/L	2.7	NS	<1.0	NS
Dissolved Organic Carbon	mg/L	1.5	NS	2.1	NS
Fluoride	mg/L	0.25	0.25	0.15	0.13
Iron, Ferrous	mg/L	<0.20	NS	<0.20	NS
Iron, Total	ug/L	1050	NS	5460	NS
Lead, Total	ug/L	<1.0	NS	<1.0	NS
Lithium, Total	ug/L	<20.0	NS	45.2	NS
Magnesium, Total	ug/L	68300	NS	82200	NS
Manganese, Dissolved	ug/L	5300	NS	3290	NS
Manganese, Total	ug/L	5550	NS	3400	NS
Mercury	ug/L	<0.20	NS	<0.20	NS
Molybdenum, Dissolved	ug/L	55.8	NS	195	NS
Molybdenum, Total	ug/L	56.7	NS	183	NS
Nitrogen, Nitrate	mg/L	<0.10	NS	0.39	NS
Nitrogen, Nitrite	mg/L	<0.10	NS	<0.10	NS
pH at 25 Degrees C	Std. Units	<0.20	7.2	7.0	7.0
Phosphate as P04	mg/L	<0.15	NS	<0.15	NS
Potassium, Total	ug/L	5500	NS	17800	NS
Radium-226	pCi/L	0.127	NS	<0.487	NS
Radium-228	pCi/L	0.736	NS	<0.847	NS
Selenium, Total	ug/L	<1.0	NS	<1.0	NS
Silica, Total	ug/L	12900	NS	11900	NS
Sodium, Total	ug/L	29800	NS	53700	NS
Sulfate	mg/L	1660	1730	1800	1790
Sulfide	mg/L	<0.10	NS	<0.10	NS
Thallium, Total	ug/L	<1.0	NS	<1.0	NS
Total Dissolved Solids	mg/L	2630	2700	2890	2880
Total Organic Carbon	mg/L	1.4	NS	1.8	NS
Total Radium	pCi/L	0.863	NS	<1.33	NS

Notes:
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Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-5	AP-5	AP-5A	AP-5A
Sample Date		5/15/2022	5/15/2022	5/15/2022	5/15/2022
Lab ID		50316561006	50316560006	50316561007	50316560007
Static Water Elevation (ft MSL)		414.37		414.50	
Field Parameters	**Units**				
Temperature	°C	16.81		19.83	
Dissolved Oxygen, Field	mg/L	1.65		0.69	
Conductivity, Field	uS/cm	823.46		489.72	
ORP, Field	mV	82.1		-109.4	
pH, Field	Std. Units	7.05		7.22	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	297	NS	108	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	297	NS	108	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	NS	<2.0	NS
Aluminum, Total	ug/L	<200	NS	<200	NS
Antimony, Total	ug/L	<1.0	NS	<1.0	NS
Arsenic, Total	ug/L	<1.0	NS	<1.0	NS
Barium, Total	ug/L	29.3	NS	23.5	NS
Beryllium, Total	ug/L	<0.20	NS	<0.20	NS
Boron, Total	ug/L	886	NS	12800	NS
Cadmium, Total	ug/L	<0.20	NS	<0.20	NS
Calcium, Total	ug/L	130000	NS	641000	NS
Chloride	mg/L	5.3	8.5	48	46.8
Chromium, Total	ug/L	<2.0	NS	<2.0	NS
Cobalt, Total	ug/L	1.7	NS	<1.0	NS
Dissolved Organic Carbon	mg/L	1.2	NS	2.5	NS
Fluoride	mg/L	0.18	0.19	<0.10	0.11
Iron, Ferrous	mg/L	<0.20	NS	<0.20	NS
Iron, Total	ug/L	<100	NS	11400	NS
Lead, Total	ug/L	<1.0	NS	<1.0	NS
Lithium, Total	ug/L	<20.0	NS	<20.0	NS
Magnesium, Total	ug/L	25400	NS	47900	NS
Manganese, Dissolved	ug/L	132	NS	1690	NS
Manganese, Total	ug/L	389	NS	1780	NS
Mercury	ug/L	<0.20	NS	<0.20	NS
Molybdenum, Dissolved	ug/L	39.2	NS	212	NS
Molybdenum, Total	ug/L	27.6	NS	210	NS
Nitrogen, Nitrate	mg/L	4	NS	<0.10	NS
Nitrogen, Nitrite	mg/L	<0.10	NS	<0.10	NS
pH at 25 Degrees C	Std. Units	7.4	7.3	6.9	6.8
Phosphate as P04	mg/L	0.18	NS	0.29	NS
Potassium, Total	ug/L	3320	NS	3610	NS
Radium-226	pCi/L	<0.674	NS	<0.47	NS
Radium-228	pCi/L	0.794	NS	1.24	NS
Selenium, Total	ug/L	4.2	NS	<1.0	NS
Silica, Total	ug/L	12700	NS	15200	NS
Sodium, Total	ug/L	8250	NS	58400	NS
Sulfate	mg/L	127	216	1760	1140
Sulfide	mg/L	<0.10	NS	<0.10	NS
Thallium, Total	ug/L	<1.0	NS	<1.0	NS
Total Dissolved Solids	mg/L	527	602	2620	2690
Total Organic Carbon	mg/L	<1.0	NS	1.6	NS
Total Radium	pCi/L	0.884	NS	1.28	NS

Notes:
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umhos/cm: micromhos per centimeter
NA: Not analyzed
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Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Revised on 3/1/2023

Table 4
Summary of Monitoring Results - May 2022
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-6B	AP-6B	AP-6A	AP-6A
Sample Date		5/15/2022	5/15/2022	5/15/2022	5/15/2022
Lab ID		50316561009	50316560009	50316561008	50316560008
Static Water Elevation (ft MSL)		415.00		414.92	
Field Parameters	**Units**				
Temperature	°C	15.44		18.45	
Dissolved Oxygen, Field	mg/L	3.83		0.29	
Conductivity, Field	uS/cm	1222.4		1850.8	
ORP, Field	mV	52.2		-90.5	
pH, Field	Std. Units	7.05		7.02	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	328	NS	368	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	328	NS	368	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	NS	<2.0	NS
Aluminum, Total	ug/L	627	NS	<200	NS
Antimony, Total	ug/L	<1.0	NS	<1.0	NS
Arsenic, Total	ug/L	<1.0	NS	<1.0	NS
Barium, Total	ug/L	30.5	NS	22.6	NS
Beryllium, Total	ug/L	<0.20	NS	<0.20	NS
Boron, Total	ug/L	970	NS	3570	NS
Cadmium, Total	ug/L	<0.20	NS	<0.20	NS
Calcium, Total	ug/L	195000	NS	308000	NS
Chloride	mg/L	9.3	9.3	16.7	16.9
Chromium, Total	ug/L	2.0	NS	<2.0	NS
Cobalt, Total	ug/L	<1.0	NS	<1.0	NS
Dissolved Organic Carbon	mg/L	1.0	NS	2.1	NS
Fluoride	mg/L	<0.10	0.15	<0.10	<0.10
Iron, Ferrous	mg/L	<0.20	NS	<0.20	NS
Iron, Total	ug/L	1210	NS	10200	NS
Lead, Total	ug/L	<1.0	NS	<1.0	NS
Lithium, Total	ug/L	<20.0	NS	<20.0	NS
Magnesium, Total	ug/L	41000	NS	77600	NS
Manganese, Dissolved	ug/L	<10.0	NS	937	NS
Manganese, Total	ug/L	67.5	NS	973	NS
Mercury	ug/L	<0.20	NS	<0.20	NS
Molybdenum, Dissolved	ug/L	<10.0	NS	<10.0	NS
Molybdenum, Total	ug/L	<1.0	NS	<1.0	NS
Nitrogen, Nitrate	mg/L	3.8	NS	<0.10	NS
Nitrogen, Nitrite	mg/L	<0.10	NS	<0.10	NS
pH at 25 Degrees C	Std. Units	7.2	7.3	7.2	7.0
Phosphate as P04	mg/L	<0.15	NS	0.31	NS
Potassium, Total	ug/L	<1000	NS	2430	NS
Radium-226	pCi/L	<0.332	NS	<0.746	NS
Radium-228	pCi/L	<0.642	NS	<0.653	NS
Selenium, Total	ug/L	3.1	NS	<1.0	NS
Silica, Total	ug/L	14700	NS	13400	NS
Sodium, Total	ug/L	12200	NS	15000	NS
Sulfate	mg/L	315	317	700	703
Sulfide	mg/L	<0.10	NS	<0.10	NS
Thallium, Total	ug/L	<1.0	NS	<1.0	NS
Total Dissolved Solids	mg/L	798	847	1450	1470
Total Organic Carbon	mg/L	<1.0	NS	1.4	NS
Total Radium	pCi/L	<0.974	NS	<1.4	NS

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Table 4
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Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-7	AP-7	AP-8	AP-8
Sample Date		5/12/2022	5/12/2022	5/12/2022	5/12/2022
Lab ID		50316448004	50316445004	50316448005	50316445005
Static Water Elevation (ft MSL)		423.70		438.39	
Field Parameters	**Units**				
Temperature	°C	17.58		15.53	
Dissolved Oxygen, Field	mg/L	0.10		0.28	
Conductivity, Field	uS/cm	1560.3		1622.8	
ORP, Field	mV	-95.9		236	
pH, Field	Std. Units	6.61		4.38	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	544	NS	5.0	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	544	NS	5.0	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	NS	<2.0	NS
Aluminum, Total	ug/L	<200	NS	3990	NS
Antimony, Total	ug/L	<1.0	NS	<1.0	NS
Arsenic, Total	ug/L	1.5	NS	5.4	NS
Barium, Total	ug/L	82.2	NS	15.2	NS
Beryllium, Total	ug/L	<0.20	NS	4.2	NS
Boron, Total	ug/L	273	NS	536	NS
Cadmium, Total	ug/L	<0.20	NS	15.4	NS
Calcium, Total	ug/L	214000	NS	160000	NS
Chloride	mg/L	4.2	2.9	12.4	10.9
Chromium, Total	ug/L	<2.0	NS	<2.0	NS
Cobalt, Total	ug/L	<1.0	NS	663	NS
Dissolved Organic Carbon	mg/L	2.9	NS	3.5	NS
Fluoride	mg/L	<0.10	<0.10	1	2.1
Iron, Ferrous	mg/L	2.9	NS	32.2	NS
Iron, Total	ug/L	29200	NS	47400	NS
Lead, Total	ug/L	<1.0	NS	<1.0	NS
Lithium, Total	ug/L	<20.0	NS	83	NS
Magnesium, Total	ug/L	66500	NS	71400	NS
Manganese, Dissolved	ug/L	1600	NS	16800	NS
Manganese, Total	ug/L	1560	NS	18400	NS
Mercury	ug/L	<0.2	NS	<0.20	NS
Molybdenum, Dissolved	ug/L	<10.0	NS	<10.0	NS
Molybdenum, Total	ug/L	<1.0	NS	<1.0	NS
Nitrogen, Nitrate	mg/L	<0.10	NS	<0.10	NS
Nitrogen, Nitrite	mg/L	<0.10	NS	<0.10	NS
pH at 25 Degrees C	Std. Units	6.8	6.8	4.9	4.9
Phosphate as P04	mg/L	0.45	NS	<0.15	NS
Potassium, Total	ug/L	2390	NS	2440	NS
Radium-226	pCi/L	0.616	NS	0.51	NS
Radium-228	pCi/L	0.8	NS	<0.575	NS
Selenium, Total	ug/L	<1.0	NS	<1.0	NS
Silica, Total	ug/L	26200	NS	72800	NS
Sodium, Total	ug/L	11200	NS	14900	NS
Sulfate	mg/L	322	318	856	854
Sulfide	mg/L	<0.10	NS	<0.10	NS
Thallium, Total	ug/L	<1.0	NS	<1.0	NS
Total Dissolved Solids	mg/L	1030	1110	1450	1560
Total Organic Carbon	mg/L	1.9	NS	3.4	NS
Total Radium	pCi/L	1.42	NS	0.79	NS

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
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Table 4
Summary of Monitoring Results - May 2022
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-9A	AP-10A	MW-2R	MW-2R
Sample Date		5/16/2022	5/3/2022	5/8/2022	5/8/2022
Lab ID		50316626001	50315479001	50315982001	50315986001
Static Water Elevation (ft MSL)		414.00	413.49	442.51	
Field Parameters	**Units**				
Temperature	˚C	20.14	14.47	13.45	
Dissolved Oxygen, Field	mg/L	0.37	0.68	1.22	
Conductivity, Field	uS/cm	3259.20	2369.20	3031.20	
ORP, Field	mV	-136.30	-127.70	-95.80	
pH, Field	Std. Units	7.43	7.33	7.11	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	56.4	178	139	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	56.4	178	139	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	NS
Aluminum, Total	ug/L	<200	<200	<200	NS
Antimony, Total	ug/L	<1.0	<1.0	NS	<1.0
Arsenic, Total	ug/L	1	1.1	NS	16.3
Barium, Total	ug/L	41.2	30.8	NS	45.2
Beryllium, Total	ug/L	<0.20	<0.20	NS	<0.20
Boron, Total	ug/L	32700	27800	NS	1790
Cadmium, Total	ug/L	<2.0	<2.0	NS	<0.20
Calcium, Total	ug/L	93100	642000	NS	506000
Chloride	mg/L	255	186	58.4	72.2
Chromium, Total	ug/L	<10.0	<10.0	NS	<2.0
Cobalt, Total	ug/L	<1.0	<1.0	NS	3.3
Dissolved Organic Carbon	mg/L	2.5	3.3	1.7	NS
Fluoride	mg/L	0.24	<0.10	<0.10	<0.10
Iron, Ferrous	mg/L	0.81	4.9	<0.20	NS
Iron, Total	ug/L	5900	8020	17200	NS
Lead, Total	ug/L	<10.0	<10.0	NS	<1.0
Lithium, Total	ug/L	30.2	<20.0	NS	897
Magnesium, Total	ug/L	17500	9260	49400	NS
Manganese, Dissolved	ug/L	1560	2380	5740	NS
Manganese, Total	ug/L	1580	2290	5510	NS
Mercury	ug/L	NS	NS	NS	<0.20
Molybdenum, Dissolved	ug/L	2020	713	NS	NS
Molybdenum, Total	ug/L	2040	717	NS	10.2
Nitrogen, Nitrate	mg/L	<0.10	<0.10	<0.10	NS
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	NS
pH at 25 Degrees C	Std. Units	7.0	6.9	6.8	6.8
Phosphate as P04	mg/L	0.62	0.16	1.8	NS
Potassium, Total	ug/L	34000	13700	115000	NS
Radium-226	pCi/L	<0.639	<0.645	NS	0.455
Radium-228	pCi/L	0.588	0.656	NS	0.768
Selenium, Total	ug/L	<1.0	<1.0	NS	<1.0
Silica, Total	ug/L	13900	10900	16100	NS
Sodium, Total	ug/L	44200	45300	116000	NS
Sulfate	mg/L	1830	2280	1610	1610
Sulfide	mg/L	<0.10	<0.10	<0.10	NS
Thallium, Total	ug/L	<1.0	<1.0	NS	<1.0
Total Dissolved Solids	mg/L	2900	2700	2410	2420
Total Organic Carbon	mg/L	1.7	2.5	1.3	NS
Total Radium	pCi/L	0.815	0.705	NS	1.22

Notes:
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°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-3	MW-3	MW-4C	MW-4C
Sample Date		5/8/2022	5/8/2022	5/8/2022	5/8/2022
Lab ID		50315982002	50315986002	50315982003	50315986005
Static Water Elevation (ft MSL)		441.25		448.75	
Field Parameters	**Units**				
Temperature	°C	15.74		14.91	
Dissolved Oxygen, Field	mg/L	0.13		0.81	
Conductivity, Field	uS/cm	2992.40		2930.70	
ORP, Field	mV	32.60		103.30	
pH, Field	Std. Units	7.42		6.96	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	102	NS	376	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	102	NS	376	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	NS	<2.0	NS
Aluminum, Total	ug/L	<200	NS	<200	NS
Antimony, Total	ug/L	NS	<1.0	NS	<1.0
Arsenic, Total	ug/L	NS	14.8	NS	<1.0
Barium, Total	ug/L	NS	55.0	NS	26.6
Beryllium, Total	ug/L	NS	<0.20	NS	<0.20
Boron, Total	ug/L	NS	1140	NS	3630
Cadmium, Total	ug/L	NS	<0.20	NS	0.88
Calcium, Total	ug/L	NS	514000	NS	583000
Chloride	mg/L	68.4	60.8	40.3	42.8
Chromium, Total	ug/L	NS	<2.0	NS	<2.0
Cobalt, Total	ug/L	NS	1.8	NS	<1.0
Dissolved Organic Carbon	mg/L	4.5	NS	2.6	NS
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Iron, Ferrous	mg/L	<0.20	NS	<0.20	NS
Iron, Total	ug/L	<100	NS	<100	NS
Lead, Total	ug/L	NS	<1.0	NS	<1.0
Lithium, Total	ug/L	NS	1960	NS	442
Magnesium, Total	ug/L	11800	NS	59300	NS
Manganese, Dissolved	ug/L	3980	NS	1980	NS
Manganese, Total	ug/L	4030	NS	970	NS
Mercury	ug/L	NS	<0.20	NS	<0.20
Molybdenum, Dissolved	ug/L	NS	NS	NS	NS
Molybdenum, Total	ug/L	NS	273	NS	7.8
Nitrogen, Nitrate	mg/L	<0.10	NS	<0.10	NS
Nitrogen, Nitrite	mg/L	<0.10	NS	<0.10	NS
pH at 25 Degrees C	Std. Units	7.3	7.4	7.0	7.0
Phosphate as P04	mg/L	<0.15	NS	<0.15	NS
Potassium, Total	ug/L	187000	NS	41700	NS
Radium-226	pCi/L	NS	0.563	NS	<0.734
Radium-228	pCi/L	NS	0.695	NS	0.972
Selenium, Total	ug/L	NS	<1.0	NS	<1.0
Silica, Total	ug/L	12000	NS	19600	NS
Sodium, Total	ug/L	95500	NS	79400	NS
Sulfate	mg/L	1540	1530	1440	1450
Sulfide	mg/L	<0.10	NS	<0.10	NS
Thallium, Total	ug/L	NS	<1.0	NS	<1.0
Total Dissolved Solids	mg/L	2210	2270	2340	2310
Total Organic Carbon	mg/L	1.4	NS	2.0	NS
Total Radium	pCi/L	NS	1.26	NS	1.16

Notes:
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uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
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mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
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Table 4

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Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-19B	MW-19I	MW-19A	MW-20B
Sample Date		5/3/2022	5/3/2022	5/3/2022	5/3/2022
Lab ID		50315479004	50315479003	50315479002	50315479007
Static Water Elevation (ft MSL)		413.81	413.56	413.59	413.87
Field Parameters	**Units**				
Temperature	˚C	13.48	14.43	16.47	13.07
Dissolved Oxygen, Field	mg/L	6.41	0.28	0.26	1.20
Conductivity, Field	uS/cm	502.1	471.27	2275.4	881.37
ORP, Field	mV	68.4	40.9	-108.4	65.5
pH, Field	Std. Units	7.49	7.30	7.28	6.56
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	227	447	259	439
Alkalinity,Bicarbonate (CaCO3)	mg/L	227	447	259	439
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	<200	<200	1170
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	<1.0	1.1	<1.0
Barium, Total	ug/L	55.0	59.5	35.4	117
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	306	912	24800	494
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	84300	103000	600000	172000
Chloride	mg/L	9.9	9.9	117	14.5
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Dissolved Organic Carbon	mg/L	<1.0	1.1	2.7	1.0
Fluoride	mg/L	0.11	<0.10	<0.10	<0.10
Iron, Ferrous	mg/L	<0.20	<0.20	3.9	<0.20
Iron, Total	ug/L	<100	<100	9500	1230
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	<20.0	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	16300	23600	26900	24300
Manganese, Dissolved	ug/L	<10.0	1340	1850	<10.0
Manganese, Total	ug/L	<10.0	1780	1840	288
Mercury	ug/L	NS	NS	NS	NS
Molybdenum, Dissolved	ug/L	<10.0	<10.0	952	<10.0
Molybdenum, Total	ug/L	<10.0	<10.0	926	<10.0
Nitrogen, Nitrate	mg/L	1.6	0.35	<0.10	6.3
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.50
pH at 25 Degrees C	Std. Units	7.5	7.2	6.9	6.8
Phosphate as P04	mg/L	<0.15	<0.15	0.27	<0.15
Potassium, Total	ug/L	3980	<1000	12200	<1000
Radium-226	pCi/L	<0.58	<0.69	<0.816	<0.386
Radium-228	pCi/L	<0.941	<0.852	0.50	<1.07
Selenium, Total	ug/L	1.3	<1.0	<1.0	4.1
Silica, Total	ug/L	7810	9030	12800	16400
Sodium, Total	ug/L	8280	6700	43000	10500
Sulfate	mg/L	56.7	64.9	1510	67.7
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	345	427	2420	609
Total Organic Carbon	mg/L	<1.0	<1.0	1.8	1
Total Radium	pCi/L	<1.52	<1.54	<1.62	<1.46

Notes:
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umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
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Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-20I	MW-20A	MW-21B	MW-21I
Sample Date		5/3/2022	5/3/2022	5/3/2022	5/3/2022
Lab ID		50315479006	50315479005	50315476005	50315476002
Static Water Elevation (ft MSL)		413.84	413.81	414.08	414.08
Field Parameters	**Units**				
Temperature	˚C	14.85	15.85	17.66	18.02
Dissolved Oxygen, Field	mg/L	0.42	1.17	0.03	0.00
Conductivity, Field	uS/cm	107.19	-	1792.60	1360.00
ORP, Field	mV	15.9	-101.1	49.50	-116.30
pH, Field	Std. Units	7.18	7.31	6.55	6.88
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	357	215	429	361
Alkalinity,Bicarbonate (CaCO3)	mg/L	357	215	429	361
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	333	<200	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	2.0	<1.0	<1.0
Barium, Total	ug/L	62.3	32.2	65.6	43.4
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	328	12100	622	2640
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	119000	355000	299000	232000
Chloride	mg/L	7.8	59.1	50	68.4
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	1.7	<1.0	6.4	<1.0
Dissolved Organic Carbon	mg/L	1.3	1.6	2.2	1.8
Fluoride	mg/L	0.12	0.1	<0.10	0.14
Iron, Ferrous	mg/L	<0.20	1	<0.20	0.59
Iron, Total	ug/L	550	8010	648	5360
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	<20.0	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	25700	30700	72600	33700
Manganese, Dissolved	ug/L	1410	1290	7040	1280
Manganese, Total	ug/L	1840	1350	7310	1200
Mercury	ug/L	NS	NS	NS	NS
Molybdenum, Dissolved	ug/L	<10.0	288	<10.0	116
Molybdenum, Total	ug/L	<10.0	336	<10.0	112
Nitrogen, Nitrate	mg/L	5.1	<0.10	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.50	<0.10	<0.10	<0.10
pH at 25 Degrees C	Std. Units	7.1	7.0	6.8	7.1
Phosphate as P04	mg/L	<0.15	0.31	<0.15	1.1
Potassium, Total	ug/L	<1000	5250	2440	8650
Radium-226	pCi/L	<0.721	0.309	0.261	<0.35
Radium-228	pCi/L	<1.12	<1.04	0.555	<0.599
Selenium, Total	ug/L	2.3	<1.0	<1.0	<1.0
Silica, Total	ug/L	12400	12400	16700	14100
Sodium, Total	ug/L	6930	25400	30500	35800
Sulfate	mg/L	35.5	903	661	402
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	451	1500	1390	1120
Total Organic Carbon	mg/L	<1.0	1.1	2.2	1.9
Total Radium	pCi/L	<1.84	<1.36	0.816	<0.949

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
For well identifications, the suffixes "B", "I", and "A" correspond to wells screened within shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.
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Final Date: 1/30/2023
Revised on 3/1/2023

Table 4
Summary of Monitoring Results - May 2022
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-21A	MW-25B	MW-25I	MW-25A
Sample Date		5/3/2022	5/2/2022	5/2/2022	5/2/2022
Lab ID		50315476001	50315334003	50315334002	50315334001
Static Water Elevation (ft MSL)		414.00	414.12	414.16	414.16
Field Parameters	**Units**				
Temperature	˚C	17.58	14.88	15.89	15.81
Dissolved Oxygen, Field	mg/L	0.02	0.16	0.00	0.09
Conductivity, Field	uS/cm	2510.00	650.00	2370.00	2410.00
ORP, Field	mV	-131.60	-37.80	-151.80	-171.60
pH, Field	Std. Units	7.17	6.80	6.90	6.85
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	82.4	339	155	180
Alkalinity,Bicarbonate (CaCO3)	mg/L	82.4	339	155	180
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	<200	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	1.7	<1.0	<1.0	<1.0
Barium, Total	ug/L	32.8	39.6	26.1	28.5
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	10700	2680	14300	11200
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	525000	173000	554000	560000
Chloride	mg/L	102	13.9	42.3	48.4
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	<1.0	<1.0	<1.0	1.3
Dissolved Organic Carbon	mg/L	2	1.8	1	1.1
Fluoride	mg/L	0.18	<0.10	<0.10	<0.10
Iron, Ferrous	mg/L	<0.20	<0.20	<0.20	<0.20
Iron, Total	ug/L	6240	213	11100	15300
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	77.8	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	37200	37300	50400	64500
Manganese, Dissolved	ug/L	885	259	1380	1550
Manganese, Total	ug/L	843	290	1390	1580
Mercury	ug/L	NS	NS	NS	NS
Molybdenum, Dissolved	ug/L	204	<10.0	17.4	11.1
Molybdenum, Total	ug/L	199	<10.0	17.7	11.1
Nitrogen, Nitrate	mg/L	<0.10	3.2	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10
pH at 25 Degrees C	Std. Units	7.1	7.2	7.1	7.1
Phosphate as P04	mg/L	0.85	<0.15	0.18	0.62
Potassium, Total	ug/L	19400	<1000	2970	2470
Radium-226	pCi/L	0.252	0.162	0.212	0.353
Radium-228	pCi/L	1.02	<0.591	0.442	0.373
Selenium, Total	ug/L	<1.0	1.2	<1.0	<1.0
Silica, Total	ug/L	13000	14000	11900	14800
Sodium, Total	ug/L	63800	7360	24300	21400
Sulfate	mg/L	1750	225	1440	1550
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	2320	735	2220	2350
Total Organic Carbon	mg/L	1.8	<1.0	1.0	1.9
Total Radium	pCi/L	1.27	<0.892	0.654	0.726

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Final Date: 1/30/2023
Revised on 3/1/2023

Table 4
Summary of Monitoring Results - May 2022
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-26B	MW-26I	MW-26A	MW-27B
Sample Date		7/14/2022	7/14/2022	7/14/2022	6/20/2022
Lab ID		50321163003	50321163002	50321163001	50319335001
Static Water Elevation (ft MSL)		413.51	413.45	413.41	413.15
Field Parameters	**Units**				
Temperature	°C	15.83	15.40	15.30	19.67
Dissolved Oxygen, Field	mg/L	0.06	0.04	0.01	0.17
Conductivity, Field	uS/cm	436.29	560.76	1096.70	1802.40
ORP, Field	mV	13.00	-208.30	-233.10	-108.70
pH, Field	Std. Units	6.92	7.08	7.15	6.61
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	453	402	338	699
Alkalinity,Bicarbonate (CaCO3)	mg/L	453	402	338	699
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0
Aluminum, Total	ug/L	218	<200	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	1.9	1.5	42.8
Barium, Total	ug/L	30.5	38.6	31.8	497
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	1250	6160	23900	8320
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	157000	239000	538000	239000
Chloride	mg/L	22.5	58.1	120	141
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	1.6	<1.0	<1.0	<1.0
Dissolved Organic Carbon	mg/L	1.1	1.2	2.1	12.7
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Iron, Ferrous	mg/L	<0.20	<0.20	0.22	<0.20
Iron, Total	ug/L	851	4650	8270	40000
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	<20.0	32.8	<20.0	<20.0
Magnesium, Total	ug/L	36300	37700	23900	70700
Manganese, Dissolved	ug/L	1300	2000	2050	1680
Manganese, Total	ug/L	1300	2020	2030	1700
Mercury	ug/L	NS	NS	NS	NS
Molybdenum, Dissolved	ug/L	<10.0	164	1450	<10.0
Molybdenum, Total	ug/L	<10.0	152	1390	<10.0
Nitrogen, Nitrate	mg/L	3.3	<0.10	<0.10	0.12
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10
pH at 25 Degrees C	Std. Units	7.1	7.3	7.1	6.8
Phosphate as P04	mg/L	<0.15	0.17	0.2	5.8
Potassium, Total	ug/L	3320	9360	10300	3970
Radium-226	pCi/L	0.135	0.369	0.214	1.52
Radium-228	pCi/L	0.834	0.702	1.36	0.886
Selenium, Total	ug/L	3.1	<1.0	<1.0	<1.0
Silica, Total	ug/L	13100	13200	11900	32800
Sodium, Total	ug/L	16100	26900	29400	61400
Sulfate	mg/L	126	422	1450	171
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	707	1160	2420	1190
Total Organic Carbon	mg/L	<1.0	1.0	1.7	13
Total Radium	pCi/L	0.969	1.07	1.57	2.41

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Revised on 3/1/2023

Table 4

Summary of Monitoring Results - May 2022
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-28B	MW-28I	MW-28A	MW-29B
Sample Date		7/14/2022	7/14/2022	7/14/2022	5/2/2022
Lab ID		50321163006	50321163005	50321163004	50315334006
Static Water Elevation (ft MSL)		413.78	413.40	413.80	414.65
Field Parameters	**Units**				
Temperature	˚C	18.66	18.13	17.21	14.15
Dissolved Oxygen, Field	mg/L	0.02	0.11	0.08	0.12
Conductivity, Field	uS/cm	572.57	305.02	1080.80	906.21
ORP, Field	mV	-37.90	-6.00	-234.30	12.70
pH, Field	Std. Units	6.87	6.72	7.32	6.81
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	307	132	268	516
Alkalinity,Bicarbonate (CaCO3)	mg/L	307	132	268	516
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	<10.0	<2.0	<2.0
Aluminum, Total	ug/L	<200	<200	<200	<200
Antimony, Total	ug/L	<1.0	1.1	<1.0	<1.0
Arsenic, Total	ug/L	2.2	<1.0	1.3	<1.0
Barium, Total	ug/L	41.7	55.2	35.1	152
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	6180	10900	24700	108
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	246000	287000	579000	168000
Chloride	mg/L	61.7	66.5	103	11.5
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Cobalt, Total	ug/L	5.4	<1.0	<1.0	1.4
Dissolved Organic Carbon	mg/L	1.1	1.9	2	1.9
Fluoride	mg/L	0.15	0.13	0.1	<0.10
Iron, Ferrous	mg/L	<0.20	<0.20	0.67	<0.20
Iron, Total	ug/L	1360	2060	7560	<100
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	30	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	41000	14800	10400	28300
Manganese, Dissolved	ug/L	1660	2340	1970	1980
Manganese, Total	ug/L	1560	779	1920	2280
Mercury	ug/L	NS	NS	NS	NS
Molybdenum, Dissolved	ug/L	164	666	2280	<10.0
Molybdenum, Total	ug/L	144	311	2200	<10.0
Nitrogen, Nitrate	mg/L	<0.10	0.29	<0.10	0.18
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10
pH at 25 Degrees C	Std. Units	7.2	7.0	6.9	7.1
Phosphate as P04	mg/L	<0.15	<0.15	0.27	<0.15
Potassium, Total	ug/L	5490	17900	37600	<1000
Radium-226	pCi/L	<0.426	<0.453	0.338	0.306
Radium-228	pCi/L	0.782	<1.3	1.09	0.314
Selenium, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Silica, Total	ug/L	12200	8950	10900	12800
Sodium, Total	ug/L	43300	32000	28900	7130
Sulfate	mg/L	589	695	1450	35.1
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	1190	1270	2620	592
Total Organic Carbon	mg/L	1.2	1.8	1.7	1.2
Total Radium	pCi/L	0.94	<1.75	1.43	0.62

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Revised on 3/1/2023

Table 4

Summary of Monitoring Results - May 2022
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-29I	MW-29A
Sample Date		5/2/2022	5/2/2022
Lab ID		50315334005	50315334004
Static Water Elevation (ft MSL)		414.60	414.79
Field Parameters	**Units**		
Temperature	°C	14.24	16.23
Dissolved Oxygen, Field	mg/L	0.18	0.26
Conductivity, Field	uS/cm	752.41	1268.80
ORP, Field	mV	-66.80	-81.30
pH, Field	Std. Units	7.09	7.05
Analytical Data			
Alkalinity, Total as CaCO3	mg/L	305	228
Alkalinity,Bicarbonate (CaCO3)	mg/L	305	228
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0
Aluminum, Total	ug/L	<200	228
Antimony, Total	ug/L	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	<1.0
Barium, Total	ug/L	67	33.5
Beryllium, Total	ug/L	<0.20	<0.20
Boron, Total	ug/L	656	7220
Cadmium, Total	ug/L	<2.0	<2.0
Calcium, Total	ug/L	121000	255000
Chloride	mg/L	13	37.3
Chromium, Total	ug/L	<10.0	<10.0
Cobalt, Total	ug/L	<1.0	<1.0
Dissolved Organic Carbon	mg/L	1.1	1.8
Fluoride	mg/L	<0.10	<0.10
Iron, Ferrous	mg/L	<0.20	<0.20
Iron, Total	ug/L	2830	6280
Lead, Total	ug/L	<10.0	<10.0
Lithium, Total	ug/L	<20.0	<20.0
Magnesium, Total	ug/L	25300	38600
Manganese, Dissolved	ug/L	2220	1250
Manganese, Total	ug/L	2140	1240
Mercury	ug/L	NS	NS
Molybdenum, Dissolved	ug/L	<10.0	85.3
Molybdenum, Total	ug/L	<10.0	82.9
Nitrogen, Nitrate	mg/L	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10
pH at 25 Degrees C	Std. Units	7.4	7.2
Phosphate as P04	mg/L	0.32	0.33
Potassium, Total	ug/L	<1000	2450
Radium-226	pCi/L	0.231	<0.481
Radium-228	pCi/L	<0.669	0.607
Selenium, Total	ug/L	<1.0	<1.0
Silica, Total	ug/L	10400	12100
Sodium, Total	ug/L	5960	18900
Sulfate	mg/L	104	540
Sulfide	mg/L	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0
Total Dissolved Solids	mg/L	493	1100
Total Organic Carbon	mg/L	<1.0	<1.0
Total Radium	pCi/L	<1.03	0.607

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Static water elevation listed for a well may have been collected on a date different than date of well sampling.

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Revised on 3/1/2023

Table 5
Summary of Monitoring Results - August 2022 Profile Borings
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		GWP-101S	GWP-106S	GWP-106I	GWP-106D
Sample Date		8/18/2022	8/16/2022	8/16/2022	8/16/2022
Lab ID		50323932001	50323704003	50323704004	50323704005
Static Water Elevation (ft MSL)		415.58	405.49	407.47	421.29
Field Parameters	**Units**				
Temperature	°C	14.59	14.72	16.18	16.48
Dissolved Oxygen, Field	mg/L	0.00	0.03	0.00	0.00
Conductivity, Field	uS/cm	1170.9	866.21	961.37	967.53
ORP, Field	mV	3.1	16.3	-29.9	-144.0
pH, Field	Std. Units	7.28	6.95	7.45	7.59
Analytical Data					
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	1.6	<1.0	3.4	2.3
Barium, Total	ug/L	31.7	108	95.9	55.1
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	1440	<100	941	931
Cadmium, Total	ug/L	0.29	<0.20	<0.20	<0.20
Calcium, Total	ug/L	182000	141000	164000	145000
Chloride	mg/L	5.5	6.7	7.6	9.1
Cobalt, Total	ug/L	8.6	6.5	4.7	<1.0
Fluoride	mg/L	0.35	<0.10	<0.10	<0.10
Lead, Total	ug/L	<1.0	<1.0	3.1	<1.0
Lithium, Total	ug/L	<20.0	<20.0	<20.0	<20.0
Molybdenum, Total	ug/L	5.1	<1.0	1.6	1.5
Radium-226	pCi/L	<0.845	0.844	0.759	0.24
Radium-228	pCi/L	0.583	<1.37	0.848	<1.26
Sulfate	mg/L	386	27.2	297	304
Total Dissolved Solids	mg/L	890	502	683	680
Total Radium	pCi/L	<1.59	<1.9	1.61	<1.78
pH at 25 Degrees C	Std. Units	7.9	6.9	7.3	7.3

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

For temporary well identifications, the suffixes "S", "I", and "D" correspond to shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.
Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Final Date: 1/30/2023
Revised on 3/1/2023

Table 5
Summary of Monitoring Results - August 2022 Profile Borings
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		GWP-108S	GWP-108I	GWP-108D	GWP-109S
Sample Date		8/16/2022	8/17/2022	8/17/2022	8/17/2022
Lab ID		50323704006	50323704007	50323704008	50323934001
Static Water Elevation (ft MSL)		407.22	406.57	417.67	406.46
Field Parameters	**Units**				
Temperature	°C	15.36	15.38	16.44	14.76
Dissolved Oxygen, Field	mg/L	0.02	0.08	0.09	0.01
Conductivity, Field	uS/cm	946.80	943.17	925.9	998.90
ORP, Field	mV	-11.60	-10.5	-91.3	33.50
pH, Field	Std. Units	7.63	7.33	7.35	8.56
Analytical Data					
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	17.2	<1.0	2.5	18.1
Barium, Total	ug/L	235	97.1	84.4	229
Beryllium, Total	ug/L	1.5	<0.20	<0.20	1.3
Boron, Total	ug/L	662	1120	912	1420
Cadmium, Total	ug/L	0.56	<0.20	<0.20	0.45
Calcium, Total	ug/L	367000	143000	146000	275000
Chloride	mg/L	7.7	7.8	7.4	6.2
Cobalt, Total	ug/L	31.1	<1.0	1.0	23.5
Fluoride	mg/L	<0.10	<0.10	<0.10	0.11
Lead, Total	ug/L	29.2	<1.0	<1.0	22.9
Lithium, Total	ug/L	27.1	<20.0	<20.0	31.9
Molybdenum, Total	ug/L	2.8	<1.0	1.6	2.4
Radium-226	pCi/L	1.91	0.273	<0.651	1.39
Radium-228	pCi/L	1.18	<1.34	<1.5	1.67
Sulfate	mg/L	217	299	314	352
Total Dissolved Solids	mg/L	604	671	646	668
Total Radium	pCi/L	3.09	<1.98	<2.15	3.06
pH at 25 Degrees C	Std. Units	7.2	7.3	7.3	7.3

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

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Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Final Date: 1/30/2023
Revised on 3/1/2023

Table 5
Summary of Monitoring Results - August 2022 Profile Borings
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		GWP-109I	GWP-109D	GWP-110S	GWP-110I
Sample Date		8/17/2022	8/18/2022	8/10/2022	8/15/2022
Lab ID		50323934002	50323934003	50323268001	50323704001
Static Water Elevation (ft MSL)		406.46	407.46	403.91	397.40
Field Parameters	**Units**				
Temperature	°C	15.82	15.29	20.06	13.53
Dissolved Oxygen, Field	mg/L	0.00	0.00	10.77	0.02
Conductivity, Field	uS/cm	981.28	1007.0	684.84	836.12
ORP, Field	mV	-81.80	-87.60	156.00	13.0
pH, Field	Std. Units	9.07	7.37	6.69	7.31
Analytical Data					
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	<1.0	13.2	<1.0
Barium, Total	ug/L	81.0	80.0	163	49.1
Beryllium, Total	ug/L	<0.20	<0.20	0.81	<0.20
Boron, Total	ug/L	1140	1460	912	748
Cadmium, Total	ug/L	<0.20	<0.20	0.25	<0.20
Calcium, Total	ug/L	148000	160000	150000	129000
Chloride	mg/L	7.4	8.5	4.1	5.3
Cobalt, Total	ug/L	1.7	<1.0	14.0	<1.0
Fluoride	mg/L	0.11	0.11	0.16	0.15
Lead, Total	ug/L	<1.0	<1.0	13.8	<1.0
Lithium, Total	ug/L	<20.0	<20.0	<20.0	<20.0
Molybdenum, Total	ug/L	2.6	1.9	1.2	<1.0
Radium-226	pCi/L	<0.893	0.309	<0.484	<0.618
Radium-228	pCi/L	0.808	0.648	0.598	<1.25
Sulfate	mg/L	328	341	165	247
Total Dissolved Solids	mg/L	685	723	488	554
Total Radium	pCi/L	1.14	0.957	<1.43	<1.87
pH at 25 Degrees C	Std. Units	7.3	7.3	7.0	7.3

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

For temporary well identifications, the suffixes "S", "I", and "D" correspond to shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.
Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Final Date: 1/30/2023
Revised on 3/1/2023

Table 5
Summary of Monitoring Results - August 2022 Profile Borings
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		GWP-110D
Sample Date		8/15/2022
Lab ID		50323704002
Static Water Elevation (ft MSL)		418.59
Field Parameters	**Units**	
Temperature	°C	16.16
Dissolved Oxygen, Field	mg/L	0.15
Conductivity, Field	uS/cm	954.01
ORP, Field	mV	-93.10
pH, Field	Std. Units	7.49
Analytical Data		
Antimony, Total	ug/L	<1.0
Arsenic, Total	ug/L	1.2
Barium, Total	ug/L	42.9
Beryllium, Total	ug/L	<0.20
Boron, Total	ug/L	1220
Cadmium, Total	ug/L	<0.20
Calcium, Total	ug/L	145000
Chloride	mg/L	6.6
Cobalt, Total	ug/L	<1.0
Fluoride	mg/L	0.1
Lead, Total	ug/L	<1.0
Lithium, Total	ug/L	<20.0
Molybdenum, Total	ug/L	1.0
Radium-226	pCi/L	<0.624
Radium-228	pCi/L	<1.38
Sulfate	mg/L	261
Total Dissolved Solids	mg/L	656
Total Radium	pCi/L	<2
pH at 25 Degrees C	Std. Units	7.3

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

For temporary well identifications, the suffixes "S", "I", and "D" correspond to shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.
Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Final Date: 1/30/2023
Revised on 3/1/2023

Table 6
Summary of Soil Results - 2022 Monitoring Well Locations
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-36B (22-24)	MW-36A (64-66)	MW-37B (22-24)	MW-37I (44-46)	MW-37A (62-64)
Sample Date		8/30/2022	8/30/2022	8/30/2022	8/30/2022	50324746006
Lab ID		50324746002	50324746003	50324746004	50324746001	8/30/2022
Analytical Data						
Arsenic, Total	mg/kg	2.4	1.6	3.1	2.5	2.1
Boron, Total	mg/kg	4.7	4.2	2.8	4	6.3
Calcium, Total	mg/kg	16100	56900	31800	78200	68600
Iron, Total	mg/kg	9690	6200	7690	4290	5210
Lithium, Total	mg/kg	10.8	<5.4	<5.7	<5.4	<4.9
Manganese, Total	mg/kg	169	313	236	251	306
Mean Total Organic Carbon	mg/kg	4180	11600	3320	18000	15000
Molybdenum, Total	mg/kg	<1.2	0.67	<0.59	<0.57	0.96
Percent Moisture	%	21.1	9.4	17.2	13.1	10.6
RSD%	%	16.2	6.8	21.7	22.2	6.1
Sulfate	mg/kg	5.1	185	10.4	57.9	317
Total Organic Carbon	mg/kg	4510	11000	4120	18200	16300
Total Organic Carbon	mg/kg	3890	11200	2400	23500	14400
Total Organic Carbon	mg/kg	3400	12700	3570	14400	14800
Total Organic Carbon	mg/kg	4930	11500	3200	15800	
pH at 25 Degrees C	Std. Units	8.1	7.6	7.9	8	7.6

Notes:
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NA: Not Analyzed
Std. Units: standard units
mg/kg: milligram per kilogram

Final Date: 1/30/2023
Revised on 3/1/2023

Table 6
Summary of Soil Results - 2022 Monitoring Well Locations
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-38B (24-26)	MW-38I (44-46)	MW-38A (62-64)	MW-39B (28-30)	MW-39I (44-46)
Sample Date		10/19/2022	10/19/2022	10/18/2022	10/20/2022	10/20/2022
Lab ID		50329629003	50329629002	50329629001	50329629006	50329629005
Analytical Data						
Arsenic, Total	mg/kg	2.5	2.2	1.1	7	2.8
Boron, Total	mg/kg	2.7	7.2	6.9	2.5	8.3
Calcium, Total	mg/kg	35000	82900	93100	23000	89700
Iron, Total	mg/kg	6520	6960	4650	8390	4630
Lithium, Total	mg/kg	<5	<5.5	<5.6	<5.3	<6
Manganese, Total	mg/kg	355	364	289	171	311
Mean Total Organic Carbon	mg/kg	6690	16000	11500	4650	22300
Molybdenum, Total	mg/kg	<0.22	0.59	0.6	<0.24	0.53
Percent Moisture	%	16.3	16.9	12.9	19.6	18.2
RSD%	%	3.7	8.7	28.9	11.5	1.7
Sulfate	mg/kg	17.9	277	266	13.9	311
Total Organic Carbon	mg/kg	6720	17200	6640	4720	22800
Total Organic Carbon	mg/kg	6880	14700	12100	5300	22200
Total Organic Carbon	mg/kg	6830	17300	13500	4560	22300
Total Organic Carbon	mg/kg	6330	15000	13800	4000	21900
pH at 25 Degrees C	Std. Units	7.5	6.8	6.9	7.4	7.7

Notes:
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NA: Not Analyzed
Std. Units: standard units
mg/kg: milligram per kilogram

Final Date: 1/30/2023
Revised on 3/1/2023

Table 6
Summary of Soil Results - 2022 Monitoring Well Locations
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-39A (62-64)	MW-40B (24-26)	MW-40I (45-47)	MW-40A (60-62)	MW-41B (24-26)
Sample Date		10/19/2022	9/9/2022	8/30/2022	8/30/2022	10/28/2022
Lab ID		50329629004	50325525001	50324746009	50324746008	50329629009
Analytical Data						
Arsenic, Total	mg/kg	1.3	3.3	1.5	1.2	1.9
Boron, Total	mg/kg	9.5	3.3	8.7	8	2.8
Calcium, Total	mg/kg	78800	30000	86600	73000	20400
Iron, Total	mg/kg	4380	9870	5160	4010	5690
Lithium, Total	mg/kg	<5.4	<5.5	<5.5	<4.8	<5.2
Manganese, Total	mg/kg	256	701	273	219	95.1
Mean Total Organic Carbon	mg/kg	23700	6540	24500	15800	2280
Molybdenum, Total	mg/kg	0.85	<2.2	<0.57	0.71	<0.22
Percent Moisture	%	15.8	12.7	17.2	12.9	13
RSD%	%	2.5	38.1	4.5	23.2	10
Sulfate	mg/kg	330	17.1	378	303	4.8
Total Organic Carbon	mg/kg	22900	2830	23100	14200	2550
Total Organic Carbon	mg/kg	24200	7640	24000	21200	2380
Total Organic Carbon	mg/kg	23600	8190	25600	14200	2110
Total Organic Carbon	mg/kg	24100	7520	25100	13500	2070
pH at 25 Degrees C	Std. Units	7.1	7.8	7.6	7.8	7.1

Notes:
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NA: Not Analyzed
Std. Units: standard units
mg/kg: milligram per kilogram

Final Date: 1/30/2023
Revised on 3/1/2023

Table 6
Summary of Soil Results - 2022 Monitoring Well Locations
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-41I (44-46)	MW-41A (62-64)	MW-42B (22-24)	MW-42I (37-43)	MW-42A (56-58)
Sample Date		10/28/2022	10/28/2022	9/1/2022	9/1/2022	9/1/2022
Lab ID		50329629008	50329629007	50324920003	50324920001	50324920002
Analytical Data						
Arsenic, Total	mg/kg	0.77	1.4	2.6	1.8	1.5
Boron, Total	mg/kg	5	4	2.9	6.1	6.5
Calcium, Total	mg/kg	87500	107000	22600	65700	69900
Iron, Total	mg/kg	3950	6430	7580	5020	4460
Lithium, Total	mg/kg	<4.7	6.3	<5.4	<5.4	<5.5
Manganese, Total	mg/kg	258	345	273	268	183
Mean Total Organic Carbon	mg/kg	8160	7930	3830	19400	14000
Molybdenum, Total	mg/kg	0.37	<0.49	<0.58	0.83	1.3
Percent Moisture	%	10.9	3.3	17.8	14.1	18.3
RSD%	%	0.73	13.1	21.3	4.5	8.5
Sulfate	mg/kg	22.1	9.7	11.4	87.9	188
Total Organic Carbon	mg/kg	8190	6730	3580	19600	12700
Total Organic Carbon	mg/kg	8070	9250	3970	20300	15400
Total Organic Carbon	mg/kg	8200	7740	2910	19400	13300
Total Organic Carbon	mg/kg	8170	8000	4860	18200	14400
pH at 25 Degrees C	Std. Units	7	7.7	7.9	8	8.1

Notes:
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NA: Not Analyzed
Std. Units: standard units
mg/kg: milligram per kilogram

Final Date: 1/30/2023
Revised on 3/1/2023

Table 6
Summary of Soil Results - 2022 Monitoring Well Locations
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-43B (24-26)	MW-43I (39-41)	MW-43A (56-58)	MW-44B (26-28)	MW-44I (42-44)
Sample Date		9/1/2022	9/1/2022	9/1/2022	9/1/2022	9/1/2022
Lab ID		50324920006	50324920005	50324920004	50324871001	50324871002
Analytical Data						
Arsenic, Total	mg/kg	2	1.6	2.1	1.8	2.3
Boron, Total	mg/kg	3	3.3	5.3	5.2	4.9
Calcium, Total	mg/kg	34800	41100	62000	67100	65000
Iron, Total	mg/kg	6910	4470	5960	6220	3180
Lithium, Total	mg/kg	<5.3	<5.1	<5.3	<5.3	<5.6
Manganese, Total	mg/kg	335	299	352	208	230
Mean Total Organic Carbon	mg/kg	3680	4850	10900	12100	9570
Molybdenum, Total	mg/kg	<0.56	<0.58	0.76	0.54	0.71
Percent Moisture	%	17.7	18	8.6	11.3	12.1
RSD%	%	50.5	12.4	15.2	17.7	20.6
Sulfate	mg/kg	19.5	53	159	37.4	142
Total Organic Carbon	mg/kg	6380	5430	9700	15000	8450
Total Organic Carbon	mg/kg	2230	4220	13200	11400	12000
Total Organic Carbon	mg/kg	3400	5290	11100	12200	10200
Total Organic Carbon	mg/kg	2730	4470	9680	9900	7580
pH at 25 Degrees C	Std. Units	8	8	8	7.9	7.5

Notes:
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NA: Not Analyzed
Std. Units: standard units
mg/kg: milligram per kilogram

Final Date: 1/30/2023
Revised on 3/1/2023

Table 6
Summary of Soil Results - 2022 Monitoring Well Locations
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-44A (54-56)	MW-45B (38-40)	MW-45I (44-46)	MW-45A (60-62)	MW-46B (24-26)
Sample Date		8/30/2022	9/14/2022	9/13/2022	9/13/2022	10/17/2022
Lab ID		50324746007	50326143003	50326143002	50326143001	50328669002
Analytical Data						
Arsenic, Total	mg/kg	1.2	3.2	1.9	4.9	2.5
Boron, Total	mg/kg	3.5	3.6	4.3	1.8	3.3
Calcium, Total	mg/kg	62800	44500	56300	6910	21000
Iron, Total	mg/kg	4110	4630	4570	33300	7380
Lithium, Total	mg/kg	<5.4	<5.2	<5.5	<5.3	<6.1
Manganese, Total	mg/kg	218	329	256	1000	358
Mean Total Organic Carbon	mg/kg	11400	4130	5950	<686	7700
Molybdenum, Total	mg/kg	<0.57	<0.53	<0.58	0.69	<0.64
Percent Moisture	%	16.3	6.5	16.9	13.1	22.4
RSD%	%	3.5	11	35.9	14.3	36.3
Sulfate	mg/kg	33	22.3	58.5	86.8	13
Total Organic Carbon	mg/kg	11400	3940	7440	<684	6090
Total Organic Carbon	mg/kg	12000	4650	7670	<688	6850
Total Organic Carbon	mg/kg	11000	4340	3050		6010
Total Organic Carbon	mg/kg	11400	3600	5630		11800
pH at 25 Degrees C	Std. Units	8	8	7.8	7.4	7.7

Notes:
For well identifications, the suffixes "B", "I", and "A" correspond to wells screened within shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.
NA: Not Analyzed
Std. Units: standard units
mg/kg: milligram per kilogram

Final Date: 1/30/2023
Revised on 3/1/2023

Table 6
Summary of Soil Results - 2022 Monitoring Well Locations
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-46I (44-46)	MW-46A (62-64)	MW-47B (24-26)	MW-47I (46-48)	MW-47A (66-68)
Sample Date		10/17/2022	10/17/2022	10/28/2022	10/28/2022	10/17/2022
Lab ID		50328669003	50328669001	50329629011	50329629010	50328669004
Analytical Data						
Arsenic, Total	mg/kg	2	5.8	1.5	4	3
Boron, Total	mg/kg	3.3	0.75	2.8	4	1.2
Calcium, Total	mg/kg	65800	7640	27100	125000	7070
Iron, Total	mg/kg	5890	12000	4260	6470	12700
Lithium, Total	mg/kg	<5.1	<5.1	<5.3	<5.2	<4.9
Manganese, Total	mg/kg	213	463	74.1	331	131
Mean Total Organic Carbon	mg/kg	7740	1960	3680	4230	<660
Molybdenum, Total	mg/kg	<0.56	<0.52	0.23	0.31	0.81
Percent Moisture	%	12.5	9.6	18.1	5.1	8.3
RSD%	%	12.4	22.1	5.2	9.3	15.2
Sulfate	mg/kg	99	43.5	36.3	22.3	10.8
Total Organic Carbon	mg/kg	8610	2110	3860	4550	712
Total Organic Carbon	mg/kg	6390	1850	3540	3760	<661
Total Organic Carbon	mg/kg	8160	2450	3820	4040	<660
Total Organic Carbon	mg/kg	7810	1420	3480	4550	
pH at 25 Degrees C	Std. Units	7.8	7.3	7.1	6.8	8.1

Notes:
For well identifications, the suffixes "B", "I", and "A" correspond to wells screened within shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.
NA: Not Analyzed
Std. Units: standard units
mg/kg: milligram per kilogram

Final Date: 1/30/2023
Revised on 3/1/2023

Table 7

Summary of Monitoring Results - August-October 2022 N and E Wells
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		AP-11A	MW-36B	MW-36I	MW-36A
Sample Date		8/24/2022	9/1/2022	9/1/2022	8/31/2022
Lab ID		50324354001	50324896003	50324896002	50324864001
Static Water Elevation (ft MSL)		405.64	402.98	403.02	406.14
Field Parameters	**Units**				
Temperature	°C	14.94	15.63	15.40	18.50
Dissolved Oxygen, Field	mg/L	0.02	4.74	0.04	0.14
Conductivity, Field	uS/cm	929.11	689.49	788.14	990.39
ORP, Field	mV	-155.3	54.3	-150.0	-174.3
pH, Field	Std. Units	6.89	7.00	7.33	7.41
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	319	331	259	221
Alkalinity,Bicarbonate (CaCO3)	mg/L	319	331	259	221
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	<10.0	<10.0	<10.0
Aluminum, Total	ug/L	283	583	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Barium, Total	ug/L	27.0	88.3	78.4	53.9
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	1000	<100	1000	1090
Cadmium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Calcium, Total	ug/L	178000	82700	142000	146000
Chloride	mg/L	8.7	5.7	8.5	7.6
Chlorine, Total Residual	mg/L	<0.10	<0.10	<0.10	<0.10
Cobalt, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Dissolved Organic Carbon	mg/L	3.2	<1.0	<1.0	1.7
Fluoride	mg/L	0.14	0.17	<0.10	<0.10
Iron, Total	ug/L	14400	374	4680	7750
Iron, Ferrous	mg/L	<0.20	<0.20	<0.20	<0.20
Lead, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Lithium, Total	ug/L	<20.0	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	60300	27000	40100	41800
Manganese, Total	ug/L	894	175	696	404
Manganese, Dissolved	ug/L	833	167	691	407
Molybdenum, Total	ug/L	<1.0	4.6	1.1	1.3
Nitrogen, Nitrate	mg/L	<0.10	5.6	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.50	<0.10	<0.10
Phosphate as P04	mg/L	1.4	<0.15	0.19	0.31
Potassium, Total	ug/L	1170	<1000	1700	1610
Radium-226	pCi/L	0.0547	<1.37	<1.23	<1.1
Radium-228	pCi/L	<1.41	<1.01	<1.15	1.13
Silica, Total	ug/L	30000	16900	12600	13100
Sodium, Total	ug/L	8480	28200	7500	8070
Sulfate	mg/L	402	26.7	325	348
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Total Dissolved Solids	mg/L	922	397	670	711
Total Organic Carbon	mg/L	2.4	<1.0	1.2	1.1
Total Radium	pCi/L	<1.56	<2.38	<2.38	1.3
pH at 25 Degrees C	Std. Units	7.0	7.7	7.5	7.2

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Final Date: 1/30/2023
Revised on 3/1/2023

Table 7

Summary of Monitoring Results - August-October 2022 N and E Wells
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-37B	MW-37I	MW-37A	MW-40B
Sample Date		9/2/2022	9/2/2022	9/1/2022	9/6/2022
Lab ID		50324958002	50324958001	50324896001	50325120002
Static Water Elevation (ft MSL)		405.59	405.69	404.96	405.94
Field Parameters	**Units**				
Temperature	°C	16.06	15.88	18.19	16.15
Dissolved Oxygen, Field	mg/L	1.18	0.04	0.07	4.63
Conductivity, Field	uS/cm	918.79	2693.2	2725.9	597.11
ORP, Field	mV	26.5	-169.8	-217.5	10.7
pH, Field	Std. Units	7.03	7.38	7.64	7.28
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	385	98.8	87.0	234
Alkalinity,Bicarbonate (CaCO3)	mg/L	385	98.8	87.0	234
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	<10.0	<10.0	<10.0
Aluminum, Total	ug/L	<200	<200	384	357
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Barium, Total	ug/L	68.3	41.4	50.9	39.4
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	689	12600	13400	1160
Cadmium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Calcium, Total	ug/L	156000	676000	644000	104000
Chloride	mg/L	8.2	55.4	58.9	18.8
Chlorine, Total Residual	mg/L	<0.10	<0.10	<0.10	<0.10
Cobalt, Total	ug/L	<1.0	1.1	1.1	<1.0
Dissolved Organic Carbon	mg/L	<1.0	1.3	3.5	<1.0
Fluoride	mg/L	<0.10	<0.10	0.11	0.17
Iron, Total	ug/L	247	9010	13900	966
Iron, Ferrous	mg/L	<0.20	1.2	1.4	<0.20
Lead, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Lithium, Total	ug/L	<20.0	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	36800	26500	22100	26100
Manganese, Total	ug/L	435	2400	1540	125
Manganese, Dissolved	ug/L	406	2360	1600	81.9
Molybdenum, Total	ug/L	1.1	93.1	193	<1.0
Nitrogen, Nitrate	mg/L	4.9	<0.10	<0.10	8.6
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.50
Phosphate as P04	mg/L	<0.15	<0.15	<0.15	<0.15
Potassium, Total	ug/L	<1000	5620	2570	<1000
Radium-226	pCi/L	<1.53	0.554	<1.16	0.819
Radium-228	pCi/L	<0.805	<1.16	<1.31	<1.19
Silica, Total	ug/L	14500	12200	14600	12200
Sodium, Total	ug/L	5840	49700	57600	11300
Sulfate	mg/L	101	1590	1890	100
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Total Dissolved Solids	mg/L	608	2580	2590	447
Total Organic Carbon	mg/L	1.3	1.2	2.3	<1.0
Total Radium	pCi/L	<2.34	<2.28	<2.47	1.16
pH at 25 Degrees C	Std. Units	7.4	7.2	7.2	7.4

Notes:
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°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Revised on 3/1/2023

Table 7

Summary of Monitoring Results - August-October 2022 N and E Wells
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-40I	MW-40A	MW-42B	MW-42I
Sample Date		9/6/2022	9/7/2022	9/13/2022	9/12/2022
Lab ID		50325120001	50325265001	50325762001	50325642001
Static Water Elevation (ft MSL)		405.93	405.97	405.03	405.23
Field Parameters	**Units**				
Temperature	°C	16.47	17.13	14.59	15.43
Dissolved Oxygen, Field	mg/L	0.07	0.07	0.04	0.03
Conductivity, Field	uS/cm	2804.9	2762.1	877.48	2057.7
ORP, Field	mV	-183.9	-259.7	19.3	-144.4
pH, Field	Std. Units	7.40	7.84	7.08	7.11
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	116	61.6	446	104
Alkalinity,Bicarbonate (CaCO3)	mg/L	116	61.6	446	104
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	<10.0	<10.0	<10.0
Aluminum, Total	ug/L	<200	<200	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	<1.0	<1.0	2.2
Barium, Total	ug/L	50.9	67.2	55.7	71.4
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	22900	22800	741	14000
Cadmium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Calcium, Total	ug/L	611000	592000	154000	436000
Chloride	mg/L	119	114	13.5	73.6
Chlorine, Total Residual	mg/L	<0.10	0.13	<0.10	<0.10
Cobalt, Total	ug/L	1	1.1	2.1	1.4
Dissolved Organic Carbon	mg/L	2.2	6.4	2.4	3.8
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Iron, Total	ug/L	11300	13100	128	16700
Iron, Ferrous	mg/L	2.0	3.8	<0.20	2.7
Lead, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Lithium, Total	ug/L	<20.0	22.1	<20.0	73.9
Magnesium, Total	ug/L	56100	36100	31800	38300
Manganese, Total	ug/L	1900	1510	874	3390
Manganese, Dissolved	ug/L	1690	1460	968	3580
Molybdenum, Total	ug/L	203	142	1.1	197
Nitrogen, Nitrate	mg/L	<0.10	<0.10	4.2	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	<0.15	<0.15	<0.15	0.17
Potassium, Total	ug/L	14400	12700	1750	21600
Radium-226	pCi/L	<0.872	0.519	0.44	0.78
Radium-228	pCi/L	<1.20	<1.33	<0.869	1.34
Silica, Total	ug/L	12600	11500	12300	16400
Sodium, Total	ug/L	51300	49700	9380	38800
Sulfate	mg/L	1710	1580	54.4	1030
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Total Dissolved Solids	mg/L	2560	2560	581	1870
Total Organic Carbon	mg/L	2.1	6.6	1.3	2.8
Total Radium	pCi/L	<2.07	<1.81	<1.45	2.12
pH at 25 Degrees C	Std. Units	7.2	7.0	7.2	7.1

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Table 7

Summary of Monitoring Results - August-October 2022 N and E Wells
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-42A	MW-43B	MW-43I	MW-43A
Sample Date		9/13/2022	9/8/2022	9/9/2022	9/9/2022
Lab ID		50325762004	50325419003	50325524002	50325524001
Static Water Elevation (ft MSL)		405.01	405.74	405.71	405.68
Field Parameters	**Units**				
Temperature	°C	15.70	16.74	16.14	17.71
Dissolved Oxygen, Field	mg/L	0.03	0.08	0.03	0.12
Conductivity, Field	uS/cm	2605.6	1289.0	1371.2	2261.0
ORP, Field	mV	-234.1	-79.4	-110.2	-155.4
pH, Field	Std. Units	7.88	6.88	7.04	7.36
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	61.4	455	431	175
Alkalinity,Bicarbonate (CaCO3)	mg/L	61.4	455	431	175
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	<10.0	<10.0	<10.0
Aluminum, Total	ug/L	<200	<200	<200	<200
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	<1.0	1.9	<1.0
Barium, Total	ug/L	39.7	132	101	50.8
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	20600	1130	1560	10000
Cadmium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Calcium, Total	ug/L	625000	219000	257000	468000
Chloride	mg/L	112	49.4	69.8	121
Chlorine, Total Residual	mg/L	<0.10	<0.10	<0.10	<0.10
Cobalt, Total	ug/L	<1.0	4.3	1.8	1.1
Dissolved Organic Carbon	mg/L	3.5	3.8	3.0	2.5
Fluoride	mg/L	0.11	0.10	0.12	0.13
Iron, Total	ug/L	12000	3220	9570	12000
Iron, Ferrous	mg/L	4.4	<0.20	<0.20	0.46
Lead, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Lithium, Total	ug/L	20.0	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	20700	48000	52300	38200
Manganese, Total	ug/L	1840	2550	2160	1610
Manganese, Dissolved	ug/L	1890	2420	2010	1540
Molybdenum, Total	ug/L	1240	10.3	77.3	182
Nitrogen, Nitrate	mg/L	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	<0.15	<0.15	<0.15	<0.15
Potassium, Total	ug/L	30400	2280	4710	16600
Radium-226	pCi/L	<1.16	1.08	<1.06	<0.988
Radium-228	pCi/L	0.599	0.664	0.665	1.30
Silica, Total	ug/L	13200	14100	16900	14800
Sodium, Total	ug/L	40600	27100	37500	61700
Sulfate	mg/L	1550	281	396	1270
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Total Dissolved Solids	mg/L	2410	912	1110	2030
Total Organic Carbon	mg/L	2.5	3.5	2.3	<4.0
Total Radium	pCi/L	0.965	1.74	<1.93	1.3
pH at 25 Degrees C	Std. Units	7.1	7.0	7.0	7.1

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mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
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Table 7

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Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-44B	MW-44I	MW-44A	MW-45B
Sample Date		9/7/2022	9/8/2022	9/8/2022	10/3/2022
Lab ID		50325265002	50325419002	50325419001	50327389002
Static Water Elevation (ft MSL)		405.49	405.78	404.92	404.69
Field Parameters	**Units**				
Temperature	°C	18.18	18.70	17.97	17.44
Dissolved Oxygen, Field	mg/L	0.03	0.02	0.07	0.96
Conductivity, Field	uS/cm	1357.0	1451.3	1558.5	751.4
ORP, Field	mV	-146.7	-141.7	-152.6	-80.2
pH, Field	Std. Units	6.99	7.10	7.18	7.29
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	433	381	359	333
Alkalinity,Bicarbonate (CaCO3)	mg/L	433	381	359	333
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	<10.0	<10.0	<10.0
Aluminum, Total	ug/L	224	<200	<200	238
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	1.7	<1.0	1.1	1.7
Barium, Total	ug/L	163	79.6	63.3	102
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Boron, Total	ug/L	1100	666	1980	<100
Cadmium, Total	ug/L	<0.20	<0.20	<0.20	<0.20
Calcium, Total	ug/L	187000	250000	268000	113000
Chloride	mg/L	114	75.9	73.4	5.9
Chlorine, Total Residual	mg/L	0.14	<0.10	<0.10	<0.10
Cobalt, Total	ug/L	<1.0	<1.0	<1.0	2.7
Dissolved Organic Carbon	mg/L	2.4	2.6	1.8	<1.0
Fluoride	mg/L	0.11	<0.10	0.10	0.13
Iron, Total	ug/L	7680	12300	13600	830
Iron, Ferrous	mg/L	3.1	<0.20	<0.20	<0.20
Lead, Total	ug/L	<1.0	<1.0	<1.0	<1.0
Lithium, Total	ug/L	<20.0	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	42400	55500	52400	39400
Manganese, Total	ug/L	1550	950	897	1350
Manganese, Dissolved	ug/L	1520	891	851	802
Molybdenum, Total	ug/L	8.1	27.3	62.3	2.4
Nitrogen, Nitrate	mg/L	<0.10	<0.10	<0.10	1.9
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	0.74	0.61	0.47	0.16
Potassium, Total	ug/L	2040	2010	2750	<1000
Radium-226	pCi/L	0.988	<0.944	0.106	0.343
Radium-228	pCi/L	1.55	0.571	<0.771	0.831
Silica, Total	ug/L	19600	20500	19600	15300
Sodium, Total	ug/L	39300	27200	39400	4930
Sulfate	mg/L	166	446	538	108
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10
Total Dissolved Solids	mg/L	834	1080	1210	490
Total Organic Carbon	mg/L	<4.0	2.7	3.1	<1.0
Total Radium	pCi/L	2.54	<1.7	0.374	1.17
pH at 25 Degrees C	Std. Units	7.2	7.1	7.1	7.3

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Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Well ID		MW-45I	MW-45A
Sample Date		10/3/2022	10/3/2022
Lab ID		50327389005	50327389001
Static Water Elevation (ft MSL)		404.58	404.48
Field Parameters	**Units**		
Temperature	°C	16.28	15.72
Dissolved Oxygen, Field	mg/L	0.13	0.11
Conductivity, Field	uS/cm	859.32	997.16
ORP, Field	mV	-132.7	-180.9
pH, Field	Std. Units	7.27	7.34
Analytical Data			
Alkalinity, Total as CaCO3	mg/L	326	329
Alkalinity,Bicarbonate (CaCO3)	mg/L	326	329
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	<10.0
Aluminum, Total	ug/L	1380	965
Antimony, Total	ug/L	<1.0	<1.0
Arsenic, Total	ug/L	2.1	2.5
Barium, Total	ug/L	120	120
Beryllium, Total	ug/L	<0.20	<0.20
Boron, Total	ug/L	443	724
Cadmium, Total	ug/L	<0.20	<0.20
Calcium, Total	ug/L	153000	189000
Chloride	mg/L	9.4	9.6
Chlorine, Total Residual	mg/L	<0.10	<0.10
Cobalt, Total	ug/L	2.5	1.4
Dissolved Organic Carbon	mg/L	1.4	3.9
Fluoride	mg/L	0.19	0.51
Iron, Total	ug/L	5440	15800
Iron, Ferrous	mg/L	<0.20	<0.20
Lead, Total	ug/L	1.4	<1.0
Lithium, Total	ug/L	<20.0	32.0
Magnesium, Total	ug/L	50500	63400
Manganese, Total	ug/L	1770	1490
Manganese, Dissolved	ug/L	1570	1340
Molybdenum, Total	ug/L	4.0	5.2
Nitrogen, Nitrate	mg/L	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10
Phosphate as P04	mg/L	0.4	0.34
Potassium, Total	ug/L	1560	1730
Radium-226	pCi/L	0.332	0.78
Radium-228	pCi/L	1.04	0.868
Silica, Total	ug/L	24700	26200
Sodium, Total	ug/L	9250	10400
Sulfate	mg/L	259	402
Sulfide	mg/L	<0.10	<0.10
Total Dissolved Solids	mg/L	712	924
Total Organic Carbon	mg/L	<1.0	3.6
Total Radium	pCi/L	1.37	1.65
pH at 25 Degrees C	Std. Units	7.3	7.2

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
For well identifications, the suffixes "B", "I", and "A" correspond to wells screened within shallow, intermediate, or deep portions of the unconsolidated aquifer material that overlies bedrock.
Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Final Date: 1/30/2023
Revised on 3/1/2023

Table 8A
Groundwater Protection Standards - November 2021
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Parameter	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226/228 Combined
Units	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	6	20.5	2000	4	5	100	6	4	47.8	2772.8	2	660	50	2	5

Notes:
ug/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)
pCi/L = picoCuries per liter
GWPS = Groundwater Protection Standard

Final Date: 1/30/2023
Revised on 3/1/2023

Table 8B
Groundwater Protection Standards - May 2022
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01278

Parameter	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226/228 Combined
Units	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	6	31	2000	4	5	100	6	4	47.8	2763.6016	2	660	50	2.3	5

Notes:
ug/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)
pCi/L = picoCuries per liter
GWPS = Groundwater Protection Standard

Final Date: 1/30/2023
Revised on 3/1/2023

ATTACHMENT A

NOVEMBER 2021

Table A-1
Gauging Summary
October 31, 2021
Petersburg Generating Station - Multiunit Ash Pond System
ATC Project No. 170LF01113

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-2R	10/31/2021	9:10	18.31	455.00	436.69
MW-3	10/31/2021	9:14	10.29	450.71	440.42
MW-4C	10/31/2021	9:18	5.90	454.44	448.54
AP-1R	10/31/2021	12:36	33.07	443.08	410.01
AP-2A	10/31/2021	12:45	28.46	437.87	409.41
AP-2BO	10/31/2021	12:48	27.19	436.86	409.67
AP-3	10/31/2021	13:30	11.79	421.59	409.80
AP-3A	10/31/2021	13:31	12.50	421.56	409.06
AP-4A	10/31/2021	13:37	12.88	421.69	408.81
AP-4B	10/31/2021	13:35	12.92	421.72	408.80
AP-4I	10/31/2021	13:36	13.00	421.82	408.82
AP-5	10/31/2021	13:41	11.63	422.01	410.38
AP-5A	10/31/2021	13:43	11.90	422.52	410.62
AP-6A	10/31/2021	13:46	13.53	424.33	410.80
AP-6B	10/31/2021	13:48	13.55	424.40	410.85
AP-7	10/31/2021	10:28	11.66	434.62	422.96
AP-8	10/31/2021	10:24	7.44	444.20	436.76
Nature and Extent Wells					
AP-9A	10/31/2021	12:58	26.95	436.83	409.88
AP-10A	10/31/2021	13:07	12.54	422.41	409.87
MW-19A	10/31/2021	13:23	10.18	421.41	411.23
MW-19B	10/31/2021	13:24	10.46	421.51	411.05
MW-19I	10/31/2021	13:23	10.11	421.28	411.17
MW-20A	10/31/2021	13:17	11.91	424.23	412.32
MW-20B	10/31/2021	13:16	11.93	423.97	412.04
MW-20I	10/31/2021	13:17	11.71	424.00	412.29
MW-21A	10/31/2021	12:53	25.95	437.09	411.14
MW-21B	10/31/2021	12:52	26.06	437.24	411.18
MW-21I	10/31/2021	12:51	26.13	437.33	411.20
MW-25A	10/31/2021	15:46	14.26	427.59	413.33
MW-25I	10/31/2021	15:46	14.14	427.43	413.29
MW-25B	10/31/2021	15:46	14.09	427.43	413.34
MW-26A	10/31/2021	Not Gauged		423.03	
MW-26B	10/31/2021	Not Gauged		423.13	
MW-26I	10/31/2021	Not Gauged		423.25	
MW-27B	10/31/2021	Not Gauged		420.46	
MW-28A	10/31/2021	Not Gauged		424.68	
MW-28B	10/31/2021	Not Gauged		424.43	
MW-28I	10/31/2021	Not Gauged		424.26	
MW-29A	10/31/2021	15:35	14.50	427.13	412.63
MW-29B	10/31/2021	15:36	15.54	428.17	412.63
MW-29I	10/31/2021	15:35	15.10	427.78	412.68
PZ-1A	10/31/2021	13:03	13.68	423.63	409.95
PZ-1I	10/31/2021	13:03	13.73	423.69	409.96
PZ-1B	10/31/2021	13:04	12.55	422.54	409.99
PZ-2A	10/31/2021	13:11	10.03	422.55	412.52
PZ-2I	10/31/2021	13:11	10.47	423.02	412.55
PZ-2B	10/31/2021	13:12	10.99	423.50	412.51
Piezometers					
AP-11A	10/31/2021	13:55	12.23	424.64	412.41

TOC = Top of casing
NR = Not recorded
TBD = TOC survey elevation to be determined
NA = Survey data not available

Flow Rate Calculations - November 2021

AES Indiana Petersburg Generating Station - Multiunit Ash Pond System

Petersburg, Indiana

ATC Project No. 170LF01278

PS ASH POND SYSTEM SHALLOW ZONE FIGURE 3		**ASH POND SYSTEM**		
10/31/2021	Flow Rate Line	FR1	FR2	FR3
$v = Q/n_eA^1 = KI/n_e$				
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	2	3	31
ΔL (ft)	Flow Line Length	1250	440	1950
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2020-2021	48.5	48.5	48.5
I ($\Delta H/\Delta L$)		0.0016	0.0068	0.016
n_e (porosity, dimensionless)	As cited in AES Eagle Valley and Harding St 2016 C/PC Plans for sites with similar outwash deposits	0.35	0.35	0.35
v (ft/day)		0.22	0.94	2.2
DEEP ZONE FIGURE 4				
10/31/2021	Flow Rate Line	FR1	FR2	
$v = Q/n_eA^1 = KI/n_e$				
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	3	3	
ΔL (ft)	Flow Line Length	1850	620	
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2020-2021	48.5	48.5	
I ($\Delta H/\Delta L$)		0.0016	0.0048	
n_e (porosity, dimensionless)	As cited in AES Eagle Valley and Harding St 2016 C/PC Plans for sites with similar outwash deposits	0.35	0.35	
v (ft/day)		0.22	0.67	

Notes

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

MAY 2022

Table A-2
Gauging Summary
May 1, 2022
Petersburg Generating Station - Multiunit Ash Pond System
ATC Project No. 170LF01278

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-2R	5/1/2022	10:59	12.49	455.00	442.51
MW-3	5/1/2022	10:54	9.46	450.71	441.25
MW-4C	5/1/2022	10:42	5.69	454.44	448.75
AP-1R	5/1/2022	17:07	27.30	443.08	415.78
AP-2A	5/1/2022	17:02	23.97	437.87	413.90
AP-2BO	5/1/2022	13:28	22.77	436.86	414.09
AP-3	5/1/2022	14:49	6.75	421.59	414.84
AP-3A	5/1/2022	14:48	7.55	421.56	414.01
AP-4A	5/1/2022	14:44	7.43	421.69	414.26
AP-4B	5/1/2022	14:43	7.45	421.72	414.27
AP-4I	5/1/2022	14:44	7.53	421.82	414.29
AP-5	5/1/2022	13:17	7.64	422.01	414.37
AP-5A	5/1/2022	13:15	8.02	422.52	414.50
AP-6A	5/1/2022	12:59	9.41	424.33	414.92
AP-6B	5/1/2022	13:02	9.40	424.40	415.00
AP-7	5/1/2022	10:21	10.92	434.62	423.70
AP-8	5/1/2022	10:15	5.81	444.20	438.39
Nature and Extent Wells					
AP-9A	5/1/2022	15:26	22.83	436.83	414.00
AP-10A	5/1/2022	15:07	8.92	422.41	413.49
MW-19A	5/1/2022	13:33	7.82	421.41	413.59
MW-19B	5/1/2022	13:32	7.70	421.51	413.81
MW-19I	5/1/2022	13:30	7.72	421.28	413.56
MW-20A	5/1/2022	13:43	10.42	424.23	413.81
MW-20B	5/1/2022	13:40	10.10	423.97	413.87
MW-20I	5/1/2022	13:42	10.16	424.00	413.84
MW-21A	5/1/2022	16:11	23.09	437.09	414.00
MW-21B	5/1/2022	16:13	23.16	437.24	414.08
MW-21I	5/1/2022	16:12	23.25	437.33	414.08
MW-25A	5/1/2022	13:10	13.43	427.59	414.16
MW-25B	5/1/2022	13:08	13.31	427.43	414.12
MW-25I	5/1/2022	13:09	13.27	427.43	414.16
MW-26A	5/1/2022	16:43	9.62	423.03	413.41
MW-26B	5/1/2022	16:41	9.62	423.13	413.51
MW-26I	5/1/2022	16:42	9.80	423.25	413.45
MW-27B	5/1/2022	16:32	7.31	420.46	413.15
MW-28A	5/1/2022	16:49	10.88	424.68	413.80
MW-28B	5/1/2022	16:50	10.65	424.43	413.78
MW-28I	5/1/2022	16:51	10.86	424.26	413.40
MW-29A	5/1/2022	15:17	12.34	427.13	414.79
MW-29B	5/1/2022	15:15	13.52	428.17	414.65
MW-29I	5/1/2022	15:16	13.18	427.78	414.60
PZ-1A	5/1/2022	14:54	9.20	423.63	414.43
PZ-1B	5/1/2022	14:55	8.20	422.54	414.34
PZ-2A	5/1/2022	13:47	8.95	422.55	413.60
PZ-2I	5/1/2022	13:46	9.39	423.02	413.63
PZ-2B	5/1/2022	13:45	9.80	423.50	413.70
Piezometers					
AP-11A	5/1/2022	12:54	9.85	424.64	414.79
USGS Gauging Station at Plant	5/1/2022	12:00	11.88	400.7	412.58

TOC = Top of casing
NR = Not recorded
TBD = TOC survey elevation to be determined
NA = Survey data not available

Flow Rate Calculations - May 2022

AES Indiana Petersburg Generating Station - Multiunit Ash Pond System

Petersburg, Indiana

ATC Project No. 170LF01278

PS ASH POND SYSTEM SHALLOW ZONE FIGURE 5		**ASH POND SYSTEM**	
5/1/2022	Flow Rate Line	FR1	FR2
$v = Q/n_eA^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	0.5	25.5
ΔL (ft)	Flow Line Length	230	2050
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2020-2021	48.5	48.5
I ($\Delta H/\Delta L$)		0.0022	0.0124
n_e (porosity, dimensionless)	As cited in AES Eagle Valley and Harding St 2016 C/PC Plans for sites with similar outwash deposits	0.35	0.35
v (ft/day)		0.30	1.7
DEEP ZONE FIGURE 6			
5/1/2022	Flow Rate Line	FR1	FR2
$v = Q/n_eA^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	0.5	1
ΔL (ft)	Flow Line Length	290	830
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2020-2021	48.5	48.5
I ($\Delta H/\Delta L$)		0.0017	0.0012
n_e (porosity, dimensionless)	As cited in AES Eagle Valley and Harding St 2016 C/PC Plans for sites with similar outwash deposits	0.35	0.35
v (ft/day)		0.24	0.17

Notes

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

ATTACHMENT B

NOVEMBER 2021

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 15, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 02, 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
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

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 #: 460198
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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50301711001	**MW-2R**	Water	11/01/21 09:50	11/02/21 11:05
50301711002	**MW-3**	Water	11/01/21 10:50	11/02/21 11:05
50301711003	**MW-4C**	Water	11/01/21 12:20	11/02/21 11:05
50301711004	**MW-4C MS**	Water	11/01/21 12:20	11/02/21 11:05
50301711005	**MW-4C MSD**	Water	11/01/21 12:20	11/02/21 11:05
50301711006	**DUP 1**	Water	11/01/21 11:05	11/02/21 11:05
50301711007	**Field Blank 1**	Water	11/01/21 11:30	11/02/21 11:05

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Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50301711001	**MW-2R**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50301711002	**MW-3**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
50301711003	**MW-4C**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	1	PASI-I

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		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
50301711004	**MW-4C MS**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
50301711005	**MW-4C MSD**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
50301711006	**DUP 1**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50301711007	**Field Blank 1**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	SKK	2	PASI-I
		EPA 365.1	GWA	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		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 P2R2
Pace Project No.: 50301711

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50301711001	**MW-2R**					
EPA 9056	Chloride	95.2	mg/L	2.5	11/08/21 16:52	
EPA 9056	Sulfate	1630	mg/L	25.0	11/08/21 17:10	
EPA 6010	Barium	54.0	ug/L	10.0	11/12/21 00:41	
EPA 6010	Boron	2160	ug/L	100	11/12/21 00:41	
EPA 6010	Calcium	512000	ug/L	5000	11/12/21 01:04	
EPA 6010	Iron	10500	ug/L	100	11/12/21 00:41	
EPA 6010	Lithium	912	ug/L	20.0	11/12/21 00:41	
EPA 6010	Magnesium	59900	ug/L	1000	11/12/21 00:41	
EPA 6010	Manganese	5970	ug/L	10.0	11/12/21 00:41	
EPA 6010	Molybdenum	11.0	ug/L	10.0	11/12/21 00:41	
EPA 6010	Potassium	95500	ug/L	1000	11/12/21 00:41	
EPA 6010	Silica	18000	ug/L	450	11/12/21 00:41	N2
EPA 6010	Sodium	124000	ug/L	1000	11/12/21 00:41	
EPA 6010	Manganese, Dissolved	6680	ug/L	10.0	11/11/21 11:33	
EPA 6010	Molybdenum, Dissolved	12.1	ug/L	10.0	11/11/21 11:33	
EPA 6020	Arsenic	9.9	ug/L	1.0	11/05/21 03:29	
EPA 6020	Cobalt	2.2	ug/L	1.0	11/05/21 03:29	
EPA 903.1	Radium-226	0.0728 ± 0.514 (1.03) C:NA T:92%	pCi/L		12/15/21 13:19	
EPA 904.0	Radium-228	0.697 ± 0.403 (0.742) C:68% T:92%	pCi/L		12/15/21 11:26	
Total Radium Calculation	Total Radium	0.770 ± 0.917 (1.77)	pCi/L		12/22/21 17:16	
SM 2320B	Alkalinity, Total as CaCO3	151	mg/L	2.0	11/04/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	151	mg/L	2.0	11/04/21 14:08	
SM 2540C	Total Dissolved Solids	2630	mg/L	40.0	11/03/21 09:58	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/08/21 15:30	H3
EPA 365.1	Phosphate as P04	0.56	mg/L	0.15	11/11/21 18:31	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	11/09/21 17:29	
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	11/15/21 16:27	
50301711002	**MW-3**					
EPA 9056	Chloride	86.4	mg/L	2.5	11/08/21 17:47	
EPA 9056	Fluoride	0.10	mg/L	0.10	11/08/21 17:29	
EPA 9056	Sulfate	858	mg/L	25.0	11/08/21 18:06	
EPA 6010	Barium	38.2	ug/L	10.0	11/12/21 00:43	
EPA 6010	Boron	896	ug/L	100	11/12/21 00:43	
EPA 6010	Calcium	243000	ug/L	2000	11/12/21 01:06	
EPA 6010	Lithium	1880	ug/L	20.0	11/12/21 00:43	
EPA 6010	Magnesium	15300	ug/L	1000	11/12/21 00:43	
EPA 6010	Manganese	1070	ug/L	10.0	11/12/21 00:43	
EPA 6010	Molybdenum	501	ug/L	10.0	11/12/21 00:43	
EPA 6010	Potassium	223000	ug/L	3000	11/12/21 01:16	
EPA 6010	Silica	15200	ug/L	450	11/12/21 00:43	N2

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50301711002	**MW-3**					
EPA 6010	Sodium	97400	ug/L	1000	11/12/21 00:43	
EPA 6010	Manganese, Dissolved	1020	ug/L	10.0	11/11/21 11:35	
EPA 6010	Molybdenum, Dissolved	459	ug/L	10.0	11/11/21 11:35	
EPA 6020	Arsenic	17.9	ug/L	1.0	11/05/21 03:33	
EPA 6020	Cobalt	2.3	ug/L	1.0	11/05/21 03:33	
EPA 903.1	Radium-226	0.564 ± 0.622 (0.995) C:NA T:95%	pCi/L		12/15/21 13:19	
EPA 904.0	Radium-228	1.03 ± 0.447 (0.721) C:69% T:87%	pCi/L		12/15/21 11:26	
Total Radium Calculation	Total Radium	1.59 ± 1.07 (1.72)	pCi/L		12/22/21 17:16	
SM 2540C	Total Dissolved Solids	1670	mg/L	20.0	11/03/21 09:58	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/08/21 15:32	H3
50301711003	**MW-4C**					
EPA 9056	Chloride	41.7	mg/L	2.5	11/03/21 14:33	
EPA 9056	Sulfate	1420	mg/L	25.0	11/03/21 14:47	
EPA 6010	Barium	30.7	ug/L	10.0	11/12/21 00:45	
EPA 6010	Boron	3940	ug/L	100	11/12/21 00:45	
EPA 6010	Calcium	559000	ug/L	5000	11/12/21 01:08	
EPA 6010	Lithium	334	ug/L	20.0	11/12/21 00:45	
EPA 6010	Magnesium	58300	ug/L	1000	11/12/21 00:45	
EPA 6010	Manganese	1000	ug/L	10.0	11/12/21 00:45	
EPA 6010	Potassium	43900	ug/L	1000	11/12/21 00:45	
EPA 6010	Silica	21400	ug/L	450	11/12/21 00:45	N2
EPA 6010	Sodium	80800	ug/L	1000	11/12/21 00:45	
EPA 6010	Manganese, Dissolved	2250	ug/L	10.0	11/11/21 11:37	
EPA 6020	Cobalt	1.1	ug/L	1.0	11/04/21 07:24	
EPA 903.1	Radium-226	0.116 ± 0.395 (0.762) C:NA T:96%	pCi/L		12/15/21 13:19	
EPA 904.0	Radium-228	1.13 ± 0.462 (0.720) C:69% T:95%	pCi/L		12/15/21 11:29	
Total Radium Calculation	Total Radium	1.25 ± 0.857 (1.48)	pCi/L		12/22/21 17:16	
SM 2320B	Alkalinity, Total as CaCO3	358	mg/L	2.0	11/04/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	358	mg/L	2.0	11/04/21 14:08	
SM 2540C	Total Dissolved Solids	2530	mg/L	40.0	11/03/21 09:58	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	11/08/21 15:38	H3
SM 5310C	Total Organic Carbon	2.3	mg/L	1.0	11/09/21 17:50	
SM 5310C	Dissolved Organic Carbon	2.3	mg/L	1.0	11/15/21 17:12	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50301711004	**MW-4C MS**					
EPA 903.1	Radium-226	115.29 %REC ± NA (NA) C:NA T:NA	pCi/L		12/15/21 13:19	
EPA 904.0	Radium-228	82.42 %REC ± NA (NA) C:NA T:NA	pCi/L		12/15/21 11:29	
50301711005	**MW-4C MSD**					
EPA 903.1	Radium-226	87.00 %REC 27.97 RPD ± NA (NA) C:NA T:NA	pCi/L		12/15/21 13:19	
EPA 904.0	Radium-228	94.47 %REC 13.63 RPD ± NA (NA) C:NA T:NA	pCi/L		12/15/21 11:30	
50301711006	**DUP 1**					
EPA 9056	Chloride	87.0	mg/L	2.5	11/03/21 17:11	
EPA 9056	Sulfate	892	mg/L	25.0	11/03/21 17:23	
EPA 6010	Barium	45.3	ug/L	10.0	11/12/21 01:00	
EPA 6010	Boron	983	ug/L	100	11/12/21 01:00	
EPA 6010	Calcium	245000	ug/L	3000	11/12/21 01:14	
EPA 6010	Lithium	2070	ug/L	20.0	11/12/21 01:00	
EPA 6010	Magnesium	9370	ug/L	1000	11/12/21 01:00	
EPA 6010	Manganese	919	ug/L	10.0	11/12/21 01:00	
EPA 6010	Molybdenum	440	ug/L	10.0	11/12/21 01:00	
EPA 6010	Potassium	236000	ug/L	3000	11/12/21 01:14	
EPA 6010	Silica	10900	ug/L	450	11/12/21 01:00	N2
EPA 6010	Sodium	99300	ug/L	1000	11/12/21 01:00	
EPA 6010	Manganese, Dissolved	1040	ug/L	10.0	11/11/21 11:53	
EPA 6010	Molybdenum, Dissolved	452	ug/L	10.0	11/11/21 11:53	
EPA 6020	Arsenic	17.5	ug/L	1.0	11/05/21 03:37	
EPA 6020	Cobalt	1.6	ug/L	1.0	11/05/21 03:37	
EPA 903.1	Radium-226	1.36 ± 0.854 (1.14) C:NA T:94%	pCi/L		12/15/21 13:19	
EPA 904.0	Radium-228	0.760 ± 0.475 (0.907) C:67% T:89%	pCi/L		12/15/21 11:31	
Total Radium Calculation	Total Radium	2.12 ± 1.33 (2.05)	pCi/L		12/22/21 17:16	
SM 2320B	Alkalinity, Total as CaCO3	124	mg/L	2.0	11/04/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	124	mg/L	2.0	11/04/21 14:08	
SM 2540C	Total Dissolved Solids	1710	mg/L	20.0	11/03/21 09:59	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50301711006	**DUP 1**					
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/08/21 15:34	H3
EPA 365.1	Phosphate as P04	0.23	mg/L	0.15	11/11/21 18:34	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	11/09/21 18:22	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	11/15/21 18:17	
50301711007	**Field Blank 1**					
EPA 903.1	Radium-226	-0.0682 ± 0.401 (0.894) C:NA T:93%	pCi/L		12/15/21 13:19	
EPA 904.0	Radium-228	0.100 ± 0.328 (0.740) C:71% T:97%	pCi/L		12/15/21 11:30	
Total Radium Calculation	Total Radium	0.1000 ± 0.729 (1.63)	pCi/L		12/22/21 17:16	
SM 2320B	Alkalinity, Total as CaCO3	2.2	mg/L	2.0	11/04/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	2.2	mg/L	2.0	11/04/21 14:08	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/08/21 15:36	H3

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-2R **Lab ID: 50301711001** Collected: 11/01/21 09:50 Received: 11/02/21 11:05 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	**95.2**	mg/L	2.5	10		11/08/21 16:52	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/08/21 16:34	16984-48-8	
Sulfate	**1630**	mg/L	25.0	100		11/08/21 17:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/09/21 07:08	11/12/21 00:41	7429-90-5	
Barium	**54.0**	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:41	7440-39-3	
Boron	**2160**	ug/L	100	1	11/09/21 07:08	11/12/21 00:41	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/21 07:08	11/12/21 00:41	7440-43-9	
Calcium	**512000**	ug/L	5000	5	11/09/21 07:08	11/12/21 01:04	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:41	7440-47-3	
Iron	**10500**	ug/L	100	1	11/09/21 07:08	11/12/21 00:41	7439-89-6	
Lead	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:41	7439-92-1	
Lithium	**912**	ug/L	20.0	1	11/09/21 07:08	11/12/21 00:41	7439-93-2	
Magnesium	**59900**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:41	7439-95-4	
Manganese	**5970**	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:41	7439-96-5	
Molybdenum	**11.0**	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:41	7439-98-7	
Potassium	**95500**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:41	7440-09-7	
Silica	**18000**	ug/L	450	1	11/09/21 07:08	11/12/21 00:41	7631-86-9	N2
Sodium	**124000**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:41	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**6680**	ug/L	10.0	1	11/09/21 13:57	11/11/21 11:33	7439-96-5	
Molybdenum, Dissolved	**12.1**	ug/L	10.0	1	11/09/21 13:57	11/11/21 11:33	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	11/03/21 18:25	11/04/21 08:59	7440-36-0	
Arsenic	**9.9**	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:29	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/03/21 18:25	11/04/21 08:59	7440-41-7	
Cobalt	**2.2**	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:29	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:29	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 08:59	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**151**	mg/L	2.0	1		11/04/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**151**	mg/L	2.0	1		11/04/21 14:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/04/21 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2630**	mg/L	40.0	1		11/03/21 09:58		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-2R **Lab ID: 50301711001** Collected: 11/01/21 09:50 Received: 11/02/21 11:05 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		11/08/21 15:30		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/03/21 16:53	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:25		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		11/02/21 14:31	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/02/21 14:31	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.56**	mg/L	0.15	1	11/11/21 10:30	11/11/21 18:31		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.2**	mg/L	1.0	1		11/09/21 17:29	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		11/15/21 16:27		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-3 **Lab ID: 50301711002** Collected: 11/01/21 10:50 Received: 11/02/21 11:05 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	**86.4**	mg/L	2.5	10		11/08/21 17:47	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		11/08/21 17:29	16984-48-8	
Sulfate	**858**	mg/L	25.0	100		11/08/21 18:06	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/09/21 07:08	11/12/21 00:43	7429-90-5	
Barium	**38.2**	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:43	7440-39-3	
Boron	**896**	ug/L	100	1	11/09/21 07:08	11/12/21 00:43	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/21 07:08	11/12/21 00:43	7440-43-9	
Calcium	**243000**	ug/L	2000	2	11/09/21 07:08	11/12/21 01:06	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:43	7440-47-3	
Iron	ND	ug/L	100	1	11/09/21 07:08	11/12/21 00:43	7439-89-6	
Lead	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:43	7439-92-1	
Lithium	**1880**	ug/L	20.0	1	11/09/21 07:08	11/12/21 00:43	7439-93-2	
Magnesium	**15300**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:43	7439-95-4	
Manganese	**1070**	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:43	7439-96-5	
Molybdenum	**501**	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:43	7439-98-7	
Potassium	**223000**	ug/L	3000	3	11/09/21 07:08	11/12/21 01:16	7440-09-7	
Silica	**15200**	ug/L	450	1	11/09/21 07:08	11/12/21 00:43	7631-86-9	N2
Sodium	**97400**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:43	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1020**	ug/L	10.0	1	11/09/21 13:57	11/11/21 11:35	7439-96-5	
Molybdenum, Dissolved	**459**	ug/L	10.0	1	11/09/21 13:57	11/11/21 11:35	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	11/03/21 18:25	11/04/21 09:03	7440-36-0	
Arsenic	**17.9**	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:33	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/03/21 18:25	11/04/21 09:03	7440-41-7	
Cobalt	**2.3**	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:33	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:33	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 09:03	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1670**	mg/L	20.0	1		11/03/21 09:58		
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		11/08/21 15:32		H3

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-4C **Lab ID: 50301711003** Collected: 11/01/21 12:20 Received: 11/02/21 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**41.7**	mg/L	2.5	10		11/03/21 14:33	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/03/21 14:21	16984-48-8	
Sulfate	**1420**	mg/L	25.0	100		11/03/21 14:47	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/09/21 07:08	11/12/21 00:45	7429-90-5	
Barium	**30.7**	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:45	7440-39-3	
Boron	**3940**	ug/L	100	1	11/09/21 07:08	11/12/21 00:45	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/21 07:08	11/12/21 00:45	7440-43-9	
Calcium	**559000**	ug/L	5000	5	11/09/21 07:08	11/12/21 01:08	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:45	7440-47-3	
Iron	ND	ug/L	100	1	11/09/21 07:08	11/12/21 00:45	7439-89-6	
Lead	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:45	7439-92-1	
Lithium	**334**	ug/L	20.0	1	11/09/21 07:08	11/12/21 00:45	7439-93-2	
Magnesium	**58300**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:45	7439-95-4	
Manganese	**1000**	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:45	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:45	7439-98-7	
Potassium	**43900**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:45	7440-09-7	
Silica	**21400**	ug/L	450	1	11/09/21 07:08	11/12/21 00:45	7631-86-9	N2
Sodium	**80800**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:45	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2250**	ug/L	10.0	1	11/09/21 13:57	11/11/21 11:37	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/09/21 13:57	11/11/21 11:37	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 07:24	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 07:24	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/03/21 18:25	11/04/21 07:24	7440-41-7	
Cobalt	**1.1**	ug/L	1.0	1	11/03/21 18:25	11/04/21 07:24	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 07:24	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 07:24	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**358**	mg/L	2.0	1		11/04/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**358**	mg/L	2.0	1		11/04/21 14:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/04/21 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2530**	mg/L	40.0	1		11/03/21 09:58		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-4C **Lab ID: 50301711003** Collected: 11/01/21 12:20 Received: 11/02/21 11:05 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	**6.8**	Std. Units	0.10	1		11/08/21 15:38		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/03/21 16:53	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:27		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		11/02/21 14:38	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/02/21 14:38	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	11/11/21 10:30	11/11/21 18:32		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.3**	mg/L	1.0	1		11/09/21 17:50	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		11/15/21 17:12		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: DUP 1 **Lab ID: 50301711006** Collected: 11/01/21 11:05 Received: 11/02/21 11:05 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	**87.0**	mg/L	2.5	10		11/03/21 17:11	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/03/21 17:00	16984-48-8	
Sulfate	**892**	mg/L	25.0	100		11/03/21 17:23	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/09/21 07:08	11/12/21 01:00	7429-90-5	
Barium	**45.3**	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:00	7440-39-3	
Boron	**983**	ug/L	100	1	11/09/21 07:08	11/12/21 01:00	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/21 07:08	11/12/21 01:00	7440-43-9	
Calcium	**245000**	ug/L	3000	3	11/09/21 07:08	11/12/21 01:14	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:00	7440-47-3	
Iron	ND	ug/L	100	1	11/09/21 07:08	11/12/21 01:00	7439-89-6	
Lead	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:00	7439-92-1	
Lithium	**2070**	ug/L	20.0	1	11/09/21 07:08	11/12/21 01:00	7439-93-2	
Magnesium	**9370**	ug/L	1000	1	11/09/21 07:08	11/12/21 01:00	7439-95-4	
Manganese	**919**	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:00	7439-96-5	
Molybdenum	**440**	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:00	7439-98-7	
Potassium	**236000**	ug/L	3000	3	11/09/21 07:08	11/12/21 01:14	7440-09-7	
Silica	**10900**	ug/L	450	1	11/09/21 07:08	11/12/21 01:00	7631-86-9	N2
Sodium	**99300**	ug/L	1000	1	11/09/21 07:08	11/12/21 01:00	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1040**	ug/L	10.0	1	11/09/21 13:57	11/11/21 11:53	7439-96-5	
Molybdenum, Dissolved	**452**	ug/L	10.0	1	11/09/21 13:57	11/11/21 11:53	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	11/03/21 18:25	11/04/21 09:07	7440-36-0	
Arsenic	**17.5**	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:37	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/03/21 18:25	11/04/21 09:07	7440-41-7	
Cobalt	**1.6**	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:37	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:37	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 09:07	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**124**	mg/L	2.0	1		11/04/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**124**	mg/L	2.0	1		11/04/21 14:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/04/21 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1710**	mg/L	20.0	1		11/03/21 09:59		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: DUP 1 **Lab ID: 50301711006** Collected: 11/01/21 11:05 Received: 11/02/21 11:05 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		11/08/21 15:34		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/03/21 16:53	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:26		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		11/02/21 14:34	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/02/21 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	**0.23**	mg/L	0.15	1	11/11/21 10:30	11/11/21 18:34		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.1**	mg/L	1.0	1		11/09/21 18:22	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.0**	mg/L	1.0	1		11/15/21 18:17		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: Field Blank 1 **Lab ID: 50301711007** Collected: 11/01/21 11:30 Received: 11/02/21 11:05 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		11/03/21 17:37	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/03/21 17:37	16984-48-8	
Sulfate	ND	mg/L	0.25	1		11/03/21 17:37	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/09/21 07:08	11/12/21 01:02	7429-90-5	
Barium	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:02	7440-39-3	
Boron	ND	ug/L	100	1	11/09/21 07:08	11/12/21 01:02	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/21 07:08	11/12/21 01:02	7440-43-9	
Calcium	ND	ug/L	1000	1	11/09/21 07:08	11/12/21 01:02	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:02	7440-47-3	
Iron	ND	ug/L	100	1	11/09/21 07:08	11/12/21 01:02	7439-89-6	
Lead	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:02	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/09/21 07:08	11/12/21 01:02	7439-93-2	
Magnesium	ND	ug/L	1000	1	11/09/21 07:08	11/12/21 01:02	7439-95-4	
Manganese	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:02	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 01:02	7439-98-7	
Potassium	ND	ug/L	1000	1	11/09/21 07:08	11/12/21 01:02	7440-09-7	
Silica	ND	ug/L	450	1	11/09/21 07:08	11/12/21 01:02	7631-86-9	N2
Sodium	ND	ug/L	1000	1	11/09/21 07:08	11/12/21 01:02	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	11/03/21 18:25	11/04/21 09:20	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:41	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/03/21 18:25	11/04/21 09:20	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:41	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:41	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 09:20	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**2.2**	mg/L	2.0	1		11/04/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**2.2**	mg/L	2.0	1		11/04/21 14:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/04/21 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		11/03/21 09:59		PL
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		11/08/21 15:36		H3

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: Field Blank 1 **Lab ID: 50301711007** Collected: 11/01/21 11:30 Received: 11/02/21 11:05 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		11/03/21 16:53	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:26		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		11/02/21 14:36	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/02/21 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	ND	mg/L	0.15	1	11/11/21 10:30	11/11/21 18:34		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/09/21 18:31	7440-44-0	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 648210
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2986517 Matrix: Water
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/03/21 13:56	
Fluoride	mg/L	ND	0.10	11/03/21 13:56	
Sulfate	mg/L	ND	0.25	11/03/21 13:56	

LABORATORY CONTROL SAMPLE: 2986518

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	0.45	89	80-120	
Sulfate	mg/L	2.5	2.5	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986519 2986520

Parameter	Units	50301711003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	41.7	12.5	12.5	52.6	52.7	87	88	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.42	0.42	67	67	80-120	0	15	M0
Sulfate	mg/L	1420	250	250	1620	1620	82	82	80-120	0	15	

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

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 648522
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2988158 Matrix: Water
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/12/21 00:35	
Barium	ug/L	ND	10.0	11/12/21 00:35	
Boron	ug/L	ND	100	11/12/21 00:35	
Cadmium	ug/L	ND	2.0	11/12/21 00:35	
Calcium	ug/L	ND	1000	11/12/21 00:35	
Chromium	ug/L	ND	10.0	11/12/21 00:35	
Iron	ug/L	ND	100	11/12/21 00:35	
Lead	ug/L	ND	10.0	11/12/21 00:35	
Lithium	ug/L	ND	20.0	11/12/21 00:35	
Magnesium	ug/L	ND	1000	11/12/21 00:35	
Manganese	ug/L	ND	10.0	11/12/21 00:35	
Molybdenum	ug/L	ND	10.0	11/12/21 00:35	
Potassium	ug/L	ND	1000	11/12/21 00:35	
Silica	ug/L	ND	450	11/12/21 00:35	N2
Sodium	ug/L	ND	1000	11/12/21 00:35	

LABORATORY CONTROL SAMPLE: 2988159

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4530	91	80-120	
Barium	ug/L	1000	946	95	80-120	
Boron	ug/L	1000	936	94	80-120	
Cadmium	ug/L	1000	906	91	80-120	
Calcium	ug/L	5000	4640	93	80-120	
Chromium	ug/L	1000	909	91	80-120	
Iron	ug/L	2500	2340	94	80-120	
Lead	ug/L	1000	872	87	80-120	
Lithium	ug/L	1000	997	100	80-120	
Magnesium	ug/L	5000	4570	91	80-120	
Manganese	ug/L	1000	886	89	80-120	
Molybdenum	ug/L	1000	937	94	80-120	
Potassium	ug/L	5000	4720	94	80-120	
Silica	ug/L	5350	5050	94		N2
Sodium	ug/L	5000	4700	94	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2988160 2988161

Parameter	Units	50301711003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4480	4470	89	89	75-125	0	20	
Barium	ug/L	30.7	1000	1000	987	968	96	94	75-125	2	20	
Boron	ug/L	3940	1000	1000	4880	4920	95	99	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	942	924	94	92	75-125	2	20	
Calcium	ug/L	559000	5000	5000	556000	549000	-60	-200	75-125	1	20	P6
Chromium	ug/L	ND	1000	1000	908	902	91	90	75-125	1	20	
Iron	ug/L	ND	2500	2500	2270	2250	90	89	75-125	1	20	
Lead	ug/L	ND	1000	1000	814	807	81	81	75-125	1	20	
Lithium	ug/L	334	1000	1000	1390	1360	106	103	75-125	2	20	
Magnesium	ug/L	58300	5000	5000	62600	62900	85	92	75-125	1	20	
Manganese	ug/L	1000	1000	1000	1870	1860	86	86	75-125	0	20	
Molybdenum	ug/L	ND	1000	1000	959	943	95	94	75-125	2	20	
Potassium	ug/L	43900	5000	5000	48200	47800	86	78	75-125	1	20	
Silica	ug/L	21400	5350	5350	26400	26600	92	96		1		N2
Sodium	ug/L	80800	5000	5000	84700	84100	78	66	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 648486
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006

METHOD BLANK: 2987927 Matrix: Water
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/11/21 11:26	
Molybdenum, Dissolved	ug/L	ND	10.0	11/11/21 11:26	

LABORATORY CONTROL SAMPLE: 2987928

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	956	96	80-120	
Molybdenum, Dissolved	ug/L	1000	986	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2987929 2987930

Parameter	Units	50301711003 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	2250	1000	1000	3170	3160	92	91	75-125	0	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1010	1000	100	99	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2987931 2987932

Parameter	Units	50301756004 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	233	1000	1000	1180	1120	94	89	75-125	5	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	981	943	97	94	75-125	4	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 648308
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2986940 Matrix: Water
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/04/21 03:49	
Arsenic	ug/L	ND	1.0	11/04/21 03:49	
Beryllium	ug/L	ND	0.20	11/04/21 03:49	
Cobalt	ug/L	ND	1.0	11/04/21 03:49	
Selenium	ug/L	ND	1.0	11/04/21 03:49	
Thallium	ug/L	ND	1.0	11/04/21 03:49	

LABORATORY CONTROL SAMPLE: 2986941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.1	100	80-120	
Arsenic	ug/L	40	38.3	96	80-120	
Beryllium	ug/L	40	38.8	97	80-120	
Cobalt	ug/L	40	39.2	98	80-120	
Selenium	ug/L	40	38.8	97	80-120	
Thallium	ug/L	40	38.5	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986942 2986943

Parameter	Units	50301711003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.2	41.0	103	102	75-125	0	20	
Arsenic	ug/L	ND	40	40	36.1	35.8	90	89	75-125	1	20	
Beryllium	ug/L	ND	40	40	38.5	38.1	96	95	75-125	1	20	
Cobalt	ug/L	1.1	40	40	36.4	37.0	88	90	75-125	1	20	
Selenium	ug/L	ND	40	40	41.5	42.6	103	106	75-125	2	20	
Thallium	ug/L	ND	40	40	39.1	39.3	98	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 648595 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2988440 Matrix: Water
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/04/21 14:08	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/04/21 14:08	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/04/21 14:08	

LABORATORY CONTROL SAMPLE: 2988441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.8	96	90-110	

SAMPLE DUPLICATE: 2988442

Parameter	Units	50301690012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	28.8	29.7	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	25.4	26.5	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	3.4	3.2	6	20	

SAMPLE DUPLICATE: 2988443

Parameter	Units	50301690013 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	47.7	46.8	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	47.7	46.8	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 2988444

Parameter	Units	50301711003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	358	356	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	358	356	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 648289 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2986822 Matrix: Water
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/03/21 09:56	

LABORATORY CONTROL SAMPLE: 2986823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	304	101	80-120	

SAMPLE DUPLICATE: 2986825

Parameter	Units	50301711003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2530	2570	1	10	

SAMPLE DUPLICATE: 2986912

Parameter	Units	50301712003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2530	2570	1	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 649153
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711006, 50301711007

SAMPLE DUPLICATE: 2991308

Parameter	Units	50301685001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.0	0	2	H3

SAMPLE DUPLICATE: 2991309

Parameter	Units	50301711003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.9	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 648327 | 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: 50301711001, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2987012 Matrix: Water
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/03/21 16:53	

LABORATORY CONTROL SAMPLE: 2987013

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2987014 2987015

Parameter	Units	50301711003 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	0.23	0.23	47	45	90-110	3	20	M3

MATRIX SPIKE SAMPLE: 2987016

Parameter	Units	50301593001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	8.9	10	17.7	88	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 650426 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2997938 Matrix: Water
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 10:23	H3,N2

LABORATORY CONTROL SAMPLE: 2997939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	107	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997940 2997941

Parameter	Units	50301711003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	108	107	90-110	1	20	H3,N2

MATRIX SPIKE SAMPLE: 2997942

Parameter	Units	50301797004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	109	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 648160
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2986375 Matrix: Water
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/02/21 14:27	
Nitrogen, Nitrite	mg/L	ND	0.10	11/02/21 14:27	

LABORATORY CONTROL SAMPLE: 2986376

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	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986377 2986378

Parameter	Units	50301711003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.0	1.0	102	102	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	111	111	90-110	0	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986572 2986573

Parameter	Units	50301756004 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	0.96	0.96	96	96	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	109	109	90-110	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 649651 | 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: 50301711001, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2993530 Matrix: Water
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/11/21 18:20	

LABORATORY CONTROL SAMPLE: 2993531

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

MATRIX SPIKE SAMPLE: 2993532

Parameter	Units	50301690001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	<0.15		1.7			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993534 2993535

Parameter	Units	50301711003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.6	1.6				3		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 649369 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

METHOD BLANK: 2992155 Matrix: Water
Associated Lab Samples: 50301711001, 50301711003, 50301711006, 50301711007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/09/21 15:26	

LABORATORY CONTROL SAMPLE: 2992156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992157 2992158

Parameter	Units	50301711003 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	2.3	10	10	12.6	12.8	102	105	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992159 2992160

Parameter	Units	50301756004 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	1.1	10	10	11.4	11.3	103	102	80-120	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 650220
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301711001, 50301711003, 50301711006

METHOD BLANK: 2997030 Matrix: Water
Associated Lab Samples: 50301711001, 50301711003, 50301711006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/15/21 15:04	

LABORATORY CONTROL SAMPLE: 2997031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.6	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997032 2997033

Parameter	Units	50301711003 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	2.3	10	10	11.8	12.3	95	100	80-120	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997034 2997035

Parameter	Units	50301756004 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	1.2	10	10	10.9	10.9	97	98	80-120	1	20	

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

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-2R **Lab ID: 50301711001** Collected: 11/01/21 09:50 Received: 11/02/21 11:05 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	**0.0728 ± 0.514 (1.03) C:NA T:92%**	pCi/L	12/15/21 13:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.697 ± 0.403 (0.742) C:68% T:92%**	pCi/L	12/15/21 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.770 ± 0.917 (1.77)**	pCi/L	12/22/21 17:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-3 **Lab ID: 50301711002** Collected: 11/01/21 10:50 Received: 11/02/21 11:05 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	**0.564 ± 0.622 (0.995) C:NA T:95%**	pCi/L	12/15/21 13:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.03 ± 0.447 (0.721) C:69% T:87%**	pCi/L	12/15/21 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.59 ± 1.07 (1.72)**	pCi/L	12/22/21 17:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-4C **Lab ID: 50301711003** Collected: 11/01/21 12:20 Received: 11/02/21 11:05 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	**0.116 ± 0.395 (0.762) C:NA T:96%**	pCi/L	12/15/21 13:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.13 ± 0.462 (0.720) C:69% T:95%**	pCi/L	12/15/21 11:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.25 ± 0.857 (1.48)**	pCi/L	12/22/21 17:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-4C MS **Lab ID: 50301711004** Collected: 11/01/21 12:20 Received: 11/02/21 11:05 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	**115.29 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/15/21 13:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**82.42 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/15/21 11:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: MW-4C MSD **Lab ID: 50301711005** Collected: 11/01/21 12:20 Received: 11/02/21 11:05 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	**87.00 %REC 27.97 RPD ± NA (NA) C:NA T:NA**	pCi/L	12/15/21 13:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**94.47 %REC 13.63 RPD ± NA (NA) C:NA T:NA**	pCi/L	12/15/21 11:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: DUP 1 **Lab ID: 50301711006** Collected: 11/01/21 11:05 Received: 11/02/21 11:05 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	**1.36 ± 0.854 (1.14) C:NA T:94%**	pCi/L	12/15/21 13:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.760 ± 0.475 (0.907) C:67% T:89%**	pCi/L	12/15/21 11:31	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.12 ± 1.33 (2.05)**	pCi/L	12/22/21 17:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Sample: Field Blank 1 **Lab ID: 50301711007** Collected: 11/01/21 11:30 Received: 11/02/21 11:05 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	**-0.0682 ± 0.401 (0.894) C:NA T:93%**	pCi/L	12/15/21 13:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.100 ± 0.328 (0.740) C:71% T:97%**	pCi/L	12/15/21 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.1000 ± 0.729 (1.63)**	pCi/L	12/22/21 17:16	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 475151 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: 50301711001, 50301711002, 50301711003, 50301711004, 50301711005, 50301711006, 50301711007

METHOD BLANK: 2295335 Matrix: Water
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711004, 50301711005, 50301711006, 50301711007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.178 ± 0.307 (0.670) C:72% T:86%	pCi/L	12/15/21 11:26	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

QC Batch: 475146 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: 50301711001, 50301711002, 50301711003, 50301711004, 50301711005, 50301711006, 50301711007

METHOD BLANK: 2295314 Matrix: Water
Associated Lab Samples: 50301711001, 50301711002, 50301711003, 50301711004, 50301711005, 50301711006, 50301711007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.113 ± 0.314 (0.741) C:NA T:89%	pCi/L	12/15/21 13:19	

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QUALIFIERS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50301711001	**MW-2R**	EPA 9056	648210		
50301711002	**MW-3**	EPA 9056	648210		
50301711003	**MW-4C**	EPA 9056	648210		
50301711006	**DUP 1**	EPA 9056	648210		
50301711007	**Field Blank 1**	EPA 9056	648210		
50301711001	**MW-2R**	EPA 3010	648522	EPA 6010	650002
50301711002	**MW-3**	EPA 3010	648522	EPA 6010	650002
50301711003	**MW-4C**	EPA 3010	648522	EPA 6010	650002
50301711006	**DUP 1**	EPA 3010	648522	EPA 6010	650002
50301711007	**Field Blank 1**	EPA 3010	648522	EPA 6010	650002
50301711001	**MW-2R**	EPA 3010	648486	EPA 6010	649840
50301711002	**MW-3**	EPA 3010	648486	EPA 6010	649840
50301711003	**MW-4C**	EPA 3010	648486	EPA 6010	649840
50301711006	**DUP 1**	EPA 3010	648486	EPA 6010	649840
50301711001	**MW-2R**	EPA 200.2	648308	EPA 6020	648528
50301711002	**MW-3**	EPA 200.2	648308	EPA 6020	648528
50301711003	**MW-4C**	EPA 200.2	648308	EPA 6020	648528
50301711006	**DUP 1**	EPA 200.2	648308	EPA 6020	648528
50301711007	**Field Blank 1**	EPA 200.2	648308	EPA 6020	648528
50301711001	**MW-2R**	EPA 903.1	475146		
50301711002	**MW-3**	EPA 903.1	475146		
50301711003	**MW-4C**	EPA 903.1	475146		
50301711004	**MW-4C MS**	EPA 903.1	475146		
50301711005	**MW-4C MSD**	EPA 903.1	475146		
50301711006	**DUP 1**	EPA 903.1	475146		
50301711007	**Field Blank 1**	EPA 903.1	475146		
50301711001	**MW-2R**	EPA 904.0	475151		
50301711002	**MW-3**	EPA 904.0	475151		
50301711003	**MW-4C**	EPA 904.0	475151		
50301711004	**MW-4C MS**	EPA 904.0	475151		
50301711005	**MW-4C MSD**	EPA 904.0	475151		
50301711006	**DUP 1**	EPA 904.0	475151		
50301711007	**Field Blank 1**	EPA 904.0	475151		
50301711001	**MW-2R**	Total Radium Calculation	477258		
50301711002	**MW-3**	Total Radium Calculation	477258		
50301711003	**MW-4C**	Total Radium Calculation	477258		
50301711006	**DUP 1**	Total Radium Calculation	477258		
50301711007	**Field Blank 1**	Total Radium Calculation	477258		
50301711001	**MW-2R**	SM 2320B	648595		
50301711003	**MW-4C**	SM 2320B	648595		
50301711006	**DUP 1**	SM 2320B	648595		
50301711007	**Field Blank 1**	SM 2320B	648595		
50301711001	**MW-2R**	SM 2540C	648289		
50301711002	**MW-3**	SM 2540C	648289		
50301711003	**MW-4C**	SM 2540C	648289		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301711

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50301711006	**DUP 1**	SM 2540C	648289		
50301711007	**Field Blank 1**	SM 2540C	648289		
50301711001	**MW-2R**	SM 4500-H+B	649153		
50301711002	**MW-3**	SM 4500-H+B	649153		
50301711003	**MW-4C**	SM 4500-H+B	649153		
50301711006	**DUP 1**	SM 4500-H+B	649153		
50301711007	**Field Blank 1**	SM 4500-H+B	649153		
50301711001	**MW-2R**	SM 4500-S2-D	648327		
50301711003	**MW-4C**	SM 4500-S2-D	648327		
50301711006	**DUP 1**	SM 4500-S2-D	648327		
50301711007	**Field Blank 1**	SM 4500-S2-D	648327		
50301711001	**MW-2R**	HACH 8146	650426		
50301711003	**MW-4C**	HACH 8146	650426		
50301711006	**DUP 1**	HACH 8146	650426		
50301711007	**Field Blank 1**	HACH 8146	650426		
50301711001	**MW-2R**	EPA 353.2	648160		
50301711003	**MW-4C**	EPA 353.2	648160		
50301711006	**DUP 1**	EPA 353.2	648160		
50301711007	**Field Blank 1**	EPA 353.2	648160		
50301711001	**MW-2R**	EPA 365.1	649651	EPA 365.1	649956
50301711003	**MW-4C**	EPA 365.1	649651	EPA 365.1	649956
50301711006	**DUP 1**	EPA 365.1	649651	EPA 365.1	649956
50301711007	**Field Blank 1**	EPA 365.1	649651	EPA 365.1	649956
50301711001	**MW-2R**	SM 5310C	649369		
50301711003	**MW-4C**	SM 5310C	649369		
50301711006	**DUP 1**	SM 5310C	649369		
50301711007	**Field Blank 1**	SM 5310C	649369		
50301711001	**MW-2R**	SM 5310C	650220		
50301711003	**MW-4C**	SM 5310C	650220		
50301711006	**DUP 1**	SM 5310C	650220		

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WO# : 50301711

50301711

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Requ...	...nformation:	Section C Invoice Information:
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: Hayden Putt
Requested Due Date:	Project #:	Pace Profile #: 8296/11 (some bottles shared with P1R1 COC)

Regulatory Agency
State / Location
IN

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

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE (2021)	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered** (Y)	Rad-228	Rad-226	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C (Y)	Sulfide	Phosphate	Residual Chlorine (Y/N)	
1	MW-2R	WT		11/1	0950				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		001
2	MW-3	WT		11/1	1050				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		002
3	MW-4C	WT		11/1	1220				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		003, 004, 005
4	DUP 1	WT		11/1	1105				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		006
5	MSD _____	WT		11/1	1235				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
6	MS _____	WT		11/1	1250				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
7	Field Blank 1	WT		11/1	1130				9	3	2	3		1					X	X	X		X	X	X	X		X	X		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)	[signature]	11.2.21	9.00	[signature]	11-2	9.00	
6020 (Be, Co, As, Se, Sb, Tl),	[signature]	11-2-21	11.05	[signature]	11/2/21	1105	SSS SCOR
** Dissolved FF 6010 (Mo, Mn)							
Alkalinity = (Total , Bicarb & Carb)							

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	
SIGNATURE of SAMPLER:	DATE Signed:

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

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MRL 11/2/21 1145

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:** 1.4/1.4 0.2/0.2 1.5/1.5 1.1/1.1

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.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) ~~NaOH/ZnAc~~ (>9)** Any ~~non~~-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** N_{O2} N_{O3}	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1220			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:		✓	

COMMENTS:

COC PAGE ____ of ____

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 (>8mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit			Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1												1	1			2	1	2	1	1	1		1					WT	✓	✓	
2												1	1			2	1	2	1	1	1		1					WT	✓	✓	
3												3	3			6	3	6	3	3	3		3					WT	✓	✓	
4												1	1			2	1	2	1	1	1		1					WT	✓	✓	
5																															
6																															
7												1				2	1	2	1		1		1					WT	✓	✓	
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 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

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

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 #: 460198
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 Profile 2 Report 5
Pace Project No.: 50302004

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302004001	**MW-26A**	Water	11/03/21 12:18	11/04/21 11:00
50302004002	**MW-26I**	Water	11/03/21 14:08	11/04/21 11:00
50302004003	**MW-26B**	Water	11/03/21 16:19	11/04/21 11:00
50302004004	**MW-27B**	Water	11/03/21 09:40	11/04/21 11:00

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SAMPLE ANALYTE COUNT

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302004001	**MW-26A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302004002	**MW-26I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302004003	**MW-26B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302004004	**MW-27B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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

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SUMMARY OF DETECTION

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302004001	**MW-26A**					
EPA 9056	Chloride	99.1	mg/L	2.5	11/09/21 23:23	
EPA 9056	Sulfate	1390	mg/L	25.0	11/09/21 23:45	
EPA 6010	Barium	33.7	ug/L	10.0	11/12/21 23:34	
EPA 6010	Boron	25400	ug/L	100	11/12/21 23:34	
EPA 6010	Calcium	614000	ug/L	50000	11/13/21 00:37	
EPA 6010	Iron	8770	ug/L	100	11/12/21 23:34	
EPA 6010	Magnesium	24400	ug/L	1000	11/12/21 23:34	
EPA 6010	Manganese	2030	ug/L	10.0	11/12/21 23:34	
EPA 6010	Molybdenum	1620	ug/L	10.0	11/12/21 23:34	
EPA 6010	Potassium	10900	ug/L	1000	11/12/21 23:34	
EPA 6010	Silica	12500	ug/L	450	11/12/21 23:34	N2
EPA 6010	Sodium	31900	ug/L	1000	11/12/21 23:34	
EPA 6010	Manganese, Dissolved	2080	ug/L	10.0	11/16/21 00:44	
EPA 6010	Molybdenum, Dissolved	1640	ug/L	10.0	11/16/21 00:44	
EPA 6020	Arsenic	1.6	ug/L	1.0	11/09/21 12:11	
EPA 903.1	Radium-226	0.0644 ± 0.455 (0.908) C:NA T:93%	pCi/L		12/07/21 12:05	
EPA 904.0	Radium-228	-0.217 ± 0.455 (1.11) C:66% T:62%	pCi/L		12/07/21 11:25	
Total Radium Calculation	Total Radium	0.0644 ± 0.910 (2.02)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	88.6	mg/L	2.0	11/11/21 12:43	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	88.6	mg/L	2.0	11/11/21 12:43	
SM 2540C	Total Dissolved Solids	2400	mg/L	40.0	11/09/21 09:17	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/09/21 15:24	H3
HACH 8146	Iron, Ferrous	0.44	mg/L	0.20	11/15/21 10:39	H3,N2
EPA 365.1	Phosphate as P04	0.23	mg/L	0.15	11/17/21 11:13	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	11/13/21 21:12	
SM 5310C	Dissolved Organic Carbon	2.6	mg/L	1.0	11/16/21 22:28	
50302004002	**MW-26I**					
EPA 9056	Chloride	79.8	mg/L	2.5	11/10/21 00:24	
EPA 9056	Sulfate	942	mg/L	25.0	11/10/21 00:43	
EPA 6010	Barium	75.8	ug/L	10.0	11/12/21 23:40	
EPA 6010	Boron	15800	ug/L	100	11/12/21 23:40	
EPA 6010	Calcium	398000	ug/L	5000	11/13/21 00:39	
EPA 6010	Iron	9000	ug/L	100	11/12/21 23:40	
EPA 6010	Lithium	33.4	ug/L	20.0	11/12/21 23:40	
EPA 6010	Magnesium	35700	ug/L	1000	11/12/21 23:40	
EPA 6010	Manganese	1660	ug/L	10.0	11/12/21 23:40	
EPA 6010	Molybdenum	558	ug/L	10.0	11/12/21 23:40	
EPA 6010	Potassium	11100	ug/L	1000	11/12/21 23:40	
EPA 6010	Silica	12600	ug/L	450	11/12/21 23:40	N2
EPA 6010	Sodium	31600	ug/L	1000	11/12/21 23:40	

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(317)228-3100

SUMMARY OF DETECTION

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302004002	**MW-26I**					
EPA 6010	Manganese, Dissolved	1710	ug/L	10.0	11/16/21 00:46	
EPA 6010	Molybdenum, Dissolved	556	ug/L	10.0	11/16/21 00:46	
EPA 903.1	Radium-226	0.144 ± 0.489 (0.944) C:NA T:88%	pCi/L		12/07/21 12:05	
EPA 904.0	Radium-228	1.14 ± 0.537 (0.915) C:65% T:77%	pCi/L		12/07/21 11:25	
Total Radium Calculation	Total Radium	1.28 ± 1.03 (1.86)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	165	mg/L	2.0	11/11/21 12:43	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	165	mg/L	2.0	11/11/21 12:43	
SM 2540C	Total Dissolved Solids	1760	mg/L	20.0	11/09/21 09:18	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/09/21 15:31	H3
EPA 365.1	Phosphate as P04	0.17	mg/L	0.15	11/17/21 13:16	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	11/13/21 21:22	
SM 5310C	Dissolved Organic Carbon	2.0	mg/L	1.0	11/16/21 23:32	
50302004003	**MW-26B**					
EPA 9056	Chloride	30.1	mg/L	2.5	11/10/21 01:25	
EPA 9056	Sulfate	237	mg/L	2.5	11/10/21 01:25	
EPA 6010	Barium	59.1	ug/L	10.0	11/12/21 23:43	
EPA 6010	Boron	2840	ug/L	100	11/12/21 23:43	
EPA 6010	Calcium	193000	ug/L	1000	11/12/21 23:43	
EPA 6010	Iron	299	ug/L	100	11/12/21 23:43	
EPA 6010	Lithium	28.2	ug/L	20.0	11/12/21 23:43	
EPA 6010	Magnesium	42800	ug/L	1000	11/12/21 23:43	
EPA 6010	Manganese	2190	ug/L	10.0	11/12/21 23:43	
EPA 6010	Potassium	5340	ug/L	1000	11/12/21 23:43	
EPA 6010	Silica	13800	ug/L	450	11/12/21 23:43	N2
EPA 6010	Sodium	21200	ug/L	1000	11/12/21 23:43	
EPA 6010	Manganese, Dissolved	2250	ug/L	10.0	11/16/21 00:48	
EPA 6020	Cobalt	2.8	ug/L	1.0	11/09/21 12:19	
EPA 903.1	Radium-226	0.655 ± 0.520 (0.676) C:NA T:85%	pCi/L		12/07/21 12:05	
EPA 904.0	Radium-228	0.334 ± 0.495 (1.07) C:64% T:77%	pCi/L		12/07/21 11:30	
Total Radium Calculation	Total Radium	0.989 ± 1.02 (1.75)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	440	mg/L	2.0	11/11/21 12:43	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	440	mg/L	2.0	11/11/21 12:43	
SM 2540C	Total Dissolved Solids	858	mg/L	20.0	11/09/21 09:18	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/09/21 15:42	H3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302004003	**MW-26B**					
EPA 353.2	Nitrogen, Nitrate	1.3	mg/L	0.10	11/04/21 18:01	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	11/16/21 23:58	
50302004004	**MW-27B**					
EPA 9056	Chloride	121	mg/L	25.0	11/10/21 03:24	
EPA 9056	Fluoride	0.10	mg/L	0.10	11/10/21 02:46	
EPA 9056	Sulfate	132	mg/L	2.5	11/10/21 03:05	
EPA 6010	Barium	449	ug/L	10.0	11/12/21 23:45	
EPA 6010	Boron	7890	ug/L	100	11/12/21 23:45	
EPA 6010	Calcium	227000	ug/L	2000	11/13/21 00:41	
EPA 6010	Iron	27800	ug/L	100	11/12/21 23:45	
EPA 6010	Magnesium	70900	ug/L	1000	11/12/21 23:45	
EPA 6010	Manganese	1140	ug/L	10.0	11/12/21 23:45	
EPA 6010	Potassium	4180	ug/L	1000	11/12/21 23:45	
EPA 6010	Silica	28100	ug/L	450	11/12/21 23:45	N2
EPA 6010	Sodium	73800	ug/L	1000	11/12/21 23:45	
EPA 6010	Manganese, Dissolved	1450	ug/L	10.0	11/16/21 00:51	
EPA 6020	Arsenic	33.1	ug/L	1.0	11/09/21 12:24	
EPA 903.1	Radium-226	1.76 ± 0.865 (0.964) C:NA T:85%	pCi/L		12/07/21 12:05	
EPA 904.0	Radium-228	0.897 ± 0.558 (1.06) C:64% T:75%	pCi/L		12/07/21 11:30	
Total Radium Calculation	Total Radium	2.66 ± 1.42 (2.02)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	716	mg/L	2.0	11/11/21 12:43	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	716	mg/L	2.0	11/11/21 12:43	
SM 2540C	Total Dissolved Solids	1130	mg/L	20.0	11/09/21 09:18	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/09/21 15:02	H3
EPA 365.1	Phosphate as P04	5.8	mg/L	0.75	11/17/21 13:45	
SM 5310C	Total Organic Carbon	14.2	mg/L	1.0	11/13/21 22:04	
SM 5310C	Dissolved Organic Carbon	13.4	mg/L	1.0	11/17/21 00:18	

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-26A **Lab ID: 50302004001** Collected: 11/03/21 12:18 Received: 11/04/21 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	**99.1**	mg/L	2.5	10		11/09/21 23:23	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/09/21 23:04	16984-48-8	
Sulfate	**1390**	mg/L	25.0	100		11/09/21 23:45	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:34	7429-90-5	
Barium	**33.7**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:34	7440-39-3	
Boron	**25400**	ug/L	100	1	11/11/21 07:00	11/12/21 23:34	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:34	7440-43-9	
Calcium	**614000**	ug/L	50000	50	11/11/21 07:00	11/13/21 00:37	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:34	7440-47-3	
Iron	**8770**	ug/L	100	1	11/11/21 07:00	11/12/21 23:34	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:34	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:34	7439-93-2	
Magnesium	**24400**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:34	7439-95-4	
Manganese	**2030**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:34	7439-96-5	
Molybdenum	**1620**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:34	7439-98-7	
Potassium	**10900**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:34	7440-09-7	
Silica	**12500**	ug/L	450	1	11/11/21 07:00	11/12/21 23:34	7631-86-9	N2
Sodium	**31900**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:34	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2080**	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:44	7439-96-5	
Molybdenum, Dissolved	**1640**	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:44	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	11/05/21 08:44	11/09/21 12:11	7440-36-0	
Arsenic	**1.6**	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:11	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/05/21 08:44	11/09/21 12:11	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:11	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:11	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:11	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**88.6**	mg/L	2.0	1		11/11/21 12:43		
Alkalinity,Bicarbonate (CaCO3)	**88.6**	mg/L	2.0	1		11/11/21 12:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 12:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2400**	mg/L	40.0	1		11/09/21 09:17		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-26A **Lab ID: 50302004001** Collected: 11/03/21 12:18 Received: 11/04/21 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	**7.0**	Std. Units	0.10	1		11/09/21 15:24		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 15:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.44**	mg/L	0.20	1		11/15/21 10:39		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		11/04/21 17:38	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 17:38	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.23**	mg/L	0.15	1	11/12/21 12:30	11/17/21 11:13		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.8**	mg/L	1.0	1		11/13/21 21:12	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.6**	mg/L	1.0	1		11/16/21 22:28		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-26I **Lab ID: 50302004002** Collected: 11/03/21 14:08 Received: 11/04/21 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	**79.8**	mg/L	2.5	10		11/10/21 00:24	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/10/21 00:05	16984-48-8	
Sulfate	**942**	mg/L	25.0	100		11/10/21 00:43	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:40	7429-90-5	
Barium	**75.8**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:40	7440-39-3	
Boron	**15800**	ug/L	100	1	11/11/21 07:00	11/12/21 23:40	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:40	7440-43-9	
Calcium	**398000**	ug/L	5000	5	11/11/21 07:00	11/13/21 00:39	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:40	7440-47-3	
Iron	**9000**	ug/L	100	1	11/11/21 07:00	11/12/21 23:40	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:40	7439-92-1	
Lithium	**33.4**	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:40	7439-93-2	
Magnesium	**35700**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:40	7439-95-4	
Manganese	**1660**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:40	7439-96-5	
Molybdenum	**558**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:40	7439-98-7	
Potassium	**11100**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:40	7440-09-7	
Silica	**12600**	ug/L	450	1	11/11/21 07:00	11/12/21 23:40	7631-86-9	N2
Sodium	**31600**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:40	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1710**	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:46	7439-96-5	
Molybdenum, Dissolved	**556**	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:46	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:15	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:15	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/05/21 08:44	11/09/21 12:15	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:15	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:15	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:15	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**165**	mg/L	2.0	1		11/11/21 12:43		
Alkalinity,Bicarbonate (CaCO3)	**165**	mg/L	2.0	1		11/11/21 12:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 12:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1760**	mg/L	20.0	1		11/09/21 09:18		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-26I **Lab ID: 50302004002** Collected: 11/03/21 14:08 Received: 11/04/21 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	**7.1**	Std. Units	0.10	1		11/09/21 15:31		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 15:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:39		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		11/04/21 17:53	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 17:53	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	11/13/21 05:00	11/17/21 13:16		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		11/13/21 21:22	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.0**	mg/L	1.0	1		11/16/21 23:32		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-26B **Lab ID: 50302004003** Collected: 11/03/21 16:19 Received: 11/04/21 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	**30.1**	mg/L	2.5	10		11/10/21 01:25	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/10/21 01:06	16984-48-8	
Sulfate	**237**	mg/L	2.5	10		11/10/21 01:25	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:43	7429-90-5	
Barium	**59.1**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:43	7440-39-3	
Boron	**2840**	ug/L	100	1	11/11/21 07:00	11/12/21 23:43	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:43	7440-43-9	
Calcium	**193000**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:43	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:43	7440-47-3	
Iron	**299**	ug/L	100	1	11/11/21 07:00	11/12/21 23:43	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:43	7439-92-1	
Lithium	**28.2**	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:43	7439-93-2	
Magnesium	**42800**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:43	7439-95-4	
Manganese	**2190**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:43	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:43	7439-98-7	
Potassium	**5340**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:43	7440-09-7	
Silica	**13800**	ug/L	450	1	11/11/21 07:00	11/12/21 23:43	7631-86-9	N2
Sodium	**21200**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:43	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2250**	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:48	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:48	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:19	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:19	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/05/21 08:44	11/09/21 12:19	7440-41-7	
Cobalt	**2.8**	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:19	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:19	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:19	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**440**	mg/L	2.0	1		11/11/21 12:43		
Alkalinity,Bicarbonate (CaCO3)	**440**	mg/L	2.0	1		11/11/21 12:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 12:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**858**	mg/L	20.0	1		11/09/21 09:18		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-26B **Lab ID: 50302004003** Collected: 11/03/21 16:19 Received: 11/04/21 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	**7.1**	Std. Units	0.10	1		11/09/21 15:42		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 15:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:40		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**1.3**	mg/L	0.10	1		11/04/21 18:01	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 18:01	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/13/21 05:00	11/17/21 13:17		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/13/21 21:52	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		11/16/21 23:58		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-27B **Lab ID: 50302004004** Collected: 11/03/21 09:40 Received: 11/04/21 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	**121**	mg/L	25.0	100		11/10/21 03:24	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		11/10/21 02:46	16984-48-8	
Sulfate	**132**	mg/L	2.5	10		11/10/21 03:05	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:45	7429-90-5	
Barium	**449**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:45	7440-39-3	
Boron	**7890**	ug/L	100	1	11/11/21 07:00	11/12/21 23:45	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:45	7440-43-9	
Calcium	**227000**	ug/L	2000	2	11/11/21 07:00	11/13/21 00:41	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:45	7440-47-3	
Iron	**27800**	ug/L	100	1	11/11/21 07:00	11/12/21 23:45	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:45	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:45	7439-93-2	
Magnesium	**70900**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:45	7439-95-4	
Manganese	**1140**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:45	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:45	7439-98-7	
Potassium	**4180**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:45	7440-09-7	
Silica	**28100**	ug/L	450	1	11/11/21 07:00	11/12/21 23:45	7631-86-9	N2
Sodium	**73800**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:45	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1450**	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:51	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/11/21 13:30	11/16/21 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	11/05/21 08:44	11/09/21 12:24	7440-36-0	
Arsenic	**33.1**	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:24	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/05/21 08:44	11/09/21 12:24	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:24	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:24	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:24	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**716**	mg/L	2.0	1		11/11/21 12:43		
Alkalinity,Bicarbonate (CaCO3)	**716**	mg/L	2.0	1		11/11/21 12:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 12:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1130**	mg/L	20.0	1		11/09/21 09:18		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-27B **Lab ID: 50302004004** Collected: 11/03/21 09:40 Received: 11/04/21 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	**7.0**	Std. Units	0.10	1		11/09/21 15:02		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 15:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:31		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		11/04/21 17:14	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 17:14	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**5.8**	mg/L	0.75	5	11/13/21 05:00	11/17/21 13:45		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**14.2**	mg/L	1.0	1		11/13/21 22:04	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**13.4**	mg/L	1.0	1		11/17/21 00:18		

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 649169
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2991353 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/09/21 22:25	
Fluoride	mg/L	ND	0.10	11/09/21 22:25	
Sulfate	mg/L	ND	0.25	11/09/21 22:25	

LABORATORY CONTROL SAMPLE: 2991354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	89	80-120	
Fluoride	mg/L	0.5	0.47	94	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991355 2991356

Parameter	Units	50302013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.5	1.2	1.2	5.3	5.3	65	63	80-120	0	15	M0
Fluoride	mg/L	0.15	0.5	0.5	0.56	0.56	83	84	80-120	0	15	
Sulfate	mg/L	289	250	250	521	521	93	93	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 649459
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2992603 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/12/21 23:22	
Barium	ug/L	ND	10.0	11/12/21 23:22	
Boron	ug/L	ND	100	11/12/21 23:22	
Cadmium	ug/L	ND	2.0	11/12/21 23:22	
Calcium	ug/L	ND	1000	11/12/21 23:22	
Chromium	ug/L	ND	10.0	11/12/21 23:22	
Iron	ug/L	ND	100	11/12/21 23:22	
Lead	ug/L	ND	10.0	11/12/21 23:22	
Lithium	ug/L	ND	20.0	11/12/21 23:22	
Magnesium	ug/L	ND	1000	11/12/21 23:22	
Manganese	ug/L	ND	10.0	11/12/21 23:22	
Molybdenum	ug/L	ND	10.0	11/12/21 23:22	
Potassium	ug/L	ND	1000	11/12/21 23:22	
Silica	ug/L	ND	450	11/12/21 23:22	N2
Sodium	ug/L	ND	1000	11/12/21 23:22	

LABORATORY CONTROL SAMPLE: 2992604

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4690	94	80-120	
Barium	ug/L	1000	935	93	80-120	
Boron	ug/L	1000	962	96	80-120	
Cadmium	ug/L	1000	924	92	80-120	
Calcium	ug/L	5000	4700	94	80-120	
Chromium	ug/L	1000	953	95	80-120	
Iron	ug/L	2500	2360	94	80-120	
Lead	ug/L	1000	897	90	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	5000	4640	93	80-120	
Manganese	ug/L	1000	920	92	80-120	
Molybdenum	ug/L	1000	954	95	80-120	
Potassium	ug/L	5000	4700	94	80-120	
Silica	ug/L	5350	5100	95	80-120	N2
Sodium	ug/L	5000	4650	93	80-120	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992605 2992606

Parameter	Units	50302013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4690	4680	94	93	75-125	0	20	
Barium	ug/L	81.2	1000	1000	1020	1020	94	94	75-125	1	20	
Boron	ug/L	397	1000	1000	1380	1380	99	99	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	946	944	95	94	75-125	0	20	
Calcium	ug/L	214000	5000	5000	225000	220000	208	124	75-125	2	20	P6
Chromium	ug/L	ND	1000	1000	951	951	95	95	75-125	0	20	
Iron	ug/L	20400	2500	2500	22600	22800	91	99	75-125	1	20	
Lead	ug/L	ND	1000	1000	854	852	85	85	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1120	1110	110	109	75-125	1	20	
Magnesium	ug/L	66300	5000	5000	70600	71300	87	100	75-125	1	20	
Manganese	ug/L	1430	1000	1000	2320	2340	89	91	75-125	1	20	
Molybdenum	ug/L	ND	1000	1000	968	963	97	96	75-125	0	20	
Potassium	ug/L	2540	5000	5000	7660	7660	102	102	75-125	0	20	
Silica	ug/L	24400	5350	5350	30200	30500	107	114	75-125	1	20	N2
Sodium	ug/L	11900	5000	5000	16800	16800	99	100	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994032 2994033

Parameter	Units	50302284011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	211000	25000	25000	610000	649000	1600	1750	75-125	6	20	P6
Barium	ug/L	2570	5000	5000	8520	8640	119	122	75-125	2	20	
Boron	ug/L	ND	5000	5000	5760	5780	106	106	75-125	0	20	
Cadmium	ug/L	11.4	5000	5000	4620	4610	92	92	75-125	0	20	
Calcium	ug/L	2830000	25000	25000	4210000	4370000	5490	6160	75-125	4	20	P6
Chromium	ug/L	386	5000	5000	5440	5530	101	103	75-125	2	20	
Iron	ug/L	573000	12500	12500	1660000	1760000	8730	9480	75-125	5	20	P6
Lead	ug/L	418	5000	5000	4870	4920	89	90	75-125	1	20	
Lithium	ug/L	378	5000	5000	6640	6700	125	127	75-125	1	20	M0
Magnesium	ug/L	606000	25000	25000	1320000	1410000	2840	3220	75-125	7	20	P6
Manganese	ug/L	13800	5000	5000	27400	28500	272	294	75-125	4	20	M3
Molybdenum	ug/L	229	5000	5000	5060	5070	97	97	75-125	0	20	
Potassium	ug/L	67800	25000	25000	192000	203000	496	541	75-125	6	20	M3
Silica	ug/L	417000	26700	26700	971000	790000	2070	1400	75-125	20	20	N2
Sodium	ug/L	204000	25000	25000	233000	240000	114	145	75-125	3	20	P6

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 649215
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2991489 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/15/21 23:06	
Molybdenum, Dissolved	ug/L	ND	10.0	11/15/21 23:06	

LABORATORY CONTROL SAMPLE: 2991490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	966	97	80-120	
Molybdenum, Dissolved	ug/L	1000	976	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991491 2991492

Parameter	Units	50301767002 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	1.6J	1000	1000	941	939	94	94	75-125	0	20	
Molybdenum, Dissolved	ug/L	3.8J	1000	1000	983	981	98	98	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991493 2991494

Parameter	Units	50301769006 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	871	1000	1000	1820	1820	95	95	75-125	0	20	
Molybdenum, Dissolved	ug/L	0.69J	1000	1000	982	985	98	98	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991495 2991496

Parameter	Units	50301937002 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	2280	1000	1000	3230	3240	95	96	75-125	0	20	
Molybdenum, Dissolved	ug/L	1.4J	1000	1000	980	973	98	97	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991497 2991498

Parameter	Units	50302013001 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	1440	1000	1000	2360	2340	92	90	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	985	977	98	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 648753
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2989459 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/09/21 12:03	
Arsenic	ug/L	ND	1.0	11/09/21 12:03	
Beryllium	ug/L	ND	0.20	11/09/21 12:03	
Cobalt	ug/L	ND	1.0	11/09/21 12:03	
Selenium	ug/L	ND	1.0	11/09/21 12:03	
Thallium	ug/L	ND	1.0	11/09/21 12:03	

LABORATORY CONTROL SAMPLE: 2989460

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.8	102	80-120	
Arsenic	ug/L	40	38.0	95	80-120	
Beryllium	ug/L	40	38.0	95	80-120	
Cobalt	ug/L	40	40.0	100	80-120	
Selenium	ug/L	40	40.8	102	80-120	
Thallium	ug/L	40	38.6	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989461 2989462

Parameter	Units	50302013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.0	41.8	105	104	75-125	0	20	
Arsenic	ug/L	4.3	40	40	41.4	41.5	93	93	75-125	0	20	
Beryllium	ug/L	ND	40	40	36.6	36.8	92	92	75-125	0	20	
Cobalt	ug/L	ND	40	40	35.5	35.8	88	89	75-125	1	20	
Selenium	ug/L	ND	40	40	38.0	37.5	95	94	75-125	1	20	
Thallium	ug/L	ND	40	40	39.5	39.4	99	98	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989463 2989464

Parameter	Units	50302027005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.7	41.1	104	103	75-125	1	20	
Arsenic	ug/L	1.2	40	40	37.8	37.9	91	92	75-125	0	20	
Beryllium	ug/L	ND	40	40	36.8	36.8	92	92	75-125	0	20	
Cobalt	ug/L	ND	40	40	36.5	36.4	91	91	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989463 2989464

Parameter	Units	50302027005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Selenium	ug/L	ND	40	40	37.6	37.7	94	94	75-125	0	20	
Thallium	ug/L	ND	40	40	38.9	39.2	97	98	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989465 2989466

Parameter	Units	50302028002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.7	40.9	104	102	75-125	2	20	
Arsenic	ug/L	ND	40	40	36.4	36.6	91	91	75-125	1	20	
Beryllium	ug/L	ND	40	40	38.2	38.3	95	96	75-125	0	20	
Cobalt	ug/L	ND	40	40	36.7	36.6	91	91	75-125	0	20	
Selenium	ug/L	ND	40	40	37.3	38.4	93	96	75-125	3	20	
Thallium	ug/L	ND	40	40	39.6	39.7	99	99	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 649592 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2993294 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/11/21 12:43	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/11/21 12:43	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/11/21 12:43	

LABORATORY CONTROL SAMPLE: 2993295

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: 2993296

Parameter	Units	50302027005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	325	319	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	325	319	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2993297

Parameter	Units	50302028002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	281	291	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	281	291	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 649250 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2991620 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/09/21 09:15	

LABORATORY CONTROL SAMPLE: 2991621

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	265	88	80-120	

SAMPLE DUPLICATE: 2991622

Parameter	Units	50302004001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2400	2390	0	10	

SAMPLE DUPLICATE: 2991623

Parameter	Units	50302013001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	944	982	4	10	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 649381
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

SAMPLE DUPLICATE: 2992229

Parameter	Units	50302028002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.4	1	2	H3

SAMPLE DUPLICATE: 2992230

Parameter	Units	50302027005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	1	2	H3

SAMPLE DUPLICATE: 2992231

Parameter	Units	50302013001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.7	6.8	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 648872 | 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: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2990090 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/05/21 15:45	

LABORATORY CONTROL SAMPLE: 2990091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990092 2990093

Parameter	Units	50301937002 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	0.39	0.38	76	75	90-110	2	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990094 2990095

Parameter	Units	50302013001 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	0.51	0.49	95	90	90-110	5	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 650426 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2997938 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 10:23	H3,N2

LABORATORY CONTROL SAMPLE: 2997939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	107	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997940 2997941

Parameter	Units	50301711003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	108	107	90-110	1	20	H3,N2

MATRIX SPIKE SAMPLE: 2997942

Parameter	Units	50301797004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	109	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 648707
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2989098 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/04/21 17:07	
Nitrogen, Nitrite	mg/L	ND	0.10	11/04/21 17:07	

LABORATORY CONTROL SAMPLE: 2989099

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	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989100 2989101

Parameter	Units	50302028002 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	0.99	0.99	99	99	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	110	110	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989102 2989103

Parameter	Units	50302027005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.0	1.0	101	101	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	111	111	90-110	0	20	M3

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 649951
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001

METHOD BLANK: 2995330 Matrix: Water
Associated Lab Samples: 50302004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/17/21 11:04	

LABORATORY CONTROL SAMPLE: 2995331

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2995332 2995333

Parameter	Units	50301952002 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	0.37			1.9	1.9				0		

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 650186
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004002, 50302004003, 50302004004

METHOD BLANK: 2996933 Matrix: Water
Associated Lab Samples: 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/17/21 13:15	

LABORATORY CONTROL SAMPLE: 2996934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2996935 2996936

Parameter	Units	50302013001 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	0.39			1.8	1.8				3		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2996937 2996938

Parameter	Units	50302027005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.6	1.5				4		

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 650225 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2997060 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/13/21 18:12	

LABORATORY CONTROL SAMPLE: 2997061

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.3	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997062 2997063

Parameter	Units	50301937002 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	1.4	10	10	10.9	11.1	95	97	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997065 2997066

Parameter	Units	50302013001 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	2.1	10	10	12.0	12.4	99	103	80-120	3	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 650521
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004001

METHOD BLANK: 2998289 Matrix: Water
Associated Lab Samples: 50302004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/16/21 12:43	

LABORATORY CONTROL SAMPLE: 2998290

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: 2998291 2998292

Parameter	Units	50301937002 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	1.6	10	10	11.3	10.8	97	92	80-120	4	20	

MATRIX SPIKE SAMPLE: 2998293

Parameter	Units	50302003002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.3	10	11.1	98	80-120	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 650522 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302004002, 50302004003, 50302004004

METHOD BLANK: 2998294 Matrix: Water
Associated Lab Samples: 50302004002, 50302004003, 50302004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/16/21 22:54	

LABORATORY CONTROL SAMPLE: 2998295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.6	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998296 2998297

Parameter	Units	50302013001 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	2.1	10	10	12.0	11.8	99	96	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998298 2998299

Parameter	Units	50302027005 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	10.6	10.5	99	98	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998301 2998302

Parameter	Units	50302028002 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	3.5	10	10	13.2	13.1	97	96	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-26A **Lab ID: 50302004001** Collected: 11/03/21 12:18 Received: 11/04/21 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	**0.0644 ± 0.455 (0.908) C:NA T:93%**	pCi/L	12/07/21 12:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.217 ± 0.455 (1.11) C:66% T:62%**	pCi/L	12/07/21 11:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0644 ± 0.910 (2.02)**	pCi/L	12/08/21 15:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-26I **Lab ID: 50302004002** Collected: 11/03/21 14:08 Received: 11/04/21 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	**0.144 ± 0.489 (0.944) C:NA T:88%**	pCi/L	12/07/21 12:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.14 ± 0.537 (0.915) C:65% T:77%**	pCi/L	12/07/21 11:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.28 ± 1.03 (1.86)**	pCi/L	12/08/21 15:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-26B **Lab ID: 50302004003** Collected: 11/03/21 16:19 Received: 11/04/21 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	**0.655 ± 0.520 (0.676) C:NA T:85%**	pCi/L	12/07/21 12:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.334 ± 0.495 (1.07) C:64% T:77%**	pCi/L	12/07/21 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.989 ± 1.02 (1.75)**	pCi/L	12/08/21 15:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Sample: MW-27B **Lab ID: 50302004004** Collected: 11/03/21 09:40 Received: 11/04/21 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	**1.76 ± 0.865 (0.964) C:NA T:85%**	pCi/L	12/07/21 12:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.897 ± 0.558 (1.06) C:64% T:75%**	pCi/L	12/07/21 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.66 ± 1.42 (2.02)**	pCi/L	12/08/21 15:01	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 473860
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2289206 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0506 ± 0.262 (0.608) C:NA T:90%	pCi/L	12/07/21 12:05	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

QC Batch: 473862
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

METHOD BLANK: 2289207 Matrix: Water
Associated Lab Samples: 50302004001, 50302004002, 50302004003, 50302004004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.124 ± 0.291 (0.649) C:66% T:91%	pCi/L	12/07/21 11:25	

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QUALIFIERS

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302004001	**MW-26A**	EPA 9056	649169		
50302004002	**MW-26I**	EPA 9056	649169		
50302004003	**MW-26B**	EPA 9056	649169		
50302004004	**MW-27B**	EPA 9056	649169		
50302004001	**MW-26A**	EPA 3010	649459	EPA 6010	650252
50302004002	**MW-26I**	EPA 3010	649459	EPA 6010	650252
50302004003	**MW-26B**	EPA 3010	649459	EPA 6010	650252
50302004004	**MW-27B**	EPA 3010	649459	EPA 6010	650252
50302004001	**MW-26A**	EPA 3010	649215	EPA 6010	650606
50302004002	**MW-26I**	EPA 3010	649215	EPA 6010	650606
50302004003	**MW-26B**	EPA 3010	649215	EPA 6010	650606
50302004004	**MW-27B**	EPA 3010	649215	EPA 6010	650606
50302004001	**MW-26A**	EPA 200.2	648753	EPA 6020	648923
50302004002	**MW-26I**	EPA 200.2	648753	EPA 6020	648923
50302004003	**MW-26B**	EPA 200.2	648753	EPA 6020	648923
50302004004	**MW-27B**	EPA 200.2	648753	EPA 6020	648923
50302004001	**MW-26A**	EPA 903.1	473860		
50302004002	**MW-26I**	EPA 903.1	473860		
50302004003	**MW-26B**	EPA 903.1	473860		
50302004004	**MW-27B**	EPA 903.1	473860		
50302004001	**MW-26A**	EPA 904.0	473862		
50302004002	**MW-26I**	EPA 904.0	473862		
50302004003	**MW-26B**	EPA 904.0	473862		
50302004004	**MW-27B**	EPA 904.0	473862		
50302004001	**MW-26A**	Total Radium Calculation	475485		
50302004002	**MW-26I**	Total Radium Calculation	475485		
50302004003	**MW-26B**	Total Radium Calculation	475485		
50302004004	**MW-27B**	Total Radium Calculation	475485		
50302004001	**MW-26A**	SM 2320B	649592		
50302004002	**MW-26I**	SM 2320B	649592		
50302004003	**MW-26B**	SM 2320B	649592		
50302004004	**MW-27B**	SM 2320B	649592		
50302004001	**MW-26A**	SM 2540C	649250		
50302004002	**MW-26I**	SM 2540C	649250		
50302004003	**MW-26B**	SM 2540C	649250		
50302004004	**MW-27B**	SM 2540C	649250		
50302004001	**MW-26A**	SM 4500-H+B	649381		
50302004002	**MW-26I**	SM 4500-H+B	649381		
50302004003	**MW-26B**	SM 4500-H+B	649381		
50302004004	**MW-27B**	SM 4500-H+B	649381		
50302004001	**MW-26A**	SM 4500-S2-D	648872		
50302004002	**MW-26I**	SM 4500-S2-D	648872		
50302004003	**MW-26B**	SM 4500-S2-D	648872		
50302004004	**MW-27B**	SM 4500-S2-D	648872		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM CCR Profile 2 Report 5
Pace Project No.: 50302004

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302004001	**MW-26A**	HACH 8146	650426		
50302004002	**MW-26I**	HACH 8146	650426		
50302004003	**MW-26B**	HACH 8146	650426		
50302004004	**MW-27B**	HACH 8146	650426		
50302004001	**MW-26A**	EPA 353.2	648707		
50302004002	**MW-26I**	EPA 353.2	648707		
50302004003	**MW-26B**	EPA 353.2	648707		
50302004004	**MW-27B**	EPA 353.2	648707		
50302004001	**MW-26A**	EPA 365.1	649951	EPA 365.1	650213
50302004002	**MW-26I**	EPA 365.1	650186	EPA 365.1	651015
50302004003	**MW-26B**	EPA 365.1	650186	EPA 365.1	651015
50302004004	**MW-27B**	EPA 365.1	650186	EPA 365.1	651015
50302004001	**MW-26A**	SM 5310C	650225		
50302004002	**MW-26I**	SM 5310C	650225		
50302004003	**MW-26B**	SM 5310C	650225		
50302004004	**MW-27B**	SM 5310C	650225		
50302004001	**MW-26A**	SM 5310C	650521		
50302004002	**MW-26I**	SM 5310C	650522		
50302004003	**MW-26B**	SM 5310C	650522		
50302004004	**MW-27B**	SM 5310C	650522		

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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.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: AES/IPL Petersburg	Report To: Teague, Wil	Attention:	
Address: 6925 IN-57	Copy To:	Company Name:	
Petersburg, IN 47567		Address:	Regulatory Agency
Email: wil.teague@aes.com	Purchase Order #:	Pace Quote:	
Phone: (812)354-8801 Fax:	Project Name: IDEM - CCR Sampling Profile 2 Report 5	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date:	Project #:	Pace Profile #: 8296/11	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	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	50302004
13	~~MW-25I~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
14	~~MW-25B~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
15	MW-26A	WT				11/03/21	1218		11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		001
16	MW-26I	WT					1408		11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		002
17	MW-26B	WT					1619		11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		003
18	MW-27B	WT					940		11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		004
19	~~MW-28A~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
20	~~MW-28I~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
21	~~MW-28B~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
22	~~MW-29A~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
23	~~MW-29I~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
24	~~MW-29B~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
* Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)		11-4-21	8:45		11-4-21	8:45				
6020 (Be, Co, As, Se, Sb, Tl)		11-4-21	11:00		11/4/21	1100	See Sav	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palmer

SIGNATURE of SAMPLER: [signature] DATE Signed: 11/03/21

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BC 1245 11/4/21

1. **Courier:** ☐ FED EX ☐ UPS ☒ CLIENT ☐ PACE ☐ USPS ☐ OTHER _____

2. **Custody Seal on Cooler/Box Present:** ☐ Yes ☒ No

(If yes)Seals Intact: ☐ Yes ☐ No **(leave blank if no seals were present)**

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

4. **Cooler Temperature:** ①1.1/1.1 ②1.7/1.7 ③1.6/1.6 ④2.1/2.1 ⑤2.3/2.3 ⑥3.3/3.3 ⑦2.0/2.0
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)		✓	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.** **Circle:** ~~HNO3 (<2)~~ ~~H2SO4 (<2)~~ NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO2, NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
				Present	Absent	No VOA Vials Sent
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details			✓
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:

COC PAGE 1 of 1

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																															
2																															
3												1	1			2	1	2	1	1	1		1					WT	✓	✓	
4												↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	↓	↓	
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
GN	General	AG3C	250mL NaOH amber glass

Plastic / Misc.

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

F-IN-Q-270-rev.13,17May2021

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 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

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

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 #: 460198
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 Profile 2 Report 4
Pace Project No.: 50302013

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302013001	**AP-7**	Water	11/03/21 13:35	11/04/21 11:00
50302013002	**AP-7 RAD MS**	Water	11/03/21 13:35	11/04/21 11:00
50302013003	**AP-7 RAD MSD**	Water	11/03/21 13:35	11/04/21 11:00
50302013004	**DUP 2**	Water	11/03/21 13:35	11/04/21 11:00
50302013005	**FIELD BLANK 2**	Water	11/03/21 14:55	11/04/21 11:00

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SAMPLE ANALYTE COUNT

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302013001	**AP-7**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302013002	**AP-7 RAD MS**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50302013003	**AP-7 RAD MSD**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50302013004	**DUP 2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302013005	**FIELD BLANK 2**	EPA 9056	RMR	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	JPK	15	PASI-I
		EPA 6020	DMT	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	SKK	2	PASI-I
		EPA 365.1	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 Profile 2 Report 4
Pace Project No.: 50302013

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302013001	**AP-7**					
EPA 9056	Chloride	4.5	mg/L	0.25	11/10/21 21:27	
EPA 9056	Fluoride	0.15	mg/L	0.10	11/10/21 21:27	
EPA 9056	Sulfate	289	mg/L	25.0	11/10/21 21:59	
EPA 6010	Barium	81.2	ug/L	10.0	11/12/21 23:47	
EPA 6010	Boron	397	ug/L	100	11/12/21 23:47	
EPA 6010	Calcium	214000	ug/L	2000	11/13/21 00:43	
EPA 6010	Iron	20400	ug/L	100	11/12/21 23:47	
EPA 6010	Magnesium	66300	ug/L	1000	11/12/21 23:47	
EPA 6010	Manganese	1430	ug/L	10.0	11/12/21 23:47	
EPA 6010	Potassium	2540	ug/L	1000	11/12/21 23:47	
EPA 6010	Silica	24400	ug/L	450	11/12/21 23:47	N2
EPA 6010	Sodium	11900	ug/L	1000	11/12/21 23:47	
EPA 6010	Manganese, Dissolved	1440	ug/L	10.0	11/16/21 00:57	
EPA 6020	Arsenic	4.3	ug/L	1.0	11/09/21 12:28	
EPA 903.1	Radium-226	0.117 ± 0.325 (0.630) C:NA T:78%	pCi/L		12/07/21 12:05	
EPA 904.0	Radium-228	1.20 ± 0.598 (1.05) C:66% T:67%	pCi/L		12/07/21 11:27	
Total Radium Calculation	Total Radium	1.32 ± 0.923 (1.68)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	525	mg/L	2.0	11/10/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	525	mg/L	2.0	11/10/21 16:22	
SM 2540C	Total Dissolved Solids	944	mg/L	20.0	11/09/21 09:18	
SM 4500-H+B	pH at 25 Degrees C	6.7	Std. Units	0.10	11/09/21 15:27	H3
EPA 365.1	Phosphate as P04	0.39	mg/L	0.15	11/17/21 13:20	
SM 5310C	Total Organic Carbon	2.1	mg/L	1.0	11/13/21 22:14	
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	11/17/21 01:16	
50302013002	**AP-7 RAD MS**					
EPA 903.1	Radium-226	115.05 %REC ± NA (NA) C:NA T:NA	pCi/L		12/07/21 12:05	
EPA 904.0	Radium-228	104.60 %REC ± NA (NA) C:NA T:NA	pCi/L		12/07/21 11:27	
50302013003	**AP-7 RAD MSD**					
EPA 903.1	Radium-226	109.68 %REC 4.78 RPD ± NA (NA) C:NA T:NA	pCi/L		12/07/21 12:19	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302013003	**AP-7 RAD MSD**					
EPA 904.0	Radium-228	123.16 %REC 16.29 RPD ± NA (NA) C:NA T:NA	pCi/L		12/07/21 11:27	
50302013004	**DUP 2**					
EPA 9056	Chloride	4.1	mg/L	0.25	11/10/21 04:25	
EPA 9056	Fluoride	0.12	mg/L	0.10	11/10/21 04:25	
EPA 9056	Sulfate	288	mg/L	25.0	11/10/21 21:11	
EPA 6010	Barium	77.3	ug/L	10.0	11/12/21 23:57	
EPA 6010	Boron	288	ug/L	100	11/12/21 23:57	
EPA 6010	Calcium	210000	ug/L	2000	11/13/21 00:49	
EPA 6010	Iron	20000	ug/L	100	11/12/21 23:57	
EPA 6010	Magnesium	64900	ug/L	1000	11/12/21 23:57	
EPA 6010	Manganese	1420	ug/L	10.0	11/12/21 23:57	
EPA 6010	Potassium	2470	ug/L	1000	11/12/21 23:57	
EPA 6010	Silica	24000	ug/L	450	11/12/21 23:57	N2
EPA 6010	Sodium	11400	ug/L	1000	11/12/21 23:57	
EPA 6010	Manganese, Dissolved	1150	ug/L	10.0	11/16/21 00:19	
EPA 6020	Arsenic	2.9	ug/L	1.0	11/09/21 12:57	
EPA 903.1	Radium-226	0.0609 ± 0.358 (0.732) C:NA T:92%	pCi/L		12/07/21 12:19	
EPA 904.0	Radium-228	0.792 ± 0.519 (0.988) C:63% T:74%	pCi/L		12/07/21 11:27	
Total Radium Calculation	Total Radium	0.853 ± 0.877 (1.72)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	510	mg/L	2.0	11/10/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	510	mg/L	2.0	11/10/21 16:22	
SM 2540C	Total Dissolved Solids	958	mg/L	20.0	11/09/21 09:19	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	11/10/21 15:03	H3
SM 4500-S2-D	Sulfide	0.11	mg/L	0.10	11/05/21 15:45	
HACH 8146	Iron, Ferrous	0.76	mg/L	0.20	11/15/21 11:36	H3,N2
EPA 365.1	Phosphate as P04	0.35	mg/L	0.15	11/17/21 13:23	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	11/13/21 22:46	
SM 5310C	Dissolved Organic Carbon	2.0	mg/L	1.0	11/17/21 02:14	
50302013005	**FIELD BLANK 2**					
EPA 903.1	Radium-226	-0.189 ± 0.410 (0.945) C:NA T:98%	pCi/L		12/07/21 12:19	

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SUMMARY OF DETECTION

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302013005	**FIELD BLANK 2**					
EPA 904.0	Radium-228	0.726 ± 0.451 (0.848) C:69% T:78%	pCi/L		12/07/21 11:28	
Total Radium Calculation	Total Radium	0.726 ± 0.861 (1.79)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	3.0	mg/L	2.0	11/10/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	3.0	mg/L	2.0	11/10/21 16:22	
SM 4500-H+B	pH at 25 Degrees C	6.5	Std. Units	0.10	11/09/21 15:38	H3

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: AP-7 **Lab ID: 50302013001** Collected: 11/03/21 13:35 Received: 11/04/21 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	**4.5**	mg/L	0.25	1		11/10/21 21:27	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		11/10/21 21:27	16984-48-8	
Sulfate	**289**	mg/L	25.0	100		11/10/21 21:59	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:47	7429-90-5	
Barium	**81.2**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:47	7440-39-3	
Boron	**397**	ug/L	100	1	11/11/21 07:00	11/12/21 23:47	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:47	7440-43-9	
Calcium	**214000**	ug/L	2000	2	11/11/21 07:00	11/13/21 00:43	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:47	7440-47-3	
Iron	**20400**	ug/L	100	1	11/11/21 07:00	11/12/21 23:47	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:47	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:47	7439-93-2	
Magnesium	**66300**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:47	7439-95-4	
Manganese	**1430**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:47	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:47	7439-98-7	
Potassium	**2540**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:47	7440-09-7	
Silica	**24400**	ug/L	450	1	11/11/21 07:00	11/12/21 23:47	7631-86-9	N2
Sodium	**11900**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:47	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1440**	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:57	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:57	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	11/05/21 08:44	11/09/21 12:28	7440-36-0	
Arsenic	**4.3**	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:28	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/05/21 08:44	11/09/21 12:28	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:28	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:28	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:28	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**525**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**525**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/10/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**944**	mg/L	20.0	1		11/09/21 09:18		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: AP-7 **Lab ID: 50302013001** Collected: 11/03/21 13:35 Received: 11/04/21 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	**6.7**	Std. Units	0.10	1		11/09/21 15:27		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 15:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:33		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		11/04/21 18:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 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	**0.39**	mg/L	0.15	1	11/13/21 05:00	11/17/21 13:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.1**	mg/L	1.0	1		11/13/21 22:14	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.1**	mg/L	1.0	1		11/17/21 01:16		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: DUP 2 **Lab ID: 50302013004** Collected: 11/03/21 13:35 Received: 11/04/21 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	**4.1**	mg/L	0.25	1		11/10/21 04:25	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	1		11/10/21 04:25	16984-48-8	
Sulfate	**288**	mg/L	25.0	100		11/10/21 21:11	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:57	7429-90-5	
Barium	**77.3**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:57	7440-39-3	
Boron	**288**	ug/L	100	1	11/11/21 07:00	11/12/21 23:57	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:57	7440-43-9	
Calcium	**210000**	ug/L	2000	2	11/11/21 07:00	11/13/21 00:49	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:57	7440-47-3	
Iron	**20000**	ug/L	100	1	11/11/21 07:00	11/12/21 23:57	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:57	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:57	7439-93-2	
Magnesium	**64900**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:57	7439-95-4	
Manganese	**1420**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:57	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:57	7439-98-7	
Potassium	**2470**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:57	7440-09-7	
Silica	**24000**	ug/L	450	1	11/11/21 07:00	11/12/21 23:57	7631-86-9	N2
Sodium	**11400**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:57	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1150**	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:19	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/11/21 13:30	11/16/21 00:19	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:57	7440-36-0	
Arsenic	**2.9**	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:57	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/05/21 08:44	11/09/21 12:57	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:57	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:57	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 12:57	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**510**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**510**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/10/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**958**	mg/L	20.0	1		11/09/21 09:19		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: DUP 2 **Lab ID: 50302013004** Collected: 11/03/21 13:35 Received: 11/04/21 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	**6.8**	Std. Units	0.10	1		11/10/21 15:03		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	**0.11**	mg/L	0.10	1		11/05/21 15:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.76**	mg/L	0.20	1		11/15/21 11:36		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		11/04/21 17:46	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 17:46	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.35**	mg/L	0.15	1	11/13/21 05:00	11/17/21 13:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.8**	mg/L	1.0	1		11/13/21 22:46	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.0**	mg/L	1.0	1		11/17/21 02:14		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: FIELD BLANK 2 **Lab ID: 50302013005** Collected: 11/03/21 14:55 Received: 11/04/21 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		11/10/21 05:07	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/10/21 05:07	16984-48-8	
Sulfate	ND	mg/L	0.25	1		11/10/21 05:07	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:59	7429-90-5	
Barium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:59	7440-39-3	
Boron	ND	ug/L	100	1	11/11/21 07:00	11/12/21 23:59	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:59	7440-43-9	
Calcium	ND	ug/L	1000	1	11/11/21 07:00	11/12/21 23:59	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:59	7440-47-3	
Iron	ND	ug/L	100	1	11/11/21 07:00	11/12/21 23:59	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:59	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:59	7439-93-2	
Magnesium	ND	ug/L	1000	1	11/11/21 07:00	11/12/21 23:59	7439-95-4	
Manganese	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:59	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:59	7439-98-7	
Potassium	ND	ug/L	1000	1	11/11/21 07:00	11/12/21 23:59	7440-09-7	
Silica	ND	ug/L	450	1	11/11/21 07:00	11/12/21 23:59	7631-86-9	N2
Sodium	ND	ug/L	1000	1	11/11/21 07:00	11/12/21 23:59	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	11/05/21 08:44	11/09/21 13:09	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 13:09	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/05/21 08:44	11/09/21 13:09	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 13:09	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 13:09	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/05/21 08:44	11/09/21 13:09	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**3.0**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**3.0**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/10/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		11/09/21 09:19		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.5**	Std. Units	0.10	1		11/09/21 15:38		H3

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: FIELD BLANK 2 **Lab ID: 50302013005** Collected: 11/03/21 14:55 Received: 11/04/21 11:00 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		11/05/21 15:45	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:37		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		11/04/21 18:17	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 18:17	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	11/13/21 05:00	11/17/21 13:24		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/13/21 22:55	7440-44-0	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 649169
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004, 50302013005

METHOD BLANK: 2991353 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/09/21 22:25	
Fluoride	mg/L	ND	0.10	11/09/21 22:25	
Sulfate	mg/L	ND	0.25	11/09/21 22:25	

LABORATORY CONTROL SAMPLE: 2991354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	89	80-120	
Fluoride	mg/L	0.5	0.47	94	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991355 2991356

Parameter	Units	50302013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.5	1.2	1.2	5.3	5.3	65	63	80-120	0	15	M0
Fluoride	mg/L	0.15	0.5	0.5	0.56	0.56	83	84	80-120	0	15	
Sulfate	mg/L	289	250	250	521	521	93	93	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 649459
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004, 50302013005

METHOD BLANK: 2992603 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/12/21 23:22	
Barium	ug/L	ND	10.0	11/12/21 23:22	
Boron	ug/L	ND	100	11/12/21 23:22	
Cadmium	ug/L	ND	2.0	11/12/21 23:22	
Calcium	ug/L	ND	1000	11/12/21 23:22	
Chromium	ug/L	ND	10.0	11/12/21 23:22	
Iron	ug/L	ND	100	11/12/21 23:22	
Lead	ug/L	ND	10.0	11/12/21 23:22	
Lithium	ug/L	ND	20.0	11/12/21 23:22	
Magnesium	ug/L	ND	1000	11/12/21 23:22	
Manganese	ug/L	ND	10.0	11/12/21 23:22	
Molybdenum	ug/L	ND	10.0	11/12/21 23:22	
Potassium	ug/L	ND	1000	11/12/21 23:22	
Silica	ug/L	ND	450	11/12/21 23:22	N2
Sodium	ug/L	ND	1000	11/12/21 23:22	

LABORATORY CONTROL SAMPLE: 2992604

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4690	94	80-120	
Barium	ug/L	1000	935	93	80-120	
Boron	ug/L	1000	962	96	80-120	
Cadmium	ug/L	1000	924	92	80-120	
Calcium	ug/L	5000	4700	94	80-120	
Chromium	ug/L	1000	953	95	80-120	
Iron	ug/L	2500	2360	94	80-120	
Lead	ug/L	1000	897	90	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	5000	4640	93	80-120	
Manganese	ug/L	1000	920	92	80-120	
Molybdenum	ug/L	1000	954	95	80-120	
Potassium	ug/L	5000	4700	94	80-120	
Silica	ug/L	5350	5100	95	80-120	N2
Sodium	ug/L	5000	4650	93	80-120	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992605 2992606

Parameter	Units	50302013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4690	4680	94	93	75-125	0	20	
Barium	ug/L	81.2	1000	1000	1020	1020	94	94	75-125	1	20	
Boron	ug/L	397	1000	1000	1380	1380	99	99	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	946	944	95	94	75-125	0	20	
Calcium	ug/L	214000	5000	5000	225000	220000	208	124	75-125	2	20	P6
Chromium	ug/L	ND	1000	1000	951	951	95	95	75-125	0	20	
Iron	ug/L	20400	2500	2500	22600	22800	91	99	75-125	1	20	
Lead	ug/L	ND	1000	1000	854	852	85	85	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1120	1110	110	109	75-125	1	20	
Magnesium	ug/L	66300	5000	5000	70600	71300	87	100	75-125	1	20	
Manganese	ug/L	1430	1000	1000	2320	2340	89	91	75-125	1	20	
Molybdenum	ug/L	ND	1000	1000	968	963	97	96	75-125	0	20	
Potassium	ug/L	2540	5000	5000	7660	7660	102	102	75-125	0	20	
Silica	ug/L	24400	5350	5350	30200	30500	107	114	75-125	1	20	N2
Sodium	ug/L	11900	5000	5000	16800	16800	99	100	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994032 2994033

Parameter	Units	50302284011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	211000	25000	25000	610000	649000	1600	1750	75-125	6	20	P6
Barium	ug/L	2570	5000	5000	8520	8640	119	122	75-125	2	20	
Boron	ug/L	ND	5000	5000	5760	5780	106	106	75-125	0	20	
Cadmium	ug/L	11.4	5000	5000	4620	4610	92	92	75-125	0	20	
Calcium	ug/L	2830000	25000	25000	4210000	4370000	5490	6160	75-125	4	20	P6
Chromium	ug/L	386	5000	5000	5440	5530	101	103	75-125	2	20	
Iron	ug/L	573000	12500	12500	1660000	1760000	8730	9480	75-125	5	20	P6
Lead	ug/L	418	5000	5000	4870	4920	89	90	75-125	1	20	
Lithium	ug/L	378	5000	5000	6640	6700	125	127	75-125	1	20	M0
Magnesium	ug/L	606000	25000	25000	1320000	1410000	2840	3220	75-125	7	20	P6
Manganese	ug/L	13800	5000	5000	27400	28500	272	294	75-125	4	20	M3
Molybdenum	ug/L	229	5000	5000	5060	5070	97	97	75-125	0	20	
Potassium	ug/L	67800	25000	25000	192000	203000	496	541	75-125	6	20	M3
Silica	ug/L	417000	26700	26700	971000	790000	2070	1400	75-125	20	20	N2
Sodium	ug/L	204000	25000	25000	233000	240000	114	145	75-125	3	20	P6

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 649215
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004

METHOD BLANK: 2991489 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/15/21 23:06	
Molybdenum, Dissolved	ug/L	ND	10.0	11/15/21 23:06	

LABORATORY CONTROL SAMPLE: 2991490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	966	97	80-120	
Molybdenum, Dissolved	ug/L	1000	976	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991491 2991492

Parameter	Units	50301767002 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	1.6J	1000	1000	941	939	94	94	75-125	0	20	
Molybdenum, Dissolved	ug/L	3.8J	1000	1000	983	981	98	98	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991493 2991494

Parameter	Units	50301769006 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	871	1000	1000	1820	1820	95	95	75-125	0	20	
Molybdenum, Dissolved	ug/L	0.69J	1000	1000	982	985	98	98	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991495 2991496

Parameter	Units	50301937002 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	2280	1000	1000	3230	3240	95	96	75-125	0	20	
Molybdenum, Dissolved	ug/L	1.4J	1000	1000	980	973	98	97	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991497 2991498

Parameter	Units	50302013001 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	1440	1000	1000	2360	2340	92	90	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	985	977	98	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 648753
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004, 50302013005

METHOD BLANK: 2989459 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/09/21 12:03	
Arsenic	ug/L	ND	1.0	11/09/21 12:03	
Beryllium	ug/L	ND	0.20	11/09/21 12:03	
Cobalt	ug/L	ND	1.0	11/09/21 12:03	
Selenium	ug/L	ND	1.0	11/09/21 12:03	
Thallium	ug/L	ND	1.0	11/09/21 12:03	

LABORATORY CONTROL SAMPLE: 2989460

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.8	102	80-120	
Arsenic	ug/L	40	38.0	95	80-120	
Beryllium	ug/L	40	38.0	95	80-120	
Cobalt	ug/L	40	40.0	100	80-120	
Selenium	ug/L	40	40.8	102	80-120	
Thallium	ug/L	40	38.6	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989461 2989462

Parameter	Units	50302013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.0	41.8	105	104	75-125	0	20	
Arsenic	ug/L	4.3	40	40	41.4	41.5	93	93	75-125	0	20	
Beryllium	ug/L	ND	40	40	36.6	36.8	92	92	75-125	0	20	
Cobalt	ug/L	ND	40	40	35.5	35.8	88	89	75-125	1	20	
Selenium	ug/L	ND	40	40	38.0	37.5	95	94	75-125	1	20	
Thallium	ug/L	ND	40	40	39.5	39.4	99	98	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989463 2989464

Parameter	Units	50302027005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.7	41.1	104	103	75-125	1	20	
Arsenic	ug/L	1.2	40	40	37.8	37.9	91	92	75-125	0	20	
Beryllium	ug/L	ND	40	40	36.8	36.8	92	92	75-125	0	20	
Cobalt	ug/L	ND	40	40	36.5	36.4	91	91	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989463 2989464

Parameter	Units	50302027005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Selenium	ug/L	ND	40	40	37.6	37.7	94	94	75-125	0	20	
Thallium	ug/L	ND	40	40	38.9	39.2	97	98	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989465 2989466

Parameter	Units	50302028002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.7	40.9	104	102	75-125	2	20	
Arsenic	ug/L	ND	40	40	36.4	36.6	91	91	75-125	1	20	
Beryllium	ug/L	ND	40	40	38.2	38.3	95	96	75-125	0	20	
Cobalt	ug/L	ND	40	40	36.7	36.6	91	91	75-125	0	20	
Selenium	ug/L	ND	40	40	37.3	38.4	93	96	75-125	3	20	
Thallium	ug/L	ND	40	40	39.6	39.7	99	99	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 649540 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004, 50302013005

METHOD BLANK: 2992967 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/10/21 16:22	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/10/21 16:22	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/10/21 16:22	

LABORATORY CONTROL SAMPLE: 2992968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.3	101	90-110	

SAMPLE DUPLICATE: 2992969

Parameter	Units	50301939019 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	433	431	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	433	431	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2992970

Parameter	Units	50302013001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	525	490	7	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	525	490	7	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 649250 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004, 50302013005

METHOD BLANK: 2991620 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/09/21 09:15	

LABORATORY CONTROL SAMPLE: 2991621

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	265	88	80-120	

SAMPLE DUPLICATE: 2991622

Parameter	Units	50302004001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2400	2390	0	10	

SAMPLE DUPLICATE: 2991623

Parameter	Units	50302013001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	944	982	4	10	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 649381
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013005

SAMPLE DUPLICATE: 2992229

Parameter	Units	50302028002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.4	1	2	H3

SAMPLE DUPLICATE: 2992230

Parameter	Units	50302027005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	1	2	H3

SAMPLE DUPLICATE: 2992231

Parameter	Units	50302013001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.7	6.8	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 649615
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302013004

SAMPLE DUPLICATE: 2993400

Parameter	Units	50302041003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.4	0	2	H3

SAMPLE DUPLICATE: 2993401

Parameter	Units	50302080001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 648872
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004, 50302013005

METHOD BLANK: 2990090 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/05/21 15:45	

LABORATORY CONTROL SAMPLE: 2990091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990092 2990093

Parameter	Units	50301937002 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	0.39	0.38	76	75	90-110	2	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990094 2990095

Parameter	Units	50302013001 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	0.51	0.49	95	90	90-110	5	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 650428 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004, 50302013005

METHOD BLANK: 2997947 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 11:32	H3,N2

LABORATORY CONTROL SAMPLE: 2997948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	106	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997949 2997950

Parameter	Units	50302013001 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	1.0	1.0	101	104	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 2997951

Parameter	Units	50302156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	109	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 648707
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013004, 50302013005

METHOD BLANK: 2989098 Matrix: Water
Associated Lab Samples: 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/04/21 17:07	
Nitrogen, Nitrite	mg/L	ND	0.10	11/04/21 17:07	

LABORATORY CONTROL SAMPLE: 2989099

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	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989100 2989101

Parameter	Units	50302028002 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	0.99	0.99	99	99	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	110	110	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989102 2989103

Parameter	Units	50302027005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.0	1.0	101	101	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	111	111	90-110	0	20	M3

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 648732
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001

METHOD BLANK: 2989270 Matrix: Water
Associated Lab Samples: 50302013001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/04/21 18:02	
Nitrogen, Nitrite	mg/L	ND	0.10	11/04/21 18:02	

LABORATORY CONTROL SAMPLE: 2989271

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.98	98	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989272 2989273

Parameter	Units	50302013001 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	0.24	0.23	24	23	90-110	3	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.85	0.85	82	82	90-110	1	20	M3

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 650186
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004, 50302013005

METHOD BLANK: 2996933 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/17/21 13:15	

LABORATORY CONTROL SAMPLE: 2996934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2996935 2996936

Parameter	Units	50302013001 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	0.39			1.8	1.8				3		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2996937 2996938

Parameter	Units	50302027005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.6	1.5				4		

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 650225 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004, 50302013005

METHOD BLANK: 2997060 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004, 50302013005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/13/21 18:12	

LABORATORY CONTROL SAMPLE: 2997061

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.3	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997062 2997063

Parameter	Units	50301937002 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	1.4	10	10	10.9	11.1	95	97	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997065 2997066

Parameter	Units	50302013001 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	2.1	10	10	12.0	12.4	99	103	80-120	3	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 650522
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302013001, 50302013004

METHOD BLANK: 2998294 Matrix: Water
Associated Lab Samples: 50302013001, 50302013004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/16/21 22:54	

LABORATORY CONTROL SAMPLE: 2998295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.6	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998296 2998297

Parameter	Units	50302013001 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	2.1	10	10	12.0	11.8	99	96	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998298 2998299

Parameter	Units	50302027005 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	10.6	10.5	99	98	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998301 2998302

Parameter	Units	50302028002 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	3.5	10	10	13.2	13.1	97	96	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: AP-7 **Lab ID: 50302013001** Collected: 11/03/21 13:35 Received: 11/04/21 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	**0.117 ± 0.325 (0.630) C:NA T:78%**	pCi/L	12/07/21 12:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.20 ± 0.598 (1.05) C:66% T:67%**	pCi/L	12/07/21 11:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.32 ± 0.923 (1.68)**	pCi/L	12/08/21 15:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: AP-7 RAD MS **Lab ID: 50302013002** Collected: 11/03/21 13:35 Received: 11/04/21 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	**115.05 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/07/21 12:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**104.60 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/07/21 11:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: AP-7 RAD MSD **Lab ID: 50302013003** Collected: 11/03/21 13:35 Received: 11/04/21 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	**109.68 %REC 4.78 RPD ± NA (NA) C:NA T:NA**	pCi/L	12/07/21 12:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**123.16 %REC 16.29 RPD ± NA (NA) C:NA T:NA**	pCi/L	12/07/21 11:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: DUP 2 **Lab ID: 50302013004** Collected: 11/03/21 13:35 Received: 11/04/21 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	**0.0609 ± 0.358 (0.732) C:NA T:92%**	pCi/L	12/07/21 12:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.792 ± 0.519 (0.988) C:63% T:74%**	pCi/L	12/07/21 11:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.853 ± 0.877 (1.72)**	pCi/L	12/08/21 15:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Sample: FIELD BLANK 2 **Lab ID: 50302013005** Collected: 11/03/21 14:55 Received: 11/04/21 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	**-0.189 ± 0.410 (0.945) C:NA T:98%**	pCi/L	12/07/21 12:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.726 ± 0.451 (0.848) C:69% T:78%**	pCi/L	12/07/21 11:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.726 ± 0.861 (1.79)**	pCi/L	12/08/21 15:01	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 473860
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302013001, 50302013002, 50302013003, 50302013004, 50302013005

METHOD BLANK: 2289206 Matrix: Water
Associated Lab Samples: 50302013001, 50302013002, 50302013003, 50302013004, 50302013005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0506 ± 0.262 (0.608) C:NA T:90%	pCi/L	12/07/21 12:05	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

QC Batch: 473862
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302013001, 50302013002, 50302013003, 50302013004, 50302013005

METHOD BLANK: 2289207 Matrix: Water
Associated Lab Samples: 50302013001, 50302013002, 50302013003, 50302013004, 50302013005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.124 ± 0.291 (0.649) C:66% T:91%	pCi/L	12/07/21 11:25	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302013001	**AP-7**	EPA 9056	649169		
50302013004	**DUP 2**	EPA 9056	649169		
50302013005	**FIELD BLANK 2**	EPA 9056	649169		
50302013001	**AP-7**	EPA 3010	649459	EPA 6010	650252
50302013004	**DUP 2**	EPA 3010	649459	EPA 6010	650252
50302013005	**FIELD BLANK 2**	EPA 3010	649459	EPA 6010	650252
50302013001	**AP-7**	EPA 3010	649215	EPA 6010	650606
50302013004	**DUP 2**	EPA 3010	649215	EPA 6010	650606
50302013001	**AP-7**	EPA 200.2	648753	EPA 6020	648923
50302013004	**DUP 2**	EPA 200.2	648753	EPA 6020	648923
50302013005	**FIELD BLANK 2**	EPA 200.2	648753	EPA 6020	648923
50302013001	**AP-7**	EPA 903.1	473860		
50302013002	**AP-7 RAD MS**	EPA 903.1	473860		
50302013003	**AP-7 RAD MSD**	EPA 903.1	473860		
50302013004	**DUP 2**	EPA 903.1	473860		
50302013005	**FIELD BLANK 2**	EPA 903.1	473860		
50302013001	**AP-7**	EPA 904.0	473862		
50302013002	**AP-7 RAD MS**	EPA 904.0	473862		
50302013003	**AP-7 RAD MSD**	EPA 904.0	473862		
50302013004	**DUP 2**	EPA 904.0	473862		
50302013005	**FIELD BLANK 2**	EPA 904.0	473862		
50302013001	**AP-7**	Total Radium Calculation	475485		
50302013004	**DUP 2**	Total Radium Calculation	475485		
50302013005	**FIELD BLANK 2**	Total Radium Calculation	475485		
50302013001	**AP-7**	SM 2320B	649540		
50302013004	**DUP 2**	SM 2320B	649540		
50302013005	**FIELD BLANK 2**	SM 2320B	649540		
50302013001	**AP-7**	SM 2540C	649250		
50302013004	**DUP 2**	SM 2540C	649250		
50302013005	**FIELD BLANK 2**	SM 2540C	649250		
50302013001	**AP-7**	SM 4500-H+B	649381		
50302013004	**DUP 2**	SM 4500-H+B	649615		
50302013005	**FIELD BLANK 2**	SM 4500-H+B	649381		
50302013001	**AP-7**	SM 4500-S2-D	648872		
50302013004	**DUP 2**	SM 4500-S2-D	648872		
50302013005	**FIELD BLANK 2**	SM 4500-S2-D	648872		
50302013001	**AP-7**	HACH 8146	650428		
50302013004	**DUP 2**	HACH 8146	650428		
50302013005	**FIELD BLANK 2**	HACH 8146	650428		
50302013001	**AP-7**	EPA 353.2	648732		
50302013004	**DUP 2**	EPA 353.2	648707		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM CCR Profile 2 Report 4
Pace Project No.: 50302013

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302013005	**FIELD BLANK 2**	EPA 353.2	648707		
50302013001	**AP-7**	EPA 365.1	650186	EPA 365.1	651015
50302013004	**DUP 2**	EPA 365.1	650186	EPA 365.1	651015
50302013005	**FIELD BLANK 2**	EPA 365.1	650186	EPA 365.1	651015
50302013001	**AP-7**	SM 5310C	650225		
50302013004	**DUP 2**	SM 5310C	650225		
50302013005	**FIELD BLANK 2**	SM 5310C	650225		
50302013001	**AP-7**	SM 5310C	650522		
50302013004	**DUP 2**	SM 5310C	650522		

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WO# : 50302013

50302013

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OF-CUSTODY / Analytical Request Document

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

Section A
Required Client Information:

Company: AES/IPL Petersburg	Report To: Teague, Wil	Attention:	
Address: 6925 IN-57	Copy To:	Company Name:	
Petersburg, IN 47567		Address:	Regulatory Agency
Email: wil.teague@aes.com	Purchase Order #:	Pace Quote:	
Phone: (812)354-8801 Fax:	Project Name: IDEM - CCR Sampling Profile 2 Report 4	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date:	Project #:	Pace Profile #: 8296/11	IN

Section C
Invoice Information:

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered** (Y)	Rad-228	Rad-226	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C (Y)	Sulfide	Phosphate	Residual Chlorine (Y/N)	50302013
13	AP-7	WT		11/3	1335				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		001
14	~~AP-8~~	WT		~~11/3~~					11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
15	DUP 2	WT		11/3	1335				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		004
16	MS	WT		11/3	1335				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		002
17	MSD	WT		11/3	1335				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		003
18	FIELD BLANK 2	WT		11/3	1455				9	3	2	3		1					X	X	X		X	X	X	X		X	X		005
19																															
20																															
21																															
22																															
23																															
24																															

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)	[signature]	11.4.21	8.10	[signature]	11-4-21	8.10				
6020 (Be, Co, As, Se, Sb, Tl)	[signature]	11-4-21	11.00	[signature]	11/4/21	1100	See sur	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed:

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	AES/IPL Petersburg	Report To:	Teague, 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 4	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/11

Regulatory Agency	
State / Location	IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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		Residual Chlorine (Y/N)	
	Requested Analysis Filtered (Y/N)																					Y						Y				
1	AP-1R	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
2	AP-2A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
3	AP-2BO	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
4	AP-3	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
5	AP-3A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
6	AP-4A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
7	AP-4I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
8	AP-4B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
9	AP-5	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
10	AP-5A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
11	AP-6A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
12	AP-6B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			

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

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)		11.4.21	8.10		11/4/21	8:10				
6020 (Be, Co, As, Se, Sb, Tl)	Jay Wilkins	11-4-21	11:00	Bailey B	11/4/21	1700	see Y	Y	Y	
** Dissolved FF 6010 (Mo, Mn)							Scar			
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:			
SIGNATURE of SAMPLER:	DATE Signed:		

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

F-IN-Q-290-rev.21, 02Feb2021

Pace Analytical

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BC 1245 11/4/21

1. **Courier:** ☐ FED EX ☐ UPS ☒ CLIENT ☐ PACE ☐ USPS ☐ OTHER _____

2. **Custody Seal on Cooler/Box Present:** ☐ Yes ☒ No

(If yes)Seals Intact: ☐ Yes ☐ No **(leave blank if no seals were present)**

3. **Thermometer:** 1 2 3 4 5 6 A B (C) D E F

4. **Cooler Temperature:** ①1.1/1.1 ②1.7/1.7 ③1.6/1.6 ④2.1/2.1 ⑤2.3/2.3 ⑥3.3/3.3 ⑦2.0/2.0
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)		✓	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.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: NO2, NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 2

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 (>5mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit			Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1																															
2																															
3					No																										
4					samples																										
5					for																										
6					page																										
7					1																										
8					received																										
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

COC PAGE 2 **of** 2

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	1	2	1	1	1		1					WT	✓	✓	
2																															
3												1	1			2	1	2	1	1	1		1					WT	✓	✓	
4												↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	↓	↓	
5												↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	↓	↓	
6												1				2	1	2	1		1		1					↓	↓	↓	
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Dear Wil Teague:

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

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

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

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

Sincerely,

Hayden Putt

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

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

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 #: 460198
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 P2R5
Pace Project No.: 50302141

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302141001	**MW-25A**	Water	11/04/21 14:22	11/05/21 11:00
50302141002	**MW-25I**	Water	11/04/21 15:32	11/05/21 11:00
50302141003	**MW-28A**	Water	11/04/21 10:03	11/05/21 11:00
50302141004	**MW-28I**	Water	11/04/21 11:48	11/05/21 11:00
50302141005	**MW-28B**	Water	11/04/21 12:47	11/05/21 11:00

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302141001	**MW-25A**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302141002	**MW-25I**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302141003	**MW-28A**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JDG	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302141004	**MW-28I**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302141005	**MW-28B**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302141001	**MW-25A**					
EPA 9056	Chloride	41.2	mg/L	2.5	11/11/21 18:46	
EPA 9056	Sulfate	1470	mg/L	25.0	11/11/21 19:04	
EPA 6010	Barium	31.0	ug/L	10.0	11/17/21 13:14	
EPA 6010	Boron	13800	ug/L	500	11/17/21 14:14	
EPA 6010	Calcium	528000	ug/L	5000	11/17/21 14:14	
EPA 6010	Iron	15000	ug/L	100	11/17/21 13:14	
EPA 6010	Magnesium	71800	ug/L	1000	11/17/21 13:14	
EPA 6010	Manganese	1750	ug/L	10.0	11/17/21 13:14	
EPA 6010	Potassium	2430	ug/L	1000	11/17/21 13:14	
EPA 6010	Silica	16100	ug/L	450	11/17/21 13:14	N2
EPA 6010	Sodium	22900	ug/L	1000	11/17/21 13:14	
EPA 6010	Manganese, Dissolved	1820	ug/L	10.0	11/18/21 12:55	
EPA 6020	Arsenic	1.0	ug/L	1.0	11/11/21 14:02	
EPA 903.1	Radium-226	0.192 ± 0.602 (1.12) C:NA T:88%	pCi/L		12/06/21 13:12	
EPA 904.0	Radium-228	-0.208 ± 0.349 (0.860) C:70% T:82%	pCi/L		12/06/21 14:41	
Total Radium Calculation	Total Radium	0.192 ± 0.951 (1.98)	pCi/L		12/08/21 13:16	
SM 2320B	Alkalinity, Total as CaCO3	166	mg/L	2.0	11/11/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	166	mg/L	2.0	11/11/21 14:08	
SM 2540C	Total Dissolved Solids	2420	mg/L	20.0	11/10/21 09:03	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/10/21 15:42	H3
HACH 8146	Iron, Ferrous	0.54	mg/L	0.20	11/15/21 11:39	H3,N2
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	11/16/21 22:25	
SM 5310C	Dissolved Organic Carbon	1.9	mg/L	1.0	11/18/21 20:49	
50302141002	**MW-25I**					
EPA 9056	Chloride	49.5	mg/L	2.5	11/11/21 22:09	
EPA 9056	Sulfate	1470	mg/L	25.0	11/11/21 22:27	
EPA 6010	Barium	35.8	ug/L	10.0	11/17/21 13:16	
EPA 6010	Boron	16800	ug/L	500	11/17/21 14:16	
EPA 6010	Calcium	551000	ug/L	5000	11/17/21 14:16	
EPA 6010	Iron	11600	ug/L	100	11/17/21 13:16	
EPA 6010	Magnesium	56400	ug/L	1000	11/17/21 13:16	
EPA 6010	Manganese	1660	ug/L	10.0	11/17/21 13:16	
EPA 6010	Molybdenum	15.2	ug/L	10.0	11/17/21 13:16	
EPA 6010	Potassium	3120	ug/L	1000	11/17/21 13:16	
EPA 6010	Silica	12000	ug/L	450	11/17/21 13:16	N2
EPA 6010	Sodium	26900	ug/L	1000	11/17/21 13:16	
EPA 6010	Manganese, Dissolved	1650	ug/L	10.0	11/18/21 12:58	
EPA 6010	Molybdenum, Dissolved	15.3	ug/L	10.0	11/18/21 12:58	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302141002	**MW-25I**					
EPA 903.1	Radium-226	0.328 ± 0.618 (1.09) C:NA T:89%	pCi/L		12/06/21 13:12	
EPA 904.0	Radium-228	0.618 ± 0.421 (0.811) C:72% T:84%	pCi/L		12/06/21 14:41	
Total Radium Calculation	Total Radium	0.946 ± 1.04 (1.90)	pCi/L		12/08/21 13:16	
SM 2320B	Alkalinity, Total as CaCO3	148	mg/L	2.0	11/11/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	148	mg/L	2.0	11/11/21 14:08	
SM 2540C	Total Dissolved Solids	2360	mg/L	40.0	11/10/21 09:03	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/10/21 15:45	H3
SM 5310C	Dissolved Organic Carbon	1.3	mg/L	1.0	11/18/21 21:00	
50302141003	**MW-28A**					
EPA 9056	Chloride	114	mg/L	25.0	11/11/21 23:59	
EPA 9056	Sulfate	1580	mg/L	25.0	11/11/21 23:59	
EPA 6010	Barium	34.4	ug/L	10.0	11/17/21 13:18	
EPA 6010	Boron	26300	ug/L	500	11/17/21 14:18	
EPA 6010	Calcium	640000	ug/L	5000	11/17/21 14:18	
EPA 6010	Iron	9250	ug/L	100	11/17/21 13:18	
EPA 6010	Magnesium	15900	ug/L	1000	11/17/21 13:18	
EPA 6010	Manganese	2020	ug/L	10.0	11/17/21 13:18	
EPA 6010	Molybdenum	2370	ug/L	10.0	11/17/21 13:18	
EPA 6010	Potassium	28900	ug/L	1000	11/17/21 13:18	
EPA 6010	Silica	13100	ug/L	450	11/17/21 13:18	N2
EPA 6010	Sodium	40100	ug/L	1000	11/17/21 13:18	
EPA 6010	Manganese, Dissolved	2000	ug/L	10.0	11/18/21 13:00	
EPA 6010	Molybdenum, Dissolved	2460	ug/L	10.0	11/18/21 13:00	
EPA 6020	Arsenic	1.2	ug/L	1.0	11/11/21 19:42	
EPA 903.1	Radium-226	0.844 ± 0.537 (0.649) C:NA T:96%	pCi/L		12/06/21 13:12	
EPA 904.0	Radium-228	0.689 ± 0.419 (0.787) C:73% T:91%	pCi/L		12/06/21 14:41	
Total Radium Calculation	Total Radium	1.53 ± 0.956 (1.44)	pCi/L		12/08/21 13:16	
SM 2320B	Alkalinity, Total as CaCO3	51.1	mg/L	2.0	11/11/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	51.1	mg/L	2.0	11/11/21 14:08	
SM 2540C	Total Dissolved Solids	2600	mg/L	40.0	11/10/21 09:04	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/10/21 15:15	H3
HACH 8146	Iron, Ferrous	1.8	mg/L	0.20	11/15/21 11:37	H3,N2
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	11/16/21 22:46	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302141003	**MW-28A**					
SM 5310C	Dissolved Organic Carbon	2.0	mg/L	1.0	11/18/21 21:11	
50302141004	**MW-28I**					
EPA 9056	Chloride	118	mg/L	25.0	11/12/21 00:55	
EPA 9056	Sulfate	1590	mg/L	25.0	11/12/21 00:55	
EPA 6010	Barium	50.1	ug/L	10.0	11/17/21 13:24	
EPA 6010	Boron	26800	ug/L	500	11/17/21 14:20	
EPA 6010	Calcium	652000	ug/L	5000	11/17/21 14:20	
EPA 6010	Iron	8810	ug/L	100	11/17/21 13:24	
EPA 6010	Magnesium	11700	ug/L	1000	11/17/21 13:24	
EPA 6010	Manganese	2000	ug/L	10.0	11/17/21 13:24	
EPA 6010	Molybdenum	2520	ug/L	10.0	11/17/21 13:24	
EPA 6010	Potassium	39000	ug/L	1000	11/17/21 13:24	
EPA 6010	Silica	12400	ug/L	450	11/17/21 13:24	N2
EPA 6010	Sodium	32400	ug/L	1000	11/17/21 13:24	
EPA 6010	Manganese, Dissolved	1960	ug/L	10.0	11/18/21 13:02	
EPA 6010	Molybdenum, Dissolved	2540	ug/L	10.0	11/18/21 13:02	
EPA 6020	Arsenic	1.3	ug/L	1.0	11/11/21 19:52	
EPA 903.1	Radium-226	0.361 ± 0.410 (0.647) C:NA T:92%	pCi/L		12/06/21 13:12	
EPA 904.0	Radium-228	0.752 ± 0.444 (0.817) C:71% T:80%	pCi/L		12/06/21 14:41	
Total Radium Calculation	Total Radium	1.11 ± 0.854 (1.46)	pCi/L		12/08/21 13:16	
SM 2320B	Alkalinity, Total as CaCO3	49.7	mg/L	2.0	11/11/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	49.7	mg/L	2.0	11/11/21 14:08	
SM 2540C	Total Dissolved Solids	2590	mg/L	40.0	11/10/21 09:08	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/10/21 15:22	H3
HACH 8146	Iron, Ferrous	0.75	mg/L	0.20	11/15/21 11:38	H3,N2
EPA 365.1	Phosphate as P04	0.25	mg/L	0.15	11/18/21 16:22	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	11/16/21 22:57	
SM 5310C	Dissolved Organic Carbon	2.2	mg/L	1.0	11/18/21 21:49	
50302141005	**MW-28B**					
EPA 9056	Chloride	61.7	mg/L	2.5	11/12/21 01:32	
EPA 9056	Fluoride	0.18	mg/L	0.10	11/12/21 01:13	
EPA 9056	Sulfate	594	mg/L	25.0	11/12/21 01:50	
EPA 6010	Aluminum	251	ug/L	200	11/17/21 13:26	
EPA 6010	Barium	61.4	ug/L	10.0	11/17/21 13:26	
EPA 6010	Boron	6930	ug/L	200	11/17/21 14:22	
EPA 6010	Calcium	292000	ug/L	2000	11/17/21 14:22	
EPA 6010	Iron	2720	ug/L	100	11/17/21 13:26	
EPA 6010	Lithium	50.7	ug/L	20.0	11/17/21 13:26	
EPA 6010	Magnesium	23800	ug/L	1000	11/17/21 13:26	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302141005	**MW-28B**					
EPA 6010	Manganese	2410	ug/L	10.0	11/17/21 13:26	
EPA 6010	Molybdenum	490	ug/L	10.0	11/17/21 13:26	
EPA 6010	Potassium	19500	ug/L	1000	11/17/21 13:26	
EPA 6010	Silica	14000	ug/L	450	11/17/21 13:26	N2
EPA 6010	Sodium	43300	ug/L	1000	11/17/21 13:26	
EPA 6010	Manganese, Dissolved	2390	ug/L	10.0	11/18/21 14:07	
EPA 6010	Molybdenum, Dissolved	508	ug/L	10.0	11/18/21 14:07	
EPA 6020	Arsenic	2.3	ug/L	1.0	11/11/21 14:46	
EPA 6020	Cobalt	5.0	ug/L	1.0	11/11/21 14:46	
EPA 903.1	Radium-226	1.07 ± 0.655 (0.828) C:NA T:94%	pCi/L		12/06/21 13:12	
EPA 904.0	Radium-228	0.787 ± 0.401 (0.680) C:70% T:83%	pCi/L		12/06/21 14:41	
Total Radium Calculation	Total Radium	1.86 ± 1.06 (1.51)	pCi/L		12/08/21 13:16	
SM 2320B	Alkalinity, Total as CaCO3	237	mg/L	2.0	11/11/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	237	mg/L	2.0	11/11/21 14:08	
SM 2540C	Total Dissolved Solids	1200	mg/L	20.0	11/10/21 09:08	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/10/21 15:31	H3
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	11/16/21 23:07	
SM 5310C	Dissolved Organic Carbon	1.8	mg/L	1.0	11/18/21 22:00	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-25A **Lab ID: 50302141001** Collected: 11/04/21 14:22 Received: 11/05/21 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	**41.2**	mg/L	2.5	10		11/11/21 18:46	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 18:27	16984-48-8	
Sulfate	**1470**	mg/L	25.0	100		11/11/21 19:04	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/15/21 14:00	11/17/21 13:14	7429-90-5	
Barium	**31.0**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:14	7440-39-3	
Boron	**13800**	ug/L	500	5	11/15/21 14:00	11/17/21 14:14	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/15/21 14:00	11/17/21 13:14	7440-43-9	
Calcium	**528000**	ug/L	5000	5	11/15/21 14:00	11/17/21 14:14	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:14	7440-47-3	
Iron	**15000**	ug/L	100	1	11/15/21 14:00	11/17/21 13:14	7439-89-6	
Lead	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:14	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/15/21 14:00	11/17/21 13:14	7439-93-2	
Magnesium	**71800**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:14	7439-95-4	
Manganese	**1750**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:14	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:14	7439-98-7	
Potassium	**2430**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:14	7440-09-7	
Silica	**16100**	ug/L	450	1	11/15/21 14:00	11/17/21 13:14	7631-86-9	N2
Sodium	**22900**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:14	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1820**	ug/L	10.0	1	11/16/21 06:55	11/18/21 12:55	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/16/21 06:55	11/18/21 12:55	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	11/09/21 09:11	11/11/21 14:02	7440-36-0	
Arsenic	**1.0**	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:02	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/09/21 09:11	11/11/21 14:02	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:02	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:02	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:02	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**166**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**166**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2420**	mg/L	20.0	1		11/10/21 09:03		

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(317)228-3100

ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-25A **Lab ID: 50302141001** Collected: 11/04/21 14:22 Received: 11/05/21 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		11/10/21 15:42		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 17:38	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.54**	mg/L	0.20	1		11/15/21 11:39		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		11/05/21 17:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/05/21 17:06	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/18/21 13:30	11/18/21 16:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		11/16/21 22:25	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.9**	mg/L	1.0	1		11/18/21 20:49		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-25I **Lab ID: 50302141002** Collected: 11/04/21 15:32 Received: 11/05/21 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	**49.5**	mg/L	2.5	10		11/11/21 22:09	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 21:50	16984-48-8	
Sulfate	**1470**	mg/L	25.0	100		11/11/21 22:27	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/15/21 14:00	11/17/21 13:16	7429-90-5	
Barium	**35.8**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:16	7440-39-3	
Boron	**16800**	ug/L	500	5	11/15/21 14:00	11/17/21 14:16	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/15/21 14:00	11/17/21 13:16	7440-43-9	
Calcium	**551000**	ug/L	5000	5	11/15/21 14:00	11/17/21 14:16	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:16	7440-47-3	
Iron	**11600**	ug/L	100	1	11/15/21 14:00	11/17/21 13:16	7439-89-6	
Lead	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:16	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/15/21 14:00	11/17/21 13:16	7439-93-2	
Magnesium	**56400**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:16	7439-95-4	
Manganese	**1660**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:16	7439-96-5	
Molybdenum	**15.2**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:16	7439-98-7	
Potassium	**3120**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:16	7440-09-7	
Silica	**12000**	ug/L	450	1	11/15/21 14:00	11/17/21 13:16	7631-86-9	N2
Sodium	**26900**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:16	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1650**	ug/L	10.0	1	11/16/21 06:55	11/18/21 12:58	7439-96-5	
Molybdenum, Dissolved	**15.3**	ug/L	10.0	1	11/16/21 06:55	11/18/21 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	11/09/21 09:11	11/11/21 14:07	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:07	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/09/21 09:11	11/11/21 14:07	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:07	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:07	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:07	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**148**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**148**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2360**	mg/L	40.0	1		11/10/21 09:03		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-25I **Lab ID: 50302141002** Collected: 11/04/21 15:32 Received: 11/05/21 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	**7.1**	Std. Units	0.10	1		11/10/21 15:45		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 17:38	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:40		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		11/05/21 17:18	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/05/21 17:18	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/18/21 13:30	11/18/21 16:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/16/21 22:35	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.3**	mg/L	1.0	1		11/18/21 21:00		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-28A **Lab ID: 50302141003** Collected: 11/04/21 10:03 Received: 11/05/21 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	**114**	mg/L	25.0	100		11/11/21 23:59	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 23:23	16984-48-8	
Sulfate	**1580**	mg/L	25.0	100		11/11/21 23:59	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/15/21 14:00	11/17/21 13:18	7429-90-5	
Barium	**34.4**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:18	7440-39-3	
Boron	**26300**	ug/L	500	5	11/15/21 14:00	11/17/21 14:18	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/15/21 14:00	11/17/21 13:18	7440-43-9	
Calcium	**640000**	ug/L	5000	5	11/15/21 14:00	11/17/21 14:18	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:18	7440-47-3	
Iron	**9250**	ug/L	100	1	11/15/21 14:00	11/17/21 13:18	7439-89-6	
Lead	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:18	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/15/21 14:00	11/17/21 13:18	7439-93-2	
Magnesium	**15900**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:18	7439-95-4	
Manganese	**2020**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:18	7439-96-5	
Molybdenum	**2370**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:18	7439-98-7	
Potassium	**28900**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:18	7440-09-7	
Silica	**13100**	ug/L	450	1	11/15/21 14:00	11/17/21 13:18	7631-86-9	N2
Sodium	**40100**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:18	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2000**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:00	7439-96-5	
Molybdenum, Dissolved	**2460**	ug/L	10.0	1	11/16/21 06:55	11/18/21 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	11/09/21 09:11	11/11/21 19:42	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	1	11/09/21 09:11	11/11/21 19:42	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/09/21 09:11	11/11/21 19:42	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 19:42	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 19:42	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 19:42	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**51.1**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**51.1**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2600**	mg/L	40.0	1		11/10/21 09:04		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-28A **Lab ID: 50302141003** Collected: 11/04/21 10:03 Received: 11/05/21 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	**7.0**	Std. Units	0.10	1		11/10/21 15:15		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 17:38	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.8**	mg/L	0.20	1		11/15/21 11:37		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		11/05/21 17:19	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/05/21 17:19	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/18/21 13:30	11/18/21 16:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.5**	mg/L	1.0	1		11/16/21 22:46	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.0**	mg/L	1.0	1		11/18/21 21:11		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-28I **Lab ID: 50302141004** Collected: 11/04/21 11:48 Received: 11/05/21 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	**118**	mg/L	25.0	100		11/12/21 00:55	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/21 00:18	16984-48-8	
Sulfate	**1590**	mg/L	25.0	100		11/12/21 00:55	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/15/21 14:00	11/17/21 13:24	7429-90-5	
Barium	**50.1**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:24	7440-39-3	
Boron	**26800**	ug/L	500	5	11/15/21 14:00	11/17/21 14:20	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/15/21 14:00	11/17/21 13:24	7440-43-9	
Calcium	**652000**	ug/L	5000	5	11/15/21 14:00	11/17/21 14:20	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:24	7440-47-3	
Iron	**8810**	ug/L	100	1	11/15/21 14:00	11/17/21 13:24	7439-89-6	
Lead	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:24	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/15/21 14:00	11/17/21 13:24	7439-93-2	
Magnesium	**11700**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:24	7439-95-4	
Manganese	**2000**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:24	7439-96-5	
Molybdenum	**2520**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:24	7439-98-7	
Potassium	**39000**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:24	7440-09-7	
Silica	**12400**	ug/L	450	1	11/15/21 14:00	11/17/21 13:24	7631-86-9	N2
Sodium	**32400**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:24	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1960**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:02	7439-96-5	
Molybdenum, Dissolved	**2540**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:02	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	11/09/21 09:11	11/11/21 19:52	7440-36-0	
Arsenic	**1.3**	ug/L	1.0	1	11/09/21 09:11	11/11/21 19:52	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/09/21 09:11	11/11/21 19:52	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 19:52	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 19:52	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 19:52	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**49.7**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**49.7**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2590**	mg/L	40.0	1		11/10/21 09:08		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-28I **Lab ID: 50302141004** Collected: 11/04/21 11:48 Received: 11/05/21 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	**7.1**	Std. Units	0.10	1		11/10/21 15:22		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 17:38	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.75**	mg/L	0.20	1		11/15/21 11:38		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		11/05/21 17:21	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/05/21 17:21	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.25**	mg/L	0.15	1	11/18/21 13:30	11/18/21 16:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.5**	mg/L	1.0	1		11/16/21 22:57	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		11/18/21 21:49		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-28B **Lab ID: 50302141005** Collected: 11/04/21 12:47 Received: 11/05/21 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	**61.7**	mg/L	2.5	10		11/12/21 01:32	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	1		11/12/21 01:13	16984-48-8	
Sulfate	**594**	mg/L	25.0	100		11/12/21 01:50	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**251**	ug/L	200	1	11/15/21 14:00	11/17/21 13:26	7429-90-5	
Barium	**61.4**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:26	7440-39-3	
Boron	**6930**	ug/L	200	2	11/15/21 14:00	11/17/21 14:22	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/15/21 14:00	11/17/21 13:26	7440-43-9	
Calcium	**292000**	ug/L	2000	2	11/15/21 14:00	11/17/21 14:22	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:26	7440-47-3	
Iron	**2720**	ug/L	100	1	11/15/21 14:00	11/17/21 13:26	7439-89-6	
Lead	ND	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:26	7439-92-1	
Lithium	**50.7**	ug/L	20.0	1	11/15/21 14:00	11/17/21 13:26	7439-93-2	
Magnesium	**23800**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:26	7439-95-4	
Manganese	**2410**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:26	7439-96-5	
Molybdenum	**490**	ug/L	10.0	1	11/15/21 14:00	11/17/21 13:26	7439-98-7	
Potassium	**19500**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:26	7440-09-7	
Silica	**14000**	ug/L	450	1	11/15/21 14:00	11/17/21 13:26	7631-86-9	N2
Sodium	**43300**	ug/L	1000	1	11/15/21 14:00	11/17/21 13:26	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2390**	ug/L	10.0	1	11/16/21 06:55	11/18/21 14:07	7439-96-5	
Molybdenum, Dissolved	**508**	ug/L	10.0	1	11/16/21 06:55	11/18/21 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	11/09/21 09:11	11/11/21 14:46	7440-36-0	
Arsenic	**2.3**	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:46	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/09/21 09:11	11/11/21 14:46	7440-41-7	
Cobalt	**5.0**	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:46	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:46	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:46	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**237**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**237**	mg/L	2.0	1		11/11/21 14:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1200**	mg/L	20.0	1		11/10/21 09:08		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-28B **Lab ID: 50302141005** Collected: 11/04/21 12:47 Received: 11/05/21 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	**7.3**	Std. Units	0.10	1		11/10/21 15:31		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 17:38	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:38		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		11/05/21 17:23	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/05/21 17:23	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	11/18/21 13:30	11/18/21 16:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.6**	mg/L	1.0	1		11/16/21 23:07	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.8**	mg/L	1.0	1		11/18/21 22:00		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 649438
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2992483 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/11/21 09:13	
Fluoride	mg/L	ND	0.10	11/11/21 09:13	
Sulfate	mg/L	ND	0.25	11/11/21 09:13	

LABORATORY CONTROL SAMPLE: 2992484

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	0.47	94	80-120	
Sulfate	mg/L	2.5	2.3	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992485 2992486

Parameter	Units	50302141001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	41.2	12.5	12.5	52.3	52.5	89	90	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.46	0.46	83	85	80-120	2	15	
Sulfate	mg/L	1470	250	250	1730	1730	107	106	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 649724
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2994094 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/17/21 17:01	
Barium	ug/L	ND	10.0	11/17/21 17:01	
Boron	ug/L	ND	100	11/17/21 17:01	
Cadmium	ug/L	ND	2.0	11/17/21 17:01	
Calcium	ug/L	ND	1000	11/17/21 17:01	
Chromium	ug/L	ND	10.0	11/17/21 17:01	
Iron	ug/L	ND	100	11/17/21 17:01	
Lead	ug/L	ND	10.0	11/17/21 17:01	
Lithium	ug/L	ND	20.0	11/17/21 17:01	
Magnesium	ug/L	ND	1000	11/17/21 17:01	
Manganese	ug/L	ND	10.0	11/17/21 17:01	
Molybdenum	ug/L	ND	10.0	11/17/21 17:01	
Potassium	ug/L	ND	1000	11/17/21 17:01	
Silica	ug/L	ND	450	11/17/21 17:01	N2
Sodium	ug/L	ND	1000	11/17/21 17:01	

LABORATORY CONTROL SAMPLE: 2994095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4740	95	80-120	
Barium	ug/L	1000	964	96	80-120	
Boron	ug/L	1000	961	96	80-120	
Cadmium	ug/L	1000	926	93	80-120	
Calcium	ug/L	5000	4940	99	80-120	
Chromium	ug/L	1000	969	97	80-120	
Iron	ug/L	2500	2400	96	80-120	
Lead	ug/L	1000	922	92	80-120	
Lithium	ug/L	1000	975	97	80-120	
Magnesium	ug/L	5000	4740	95	80-120	
Manganese	ug/L	1000	978	98	80-120	
Molybdenum	ug/L	1000	948	95	80-120	
Potassium	ug/L	5000	5070	101	80-120	
Silica	ug/L	5350	5200	97	80-120	N2
Sodium	ug/L	5000	4810	96	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994096 2994097

Parameter	Units	50302123001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4770	4880	94	96	75-125	2	20	
Barium	ug/L	14.5	1000	1000	925	953	91	94	75-125	3	20	
Boron	ug/L	524	1000	1000	1520	1580	100	106	75-125	4	20	
Cadmium	ug/L	ND	1000	1000	942	957	94	96	75-125	2	20	
Calcium	ug/L	335000	5000	5000	325000	354000	-198	370	75-125	8	20	P6
Chromium	ug/L	ND	1000	1000	914	920	90	91	75-125	1	20	
Iron	ug/L	980	2500	2500	3120	3230	86	90	75-125	3	20	
Lead	ug/L	ND	1000	1000	804	820	80	82	75-125	2	20	
Lithium	ug/L	267	1000	1000	1260	1300	99	104	75-125	3	20	
Magnesium	ug/L	219000	5000	5000	216000	231000	-58	238	75-125	7	20	P6
Manganese	ug/L	650	1000	1000	1550	1620	90	96	75-125	4	20	
Molybdenum	ug/L	ND	1000	1000	922	933	92	93	75-125	1	20	
Potassium	ug/L	6000	5000	5000	10800	11400	97	108	75-125	5	20	
Silica	ug/L	16000	5350	5350	21300	22300	98	118	75-125	5	20	N2
Sodium	ug/L	710000	5000	5000	698000	762000	-228	1050	75-125	9	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 649731
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2994134 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/18/21 12:51	
Molybdenum, Dissolved	ug/L	ND	10.0	11/18/21 12:51	

LABORATORY CONTROL SAMPLE: 2994135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	932	93	80-120	
Molybdenum, Dissolved	ug/L	1000	979	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994136 2994137

Parameter	Units	50302256001 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	446	1000	1000	1360	1370	91	92	75-125	1	20	
Molybdenum, Dissolved	ug/L	505	1000	1000	1470	1480	97	97	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 649199
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2991435 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/10/21 02:18	
Arsenic	ug/L	ND	1.0	11/10/21 02:18	
Beryllium	ug/L	ND	0.20	11/10/21 02:18	
Cobalt	ug/L	ND	1.0	11/10/21 02:18	
Selenium	ug/L	ND	1.0	11/10/21 02:18	
Thallium	ug/L	ND	1.0	11/10/21 02:18	

LABORATORY CONTROL SAMPLE: 2991436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.5	101	80-120	
Arsenic	ug/L	40	37.0	93	80-120	
Beryllium	ug/L	40	35.7	89	80-120	
Cobalt	ug/L	40	38.6	97	80-120	
Selenium	ug/L	40	39.1	98	80-120	
Thallium	ug/L	40	38.7	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991437 2991438

Parameter	Units	50302218001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	40.2	40.0	100	99	75-125	0	20	
Arsenic	ug/L	ND	40	40	37.5	37.6	91	92	75-125	0	20	
Beryllium	ug/L	ND	40	40	35.6	36.1	89	90	75-125	1	20	
Cobalt	ug/L	ND	40	40	37.5	36.5	93	90	75-125	3	20	
Selenium	ug/L	ND	40	40	37.5	37.7	93	94	75-125	0	20	
Thallium	ug/L	ND	40	40	38.7	38.8	97	97	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 649826 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2994528 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/11/21 14:08	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/11/21 14:08	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/11/21 14:08	

LABORATORY CONTROL SAMPLE: 2994529

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.9	96	90-110	

SAMPLE DUPLICATE: 2994530

Parameter	Units	50302108006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	676	691	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	676	691	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2994531

Parameter	Units	50302256001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	96.4	102	5	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	96.4	102	5	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 649492 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003

METHOD BLANK: 2992743 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/10/21 08:59	

LABORATORY CONTROL SAMPLE: 2992744

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	295	98	80-120	

SAMPLE DUPLICATE: 2992745

Parameter	Units	50302110007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	500	540	8	10	

SAMPLE DUPLICATE: 2992746

Parameter	Units	50302110008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	664	637	4	10	

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(317)228-3100

QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 649493
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141004, 50302141005

METHOD BLANK: 2992747 Matrix: Water
Associated Lab Samples: 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/10/21 09:08	

LABORATORY CONTROL SAMPLE: 2992748

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

SAMPLE DUPLICATE: 2992749

Parameter	Units	50302141004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2590	2590	0	10	

SAMPLE DUPLICATE: 2992750

Parameter	Units	50302141005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1200	1170	3	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 649625
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

SAMPLE DUPLICATE: 2993447

Parameter	Units	50302080009 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	2	H3

SAMPLE DUPLICATE: 2993448

Parameter	Units	50302141001 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.: 50302141

QC Batch: 648886 | 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: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2990163 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/05/21 17:38	

LABORATORY CONTROL SAMPLE: 2990164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990165 2990166

Parameter	Units	50302080001 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	0.43	0.43	85	85	90-110	0	20	M3

MATRIX SPIKE SAMPLE: 2990167

Parameter	Units	50302141001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.34	60	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 650428 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2997947 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 11:32	H3,N2

LABORATORY CONTROL SAMPLE: 2997948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	106	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997949 2997950

Parameter	Units	50302013001 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	1.0	1.0	101	104	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 2997951

Parameter	Units	50302156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	109	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 648838
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2989816 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/05/21 16:29	
Nitrogen, Nitrite	mg/L	ND	0.10	11/05/21 16:29	

LABORATORY CONTROL SAMPLE: 2989817

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.96	96	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989818 2989819

Parameter	Units	50302069002 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	2.5	1	1	3.4	3.4	90	92	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	113	113	90-110	0	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990155 2990156

Parameter	Units	50302141001 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	0.68	0.67	67	67	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.95	0.95	93	94	90-110	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 651262 | 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: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 3001515 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/18/21 16:17	

LABORATORY CONTROL SAMPLE: 3001516

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3001517 3001518

Parameter	Units	50302157001 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	23.8			45.4	41.4				9		

MATRIX SPIKE SAMPLE: 3001519

Parameter	Units	50302159004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.51		2.1			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 650843 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2999707 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/16/21 19:22	

LABORATORY CONTROL SAMPLE: 2999708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2999709 2999710

Parameter	Units	50302108019 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	10.6	10.6	102	102	80-120	0	20	

MATRIX SPIKE SAMPLE: 2999711

Parameter	Units	50302128008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.7	10	12.9	103	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 651324 — Analysis Method: SM 5310C
QC Batch Method: SM 5310C — Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 3001925 — Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/18/21 17:24	

LABORATORY CONTROL SAMPLE: 3001926

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3001927 3001928

Parameter	Units	50302080006 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	2.0	10	10	12.6	12.5	106	106	80-120	0	20	

MATRIX SPIKE SAMPLE: 3001929

Parameter	Units	50302081002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.1	10	12.6	106	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-25A **Lab ID: 50302141001** Collected: 11/04/21 14:22 Received: 11/05/21 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	**0.192 ± 0.602 (1.12) C:NA T:88%**	pCi/L	12/06/21 13:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.208 ± 0.349 (0.860) C:70% T:82%**	pCi/L	12/06/21 14:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.192 ± 0.951 (1.98)**	pCi/L	12/08/21 13:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-25I **Lab ID: 50302141002** Collected: 11/04/21 15:32 Received: 11/05/21 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	**0.328 ± 0.618 (1.09) C:NA T:89%**	pCi/L	12/06/21 13:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.618 ± 0.421 (0.811) C:72% T:84%**	pCi/L	12/06/21 14:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.946 ± 1.04 (1.90)**	pCi/L	12/08/21 13:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-28A **Lab ID: 50302141003** Collected: 11/04/21 10:03 Received: 11/05/21 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	**0.844 ± 0.537 (0.649) C:NA T:96%**	pCi/L	12/06/21 13:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.689 ± 0.419 (0.787) C:73% T:91%**	pCi/L	12/06/21 14:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.53 ± 0.956 (1.44)**	pCi/L	12/08/21 13:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-28I **Lab ID: 50302141004** Collected: 11/04/21 11:48 Received: 11/05/21 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	**0.361 ± 0.410 (0.647) C:NA T:92%**	pCi/L	12/06/21 13:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.752 ± 0.444 (0.817) C:71% T:80%**	pCi/L	12/06/21 14:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.11 ± 0.854 (1.46)**	pCi/L	12/08/21 13:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Sample: MW-28B **Lab ID: 50302141005** Collected: 11/04/21 12:47 Received: 11/05/21 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	**1.07 ± 0.655 (0.828) C:NA T:94%**	pCi/L	12/06/21 13:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.787 ± 0.401 (0.680) C:70% T:83%**	pCi/L	12/06/21 14:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.86 ± 1.06 (1.51)**	pCi/L	12/08/21 13:16	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 473848 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: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2289191 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0399 ± 0.260 (0.563) C:NA T:102%	pCi/L	12/06/21 13:12	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

QC Batch: 473849 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: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

METHOD BLANK: 2289192 Matrix: Water
Associated Lab Samples: 50302141001, 50302141002, 50302141003, 50302141004, 50302141005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.350 ± 0.323 (0.653) C:70% T:89%	pCi/L	12/06/21 14:53	

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QUALIFIERS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302141001	**MW-25A**	EPA 9056	649438		
50302141002	**MW-25I**	EPA 9056	649438		
50302141003	**MW-28A**	EPA 9056	649438		
50302141004	**MW-28I**	EPA 9056	649438		
50302141005	**MW-28B**	EPA 9056	649438		
50302141001	**MW-25A**	EPA 3010	649724	EPA 6010	650910
50302141002	**MW-25I**	EPA 3010	649724	EPA 6010	650910
50302141003	**MW-28A**	EPA 3010	649724	EPA 6010	650910
50302141004	**MW-28I**	EPA 3010	649724	EPA 6010	650910
50302141005	**MW-28B**	EPA 3010	649724	EPA 6010	650910
50302141001	**MW-25A**	EPA 3010	649731	EPA 6010	651222
50302141002	**MW-25I**	EPA 3010	649731	EPA 6010	651222
50302141003	**MW-28A**	EPA 3010	649731	EPA 6010	651222
50302141004	**MW-28I**	EPA 3010	649731	EPA 6010	651222
50302141005	**MW-28B**	EPA 3010	649731	EPA 6010	651222
50302141001	**MW-25A**	EPA 200.2	649199	EPA 6020	649305
50302141002	**MW-25I**	EPA 200.2	649199	EPA 6020	649305
50302141003	**MW-28A**	EPA 200.2	649199	EPA 6020	649305
50302141004	**MW-28I**	EPA 200.2	649199	EPA 6020	649305
50302141005	**MW-28B**	EPA 200.2	649199	EPA 6020	649305
50302141001	**MW-25A**	EPA 903.1	473848		
50302141002	**MW-25I**	EPA 903.1	473848		
50302141003	**MW-28A**	EPA 903.1	473848		
50302141004	**MW-28I**	EPA 903.1	473848		
50302141005	**MW-28B**	EPA 903.1	473848		
50302141001	**MW-25A**	EPA 904.0	473849		
50302141002	**MW-25I**	EPA 904.0	473849		
50302141003	**MW-28A**	EPA 904.0	473849		
50302141004	**MW-28I**	EPA 904.0	473849		
50302141005	**MW-28B**	EPA 904.0	473849		
50302141001	**MW-25A**	Total Radium Calculation	475451		
50302141002	**MW-25I**	Total Radium Calculation	475451		
50302141003	**MW-28A**	Total Radium Calculation	475451		
50302141004	**MW-28I**	Total Radium Calculation	475451		
50302141005	**MW-28B**	Total Radium Calculation	475451		
50302141001	**MW-25A**	SM 2320B	649826		
50302141002	**MW-25I**	SM 2320B	649826		
50302141003	**MW-28A**	SM 2320B	649826		
50302141004	**MW-28I**	SM 2320B	649826		
50302141005	**MW-28B**	SM 2320B	649826		
50302141001	**MW-25A**	SM 2540C	649492		
50302141002	**MW-25I**	SM 2540C	649492		
50302141003	**MW-28A**	SM 2540C	649492		
50302141004	**MW-28I**	SM 2540C	649493		

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302141

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302141005	**MW-28B**	SM 2540C	649493		
50302141001	**MW-25A**	SM 4500-H+B	649625		
50302141002	**MW-25I**	SM 4500-H+B	649625		
50302141003	**MW-28A**	SM 4500-H+B	649625		
50302141004	**MW-28I**	SM 4500-H+B	649625		
50302141005	**MW-28B**	SM 4500-H+B	649625		
50302141001	**MW-25A**	SM 4500-S2-D	648886		
50302141002	**MW-25I**	SM 4500-S2-D	648886		
50302141003	**MW-28A**	SM 4500-S2-D	648886		
50302141004	**MW-28I**	SM 4500-S2-D	648886		
50302141005	**MW-28B**	SM 4500-S2-D	648886		
50302141001	**MW-25A**	HACH 8146	650428		
50302141002	**MW-25I**	HACH 8146	650428		
50302141003	**MW-28A**	HACH 8146	650428		
50302141004	**MW-28I**	HACH 8146	650428		
50302141005	**MW-28B**	HACH 8146	650428		
50302141001	**MW-25A**	EPA 353.2	648838		
50302141002	**MW-25I**	EPA 353.2	648838		
50302141003	**MW-28A**	EPA 353.2	648838		
50302141004	**MW-28I**	EPA 353.2	648838		
50302141005	**MW-28B**	EPA 353.2	648838		
50302141001	**MW-25A**	EPA 365.1	651262	EPA 365.1	651348
50302141002	**MW-25I**	EPA 365.1	651262	EPA 365.1	651348
50302141003	**MW-28A**	EPA 365.1	651262	EPA 365.1	651348
50302141004	**MW-28I**	EPA 365.1	651262	EPA 365.1	651348
50302141005	**MW-28B**	EPA 365.1	651262	EPA 365.1	651348
50302141001	**MW-25A**	SM 5310C	650843		
50302141002	**MW-25I**	SM 5310C	650843		
50302141003	**MW-28A**	SM 5310C	650843		
50302141004	**MW-28I**	SM 5310C	650843		
50302141005	**MW-28B**	SM 5310C	650843		
50302141001	**MW-25A**	SM 5310C	651324		
50302141002	**MW-25I**	SM 5310C	651324		
50302141003	**MW-28A**	SM 5310C	651324		
50302141004	**MW-28I**	SM 5310C	651324		
50302141005	**MW-28B**	SM 5310C	651324		

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WO# : 50302141

50302141

CHAIN-OF-CUSTODY / Analytical Request Document

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

...utes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
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 5	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/11

Regulatory Agency	State / Location
	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS																	Requested Analysis Filtered (Y/N)													
1	~~AP-9A~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
2	~~AP-10A~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
3	~~MW-19A~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
4	~~MW-19I~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
5	~~MW-19B~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
6	~~MW-20A~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
7	MW-20I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
8	~~MW-20B~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					X	X	X	X	X	X	X	X	X	X		
9	~~MW-21A~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
10	~~MW-21I~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
11	~~MW-21B~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
12	MW-25A	WT				11/04/21	1422		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		001

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)	Colton Palmer	11-5-	8:45	Jay Wellens	11-5	8:45	0.5			
6020 (Be, Co, As, Se, Sb, Tl)	Jay Wellens	11-5	1100	R. Hummer	11-5-21	11:00	0.0	Y	N	Y
** Dissolved FF 6010 (Mo, Mn)							0.0			
Alkalinity = (Total , Bicarb & Carb)										

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:	Colton Palmer					
SIGNATURE of SAMPLER:	Colton Palmer	DATE Signed: 11/05/21				

Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Document

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
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 5	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/11

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
13	MW-25I	WT				11/04/21	1532		11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		002
14	~~MW-25B~~	~~WT~~							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
15	~~MW-26A~~	~~WT~~							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
16	~~MW-26I~~	~~WT~~							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
17	~~MW-26B~~	~~WT~~							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
18	~~MW-27B~~	~~WT~~							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
19	MW-28A	WT				11/04/21	1003		11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		003
20	MW-28I	WT				↓	1148		11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		004
21	MW-28B	WT				↓	1247		11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		003
22	~~MW-29A~~	~~WT~~							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
23	~~MW-29I~~	~~WT~~							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
24	~~MW-29B~~	~~WT~~							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		

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)	Colton Palmer	11-5	8:45	Jay Williams	11-5	8:45	0.5			
6020 (Be, Co, As, Se, Sb, Tl)	Jay Williams	11-5	11:00	B. Hammers	11-5-21	11:00	8.0	y	N	y
** Dissolved FF 6010 (Mo, Mn)							0.0			
Alkalinity = (Total , Bicarb & Carb)										

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:	Colton Palmer					
SIGNATURE of SAMPLER:	Colton Palmer	DATE Signed: 11/05/21				

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: RC 11-5-21 11:37

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 0.0/0.0 0.0/0.0
   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)		✓	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.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: ~~13:30~~ 13:30	✓		Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (SVOC 625 Pest/PCB 608)			
Custody Signatures Present?	✓		Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Containers Intact?:	✓		Headspace Wisconsin Sulfide?			✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Extra labels on Terracore Vials? (soils only)			Trip Blank Present?		✓	
			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 **of** 2

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 (>8mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit			Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1																															
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12												1	1			2	1	2	1	1	1		1					WT	✓	✓	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

COC PAGE 2 **of** 2

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	1	2	1	1	1		1					WT	✓	✓	
2																															
3																															
4																															
5																															
6																															
7												1	1			2	1	2	1	1	1		1					WT	✓	✓	
8																													✓	✓	
9																													✓	✓	
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 15, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Dear Wil Teague:

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

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

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

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

Sincerely,

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

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

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 #: 460198
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 P2R4
Pace Project No.: 50302144

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302144001	**AP-1R**	Water	11/04/21 15:20	11/05/21 11:00
50302144002	**AP-2A**	Water	11/04/21 16:25	11/05/21 11:00

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302144001	**AP-1R**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JDG	1	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302144002	**AP-2A**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JDG	1	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302144001	**AP-1R**					
EPA 9056	Chloride	136	mg/L	25.0	11/12/21 07:40	
EPA 9056	Sulfate	1040	mg/L	25.0	11/12/21 07:40	
EPA 6010	Barium	68.9	ug/L	10.0	11/13/21 00:20	
EPA 6010	Boron	9100	ug/L	100	11/13/21 00:20	
EPA 6010	Calcium	446000	ug/L	5000	11/13/21 01:01	
EPA 6010	Iron	11900	ug/L	100	11/13/21 00:20	
EPA 6010	Magnesium	60400	ug/L	1000	11/13/21 00:20	
EPA 6010	Manganese	9300	ug/L	10.0	11/13/21 00:20	
EPA 6010	Molybdenum	13.5	ug/L	10.0	11/13/21 00:20	
EPA 6010	Potassium	2040	ug/L	1000	11/13/21 00:20	
EPA 6010	Silica	20800	ug/L	450	11/13/21 00:20	N2
EPA 6010	Sodium	52500	ug/L	1000	11/13/21 00:20	
EPA 6010	Molybdenum, Dissolved	13.0	ug/L	10.0	11/18/21 13:07	
EPA 6020	Arsenic	1.8	ug/L	1.0	11/11/21 14:50	
EPA 903.1	Radium-226	0.134 ± 0.586 (1.11) C:NA T:92%	pCi/L		12/08/21 13:09	
EPA 904.0	Radium-228	0.509 ± 0.350 (0.671) C:78% T:91%	pCi/L		12/08/21 14:39	
Total Radium Calculation	Total Radium	0.643 ± 0.936 (1.78)	pCi/L		12/14/21 13:38	
SM 2320B	Alkalinity, Total as CaCO3	242	mg/L	2.0	11/11/21 10:53	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	242	mg/L	2.0	11/11/21 10:53	
SM 2540C	Total Dissolved Solids	1990	mg/L	20.0	11/10/21 09:09	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/10/21 16:27	H3
EPA 365.1	Phosphate as P04	2.0	mg/L	0.15	11/18/21 16:23	
SM 5310C	Total Organic Carbon	1.7	mg/L	1.0	11/16/21 23:18	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	11/18/21 22:11	
50302144002	**AP-2A**					
EPA 9056	Chloride	93.8	mg/L	2.5	11/12/21 08:17	P8
EPA 9056	Fluoride	0.16	mg/L	0.10	11/12/21 07:59	
EPA 9056	Sulfate	1460	mg/L	25.0	11/16/21 12:12	P8
EPA 6010	Aluminum	205	ug/L	200	11/13/21 00:22	
EPA 6010	Barium	46.5	ug/L	10.0	11/13/21 00:22	
EPA 6010	Boron	17200	ug/L	100	11/13/21 00:22	
EPA 6010	Calcium	600000	ug/L	5000	11/13/21 01:03	
EPA 6010	Iron	5130	ug/L	100	11/13/21 00:22	
EPA 6010	Lithium	99.2	ug/L	20.0	11/13/21 00:22	
EPA 6010	Magnesium	4350	ug/L	1000	11/13/21 00:22	
EPA 6010	Manganese	756	ug/L	10.0	11/13/21 00:22	
EPA 6010	Molybdenum	1790	ug/L	10.0	11/13/21 00:22	
EPA 6010	Potassium	42700	ug/L	1000	11/13/21 00:22	
EPA 6010	Silica	8650	ug/L	450	11/13/21 00:22	N2
EPA 6010	Sodium	45400	ug/L	1000	11/13/21 00:22	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302144002	**AP-2A**					
EPA 6010	Molybdenum, Dissolved	1690	ug/L	10.0	11/18/21 13:09	
EPA 6020	Arsenic	3.6	ug/L	1.0	11/11/21 15:29	
EPA 903.1	Radium-226	0.566 ± 0.558 (0.849) C:NA T:89%	pCi/L		12/08/21 13:09	
EPA 904.0	Radium-228	0.866 ± 0.453 (0.792) C:74% T:76%	pCi/L		12/08/21 14:39	
Total Radium Calculation	Total Radium	1.43 ± 1.01 (1.64)	pCi/L		12/14/21 13:38	
SM 2320B	Alkalinity, Total as CaCO3	40.5	mg/L	2.0	11/11/21 10:53	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	40.5	mg/L	2.0	11/11/21 10:53	
SM 2540C	Total Dissolved Solids	2300	mg/L	40.0	11/10/21 09:09	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/10/21 16:31	H3
SM 4500-S2-D	Sulfide	0.14	mg/L	0.10	11/05/21 17:38	
HACH 8146	Iron, Ferrous	0.29	mg/L	0.20	11/15/21 11:40	H3,N2
EPA 365.1	Phosphate as P04	0.32	mg/L	0.15	11/18/21 16:24	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	11/17/21 00:01	
SM 5310C	Dissolved Organic Carbon	2.2	mg/L	1.0	11/18/21 22:22	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Sample: AP-1R **Lab ID: 50302144001** Collected: 11/04/21 15:20 Received: 11/05/21 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	**136**	mg/L	25.0	100		11/12/21 07:40	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/21 07:04	16984-48-8	
Sulfate	**1040**	mg/L	25.0	100		11/12/21 07:40	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/13/21 00:20	7429-90-5	
Barium	**68.9**	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:20	7440-39-3	
Boron	**9100**	ug/L	100	1	11/11/21 07:00	11/13/21 00:20	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/13/21 00:20	7440-43-9	
Calcium	**446000**	ug/L	5000	5	11/11/21 07:00	11/13/21 01:01	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:20	7440-47-3	
Iron	**11900**	ug/L	100	1	11/11/21 07:00	11/13/21 00:20	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:20	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 07:00	11/13/21 00:20	7439-93-2	
Magnesium	**60400**	ug/L	1000	1	11/11/21 07:00	11/13/21 00:20	7439-95-4	
Manganese	**9300**	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:20	7439-96-5	
Molybdenum	**13.5**	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:20	7439-98-7	
Potassium	**2040**	ug/L	1000	1	11/11/21 07:00	11/13/21 00:20	7440-09-7	
Silica	**20800**	ug/L	450	1	11/11/21 07:00	11/13/21 00:20	7631-86-9	N2
Sodium	**52500**	ug/L	1000	1	11/11/21 07:00	11/13/21 00:20	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Molybdenum, Dissolved	**13.0**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:07	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	11/09/21 09:11	11/11/21 14:50	7440-36-0	
Arsenic	**1.8**	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:50	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/09/21 09:11	11/11/21 14:50	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:50	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:50	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 14:50	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**242**	mg/L	2.0	1		11/11/21 10:53		
Alkalinity,Bicarbonate (CaCO3)	**242**	mg/L	2.0	1		11/11/21 10:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 10:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1990**	mg/L	20.0	1		11/10/21 09:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Sample: AP-1R **Lab ID: 50302144001** Collected: 11/04/21 15:20 Received: 11/05/21 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	**7.0**	Std. Units	0.10	1		11/10/21 16:27		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 17:38	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:40		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		11/05/21 17:27	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/05/21 17:27	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	11/18/21 13:30	11/18/21 16:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.7**	mg/L	1.0	1		11/16/21 23:18	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		11/18/21 22:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Sample: AP-2A **Lab ID: 50302144002** Collected: 11/04/21 16:25 Received: 11/05/21 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	**93.8**	mg/L	2.5	10		11/12/21 08:17	16887-00-6	P8
Fluoride	**0.16**	mg/L	0.10	1		11/12/21 07:59	16984-48-8	
Sulfate	**1460**	mg/L	25.0	100		11/16/21 12:12	14808-79-8	P8
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**205**	ug/L	200	1	11/11/21 07:00	11/13/21 00:22	7429-90-5	
Barium	**46.5**	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:22	7440-39-3	
Boron	**17200**	ug/L	100	1	11/11/21 07:00	11/13/21 00:22	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/13/21 00:22	7440-43-9	
Calcium	**600000**	ug/L	5000	5	11/11/21 07:00	11/13/21 01:03	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:22	7440-47-3	
Iron	**5130**	ug/L	100	1	11/11/21 07:00	11/13/21 00:22	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:22	7439-92-1	
Lithium	**99.2**	ug/L	20.0	1	11/11/21 07:00	11/13/21 00:22	7439-93-2	
Magnesium	**4350**	ug/L	1000	1	11/11/21 07:00	11/13/21 00:22	7439-95-4	
Manganese	**756**	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:22	7439-96-5	
Molybdenum	**1790**	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:22	7439-98-7	
Potassium	**42700**	ug/L	1000	1	11/11/21 07:00	11/13/21 00:22	7440-09-7	
Silica	**8650**	ug/L	450	1	11/11/21 07:00	11/13/21 00:22	7631-86-9	N2
Sodium	**45400**	ug/L	1000	1	11/11/21 07:00	11/13/21 00:22	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Molybdenum, Dissolved	**1690**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:09	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	11/09/21 09:11	11/11/21 15:29	7440-36-0	
Arsenic	**3.6**	ug/L	1.0	1	11/09/21 09:11	11/11/21 15:29	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/09/21 09:11	11/11/21 15:29	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 15:29	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 15:29	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/09/21 09:11	11/11/21 15:29	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**40.5**	mg/L	2.0	1		11/11/21 10:53		
Alkalinity,Bicarbonate (CaCO3)	**40.5**	mg/L	2.0	1		11/11/21 10:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 10:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2300**	mg/L	40.0	1		11/10/21 09:09		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Sample: AP-2A **Lab ID: 50302144002** Collected: 11/04/21 16:25 Received: 11/05/21 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	**7.3**	Std. Units	0.10	1		11/10/21 16:31		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	**0.14**	mg/L	0.10	1		11/05/21 17:38	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.29**	mg/L	0.20	1		11/15/21 11:40		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		11/05/21 17:29	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/05/21 17:29	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.32**	mg/L	0.15	1	11/18/21 13:30	11/18/21 16:24		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		11/17/21 00:01	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		11/18/21 22:22		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 649633
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2993474 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/12/21 02:45	
Fluoride	mg/L	ND	0.10	11/12/21 02:45	
Sulfate	mg/L	ND	0.25	11/12/21 02:45	

LABORATORY CONTROL SAMPLE: 2993475

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	0.47	94	80-120	
Sulfate	mg/L	2.5	2.3	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993476 2993477

Parameter	Units	50302256001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	164	125	125	289	287	100	98	80-120	1	15	
Fluoride	mg/L	0.15	0.5	0.5	0.58	0.58	87	87	80-120	1	15	
Sulfate	mg/L	1180	250	250	1400	1400	90	87	80-120	1	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 649459
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2992603 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/12/21 23:22	
Barium	ug/L	ND	10.0	11/12/21 23:22	
Boron	ug/L	ND	100	11/12/21 23:22	
Cadmium	ug/L	ND	2.0	11/12/21 23:22	
Calcium	ug/L	ND	1000	11/12/21 23:22	
Chromium	ug/L	ND	10.0	11/12/21 23:22	
Iron	ug/L	ND	100	11/12/21 23:22	
Lead	ug/L	ND	10.0	11/12/21 23:22	
Lithium	ug/L	ND	20.0	11/12/21 23:22	
Magnesium	ug/L	ND	1000	11/12/21 23:22	
Manganese	ug/L	ND	10.0	11/12/21 23:22	
Molybdenum	ug/L	ND	10.0	11/12/21 23:22	
Potassium	ug/L	ND	1000	11/12/21 23:22	
Silica	ug/L	ND	450	11/12/21 23:22	N2
Sodium	ug/L	ND	1000	11/12/21 23:22	

LABORATORY CONTROL SAMPLE: 2992604

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4690	94	80-120	
Barium	ug/L	1000	935	93	80-120	
Boron	ug/L	1000	962	96	80-120	
Cadmium	ug/L	1000	924	92	80-120	
Calcium	ug/L	5000	4700	94	80-120	
Chromium	ug/L	1000	953	95	80-120	
Iron	ug/L	2500	2360	94	80-120	
Lead	ug/L	1000	897	90	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	5000	4640	93	80-120	
Manganese	ug/L	1000	920	92	80-120	
Molybdenum	ug/L	1000	954	95	80-120	
Potassium	ug/L	5000	4700	94	80-120	
Silica	ug/L	5350	5100	95		N2
Sodium	ug/L	5000	4650	93	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992605 2992606

Parameter	Units	50302013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4690	4680	94	93	75-125	0	20	
Barium	ug/L	81.2	1000	1000	1020	1020	94	94	75-125	1	20	
Boron	ug/L	397	1000	1000	1380	1380	99	99	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	946	944	95	94	75-125	0	20	
Calcium	ug/L	214000	5000	5000	225000	220000	208	124	75-125	2	20	P6
Chromium	ug/L	ND	1000	1000	951	951	95	95	75-125	0	20	
Iron	ug/L	20400	2500	2500	22600	22800	91	99	75-125	1	20	
Lead	ug/L	ND	1000	1000	854	852	85	85	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1120	1110	110	109	75-125	1	20	
Magnesium	ug/L	66300	5000	5000	70600	71300	87	100	75-125	1	20	
Manganese	ug/L	1430	1000	1000	2320	2340	89	91	75-125	1	20	
Molybdenum	ug/L	ND	1000	1000	968	963	97	96	75-125	0	20	
Potassium	ug/L	2540	5000	5000	7660	7660	102	102	75-125	0	20	
Silica	ug/L	24400	5350	5350	30200	30500	107	114		1		N2
Sodium	ug/L	11900	5000	5000	16800	16800	99	100	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994032 2994033

Parameter	Units	50302284011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	211000	25000	25000	610000	649000	1600	1750	75-125	6	20	P6
Barium	ug/L	2570	5000	5000	8520	8640	119	122	75-125	2	20	
Boron	ug/L	ND	5000	5000	5760	5780	106	106	75-125	0	20	
Cadmium	ug/L	11.4	5000	5000	4620	4610	92	92	75-125	0	20	
Calcium	ug/L	2830000	25000	25000	4210000	4370000	5490	6160	75-125	4	20	P6
Chromium	ug/L	386	5000	5000	5440	5530	101	103	75-125	2	20	
Iron	ug/L	573000	12500	12500	1660000	1760000	8730	9480	75-125	5	20	P6
Lead	ug/L	418	5000	5000	4870	4920	89	90	75-125	1	20	
Lithium	ug/L	378	5000	5000	6640	6700	125	127	75-125	1	20	M0
Magnesium	ug/L	606000	25000	25000	1320000	1410000	2840	3220	75-125	7	20	P6
Manganese	ug/L	13800	5000	5000	27400	28500	272	294	75-125	4	20	M3
Molybdenum	ug/L	229	5000	5000	5060	5070	97	97	75-125	0	20	
Potassium	ug/L	67800	25000	25000	192000	203000	496	541	75-125	6	20	M3
Silica	ug/L	417000	26700	26700	971000	790000	2070	1400		20		N2
Sodium	ug/L	204000	25000	25000	233000	240000	114	145	75-125	3	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 649731
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2994134 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum, Dissolved	ug/L	ND	10.0	11/18/21 12:51	

LABORATORY CONTROL SAMPLE: 2994135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum, Dissolved	ug/L	1000	979	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994136 2994137

Parameter	Units	50302256001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum, Dissolved	ug/L	505	1000	1000	1470	1480	97	97	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 649199
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2991435 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/10/21 02:18	
Arsenic	ug/L	ND	1.0	11/10/21 02:18	
Beryllium	ug/L	ND	0.20	11/10/21 02:18	
Cobalt	ug/L	ND	1.0	11/10/21 02:18	
Selenium	ug/L	ND	1.0	11/10/21 02:18	
Thallium	ug/L	ND	1.0	11/10/21 02:18	

LABORATORY CONTROL SAMPLE: 2991436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.5	101	80-120	
Arsenic	ug/L	40	37.0	93	80-120	
Beryllium	ug/L	40	35.7	89	80-120	
Cobalt	ug/L	40	38.6	97	80-120	
Selenium	ug/L	40	39.1	98	80-120	
Thallium	ug/L	40	38.7	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991437 2991438

Parameter	Units	50302218001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	40.2	40.0	100	99	75-125	0	20	
Arsenic	ug/L	ND	40	40	37.5	37.6	91	92	75-125	0	20	
Beryllium	ug/L	ND	40	40	35.6	36.1	89	90	75-125	1	20	
Cobalt	ug/L	ND	40	40	37.5	36.5	93	90	75-125	3	20	
Selenium	ug/L	ND	40	40	37.5	37.7	93	94	75-125	0	20	
Thallium	ug/L	ND	40	40	38.7	38.8	97	97	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 649636
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2993485 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/11/21 10:53	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/11/21 10:53	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/11/21 10:53	

LABORATORY CONTROL SAMPLE: 2993486

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.1	96	90-110	

SAMPLE DUPLICATE: 2993487

Parameter	Units	50302108019 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	200	201	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	200	201	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2993488

Parameter	Units	50302144001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	242	255	5	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	242	255	5	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 649493
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2992747 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/10/21 09:08	

LABORATORY CONTROL SAMPLE: 2992748

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

SAMPLE DUPLICATE: 2992749

Parameter	Units	50302141004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2590	2590	0	10	

SAMPLE DUPLICATE: 2992750

Parameter	Units	50302141005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1200	1170	3	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 649626
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302144001, 50302144002

SAMPLE DUPLICATE: 2993451

Parameter	Units	50302144001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.2	2	2	H3

SAMPLE DUPLICATE: 2993452

Parameter	Units	50302187003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 648886
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2990163 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/05/21 17:38	

LABORATORY CONTROL SAMPLE: 2990164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990165 2990166

Parameter	Units	50302080001 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	0.43	0.43	85	85	90-110	0	20	M3

MATRIX SPIKE SAMPLE: 2990167

Parameter	Units	50302141001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.34	60	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 650428
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2997947 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 11:32	H3,N2

LABORATORY CONTROL SAMPLE: 2997948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	106	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997949 2997950

Parameter	Units	50302013001 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	1.0	1.0	101	104	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 2997951

Parameter	Units	50302156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	109	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 648838
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2989816 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/05/21 16:29	
Nitrogen, Nitrite	mg/L	ND	0.10	11/05/21 16:29	

LABORATORY CONTROL SAMPLE: 2989817

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.96	96	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989818 2989819

Parameter	Units	50302069002 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	2.5	1	1	3.4	3.4	90	92	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	113	113	90-110	0	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990155 2990156

Parameter	Units	50302141001 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	0.68	0.67	67	67	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.95	0.95	93	94	90-110	1	20	

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REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 651262
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 3001515 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/18/21 16:17	

LABORATORY CONTROL SAMPLE: 3001516

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3001517 3001518

Parameter	Units	50302157001 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	23.8			45.4	41.4				9		

MATRIX SPIKE SAMPLE: 3001519

Parameter	Units	50302159004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.51		2.1			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 650843
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2999707 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/16/21 19:22	

LABORATORY CONTROL SAMPLE: 2999708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2999709 2999710

Parameter	Units	50302108019 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	10.6	10.6	102	102	80-120	0	20	

MATRIX SPIKE SAMPLE: 2999711

Parameter	Units	50302128008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.7	10	12.9	103	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 651324
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 3001925 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/18/21 17:24	

LABORATORY CONTROL SAMPLE: 3001926

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3001927 3001928

Parameter	Units	50302080006 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	2.0	10	10	12.6	12.5	106	106	80-120	0	20	

MATRIX SPIKE SAMPLE: 3001929

Parameter	Units	50302081002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.1	10	12.6	106	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Sample: AP-1R **Lab ID: 50302144001** Collected: 11/04/21 15:20 Received: 11/05/21 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	**0.134 ± 0.586 (1.11) C:NA T:92%**	pCi/L	12/08/21 13:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.509 ± 0.350 (0.671) C:78% T:91%**	pCi/L	12/08/21 14:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.643 ± 0.936 (1.78)**	pCi/L	12/14/21 13:38	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Sample: AP-2A **Lab ID: 50302144002** Collected: 11/04/21 16:25 Received: 11/05/21 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	**0.566 ± 0.558 (0.849) C:NA T:89%**	pCi/L	12/08/21 13:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.866 ± 0.453 (0.792) C:74% T:76%**	pCi/L	12/08/21 14:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.43 ± 1.01 (1.64)**	pCi/L	12/14/21 13:38	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 473879
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2289226
Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.407 ± 0.369 (0.749) C:76% T:80%	pCi/L	12/08/21 11:32	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

QC Batch: 473877
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302144001, 50302144002

METHOD BLANK: 2289222 Matrix: Water
Associated Lab Samples: 50302144001, 50302144002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.337 (0.712) C:NA T:93%	pCi/L	12/08/21 13:09	

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(317)228-3100

QUALIFIERS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

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.
P8	Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302144

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302144001	**AP-1R**	EPA 9056	649633		
50302144002	**AP-2A**	EPA 9056	649633		
50302144001	**AP-1R**	EPA 3010	649459	EPA 6010	650252
50302144002	**AP-2A**	EPA 3010	649459	EPA 6010	650252
50302144001	**AP-1R**	EPA 3010	649731	EPA 6010	651222
50302144002	**AP-2A**	EPA 3010	649731	EPA 6010	651222
50302144001	**AP-1R**	EPA 200.2	649199	EPA 6020	649305
50302144002	**AP-2A**	EPA 200.2	649199	EPA 6020	649305
50302144001	**AP-1R**	EPA 903.1	473877		
50302144002	**AP-2A**	EPA 903.1	473877		
50302144001	**AP-1R**	EPA 904.0	473879		
50302144002	**AP-2A**	EPA 904.0	473879		
50302144001	**AP-1R**	Total Radium Calculation	476246		
50302144002	**AP-2A**	Total Radium Calculation	476246		
50302144001	**AP-1R**	SM 2320B	649636		
50302144002	**AP-2A**	SM 2320B	649636		
50302144001	**AP-1R**	SM 2540C	649493		
50302144002	**AP-2A**	SM 2540C	649493		
50302144001	**AP-1R**	SM 4500-H+B	649626		
50302144002	**AP-2A**	SM 4500-H+B	649626		
50302144001	**AP-1R**	SM 4500-S2-D	648886		
50302144002	**AP-2A**	SM 4500-S2-D	648886		
50302144001	**AP-1R**	HACH 8146	650428		
50302144002	**AP-2A**	HACH 8146	650428		
50302144001	**AP-1R**	EPA 353.2	648838		
50302144002	**AP-2A**	EPA 353.2	648838		
50302144001	**AP-1R**	EPA 365.1	651262	EPA 365.1	651348
50302144002	**AP-2A**	EPA 365.1	651262	EPA 365.1	651348
50302144001	**AP-1R**	SM 5310C	650843		
50302144002	**AP-2A**	SM 5310C	650843		
50302144001	**AP-1R**	SM 5310C	651324		
50302144002	**AP-2A**	SM 5310C	651324		

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CHAIN-OF-CUSTODY / Analytical Request D

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields m

WO# : 50302144

50302144

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
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 4	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/11

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
	Requested Analysis Filtered (Y/N)																					Y						Y			
1	AP-1R	WT		11/4	1520				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		001
2	AP-2A	WT		11/4	1625				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		002
3	AP-2BO	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
4	AP-3	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
5	AP-3A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
6	AP-4A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
7	AP-4I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
8	AP-4B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
9	AP-5	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
10	AP-5A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
11	AP-6A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
12	AP-6B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		

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)	[signature]	11.5.21	800	[signature]	11-5-21	800	0.3			
6020 (Be, Co, As, Se, Sb, Tl)	[signature] FedEx	11-5-21	1100	FedEx [signature]	11-5-21	11:00		Y	N	Y
** Dissolved FF 6010 (Mo, Mn) BC 11-5-21		11-								
Alkalinity = (Total , Bicarb & Carb)										

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:					
SIGNATURE of SAMPLER:	DATE Signed:				

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:	Section C Invoice Information:	
Company:	AES/IPL Petersburg	Report To: Teague, Wil	Attention:	
Address:	6925 IN-57	Copy To:	Company Name:	Regulatory Agency
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 4	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date:		Project #:	Pace Profile #: 8296/11	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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		Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																		Y							Y					
13	AP-7	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X	X			
14	AP-8	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X	X			
15	DUP 2	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X	X			
16	MS	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X	X			
17	MSD	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X	X			
18	FIELD BLANK 2	WT							9	3	2	3		1				X	X	X		X	X	X	X		X	X			
19																															
20																															
21																															
22																															
23																															
24																															

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)		11.5.21	8:00		11-5-21	8:00	0.3
6020 (Be, Co, As, Se, Sb, Tl)	Jay Williams	11-5-21	11:00		11-5-21	11:00	
** Dissolved FF 6010 (Mo, Mn)							
Alkalinity = (Total , Bicarb & Carb)							

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:					
SIGNATURE of SAMPLER:	DATE Signed:				

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: RC 11-5-21 11:37

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:** 0.3/0.3

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)		✓	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.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 13:55			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 2

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	1	2	1	1	1		1					WT	✓	✓	
2												1	1			1	1	1	1	1	1		1					1	1	1	
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
GN	General	AG3C	250mL NaOH amber glass

Plastic / Misc.

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

COC PAGE 2 of 2

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 (>8mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit			Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1																															
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

Dear Wil Teague:

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

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

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

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

Sincerely,

Hayden Putt

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

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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(317)228-3100

CERTIFICATIONS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

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 #: 460198
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 P2R5
Pace Project No.: 50302156

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302156001	**MW-25B**	Water	11/05/21 09:41	11/05/21 13:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302156001	**MW-25B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JDG	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302156001	**MW-25B**					
EPA 9056	Chloride	15.2	mg/L	2.5	11/10/21 15:53	
EPA 9056	Sulfate	246	mg/L	2.5	11/10/21 15:53	
EPA 6010	Barium	47.5	ug/L	10.0	11/13/21 00:25	
EPA 6010	Boron	3430	ug/L	100	11/13/21 00:25	
EPA 6010	Calcium	170000	ug/L	1000	11/13/21 00:25	
EPA 6010	Iron	450	ug/L	100	11/13/21 00:25	
EPA 6010	Magnesium	31700	ug/L	1000	11/13/21 00:25	
EPA 6010	Manganese	434	ug/L	10.0	11/13/21 00:25	
EPA 6010	Silica	14600	ug/L	450	11/13/21 00:25	N2
EPA 6010	Sodium	8920	ug/L	1000	11/13/21 00:25	
EPA 6010	Manganese, Dissolved	431	ug/L	10.0	11/18/21 13:25	
EPA 903.1	Radium-226	0.233 ± 0.532 (0.315) C:NA T:92%	pCi/L		12/05/21 12:29	
EPA 904.0	Radium-228	0.224 ± 0.425 (0.934) C:75% T:91%	pCi/L		12/06/21 14:33	
Total Radium Calculation	Total Radium	0.457 ± 0.957 (1.25)	pCi/L		12/08/21 15:45	
SM 2320B	Alkalinity, Total as CaCO3	313	mg/L	2.0	11/11/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	313	mg/L	2.0	11/11/21 16:22	
SM 2540C	Total Dissolved Solids	705	mg/L	10.0	11/10/21 09:10	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/10/21 16:46	H3
EPA 353.2	Nitrogen, Nitrate	2.9	mg/L	0.10	11/05/21 17:31	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

Sample: MW-25B **Lab ID: 50302156001** Collected: 11/05/21 09:41 Received: 11/05/21 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	**15.2**	mg/L	2.5	10		11/10/21 15:53	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/10/21 14:51	16984-48-8	
Sulfate	**246**	mg/L	2.5	10		11/10/21 15:53	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/13/21 00:25	7429-90-5	
Barium	**47.5**	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:25	7440-39-3	
Boron	**3430**	ug/L	100	1	11/11/21 07:00	11/13/21 00:25	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/13/21 00:25	7440-43-9	
Calcium	**170000**	ug/L	1000	1	11/11/21 07:00	11/13/21 00:25	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:25	7440-47-3	
Iron	**450**	ug/L	100	1	11/11/21 07:00	11/13/21 00:25	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:25	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 07:00	11/13/21 00:25	7439-93-2	
Magnesium	**31700**	ug/L	1000	1	11/11/21 07:00	11/13/21 00:25	7439-95-4	
Manganese	**434**	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:25	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 07:00	11/13/21 00:25	7439-98-7	
Potassium	ND	ug/L	1000	1	11/11/21 07:00	11/13/21 00:25	7440-09-7	
Silica	**14600**	ug/L	450	1	11/11/21 07:00	11/13/21 00:25	7631-86-9	N2
Sodium	**8920**	ug/L	1000	1	11/11/21 07:00	11/13/21 00:25	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**431**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:25	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:25	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 05:43	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 05:43	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/17/21 05:43	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 05:43	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 05:43	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 05:43	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**313**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**313**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**705**	mg/L	10.0	1		11/10/21 09:10		

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

Sample: MW-25B **Lab ID: 50302156001** Collected: 11/05/21 09:41 Received: 11/05/21 13:30 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		11/10/21 16:46		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/05/21 17:38	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:40		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**2.9**	mg/L	0.10	1		11/05/21 17:31	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/05/21 17:31	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	11/18/21 13:30	11/18/21 16:25		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/17/21 00:10	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/18/21 22:32		

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 649560
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 2993087 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/10/21 14:09	
Fluoride	mg/L	ND	0.10	11/10/21 14:09	
Sulfate	mg/L	ND	0.25	11/10/21 14:09	

LABORATORY CONTROL SAMPLE: 2993088

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	88	80-120	
Fluoride	mg/L	0.5	0.43	85	80-120	
Sulfate	mg/L	2.5	2.3	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993089 2993090

Parameter	Units	50302156001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	15.2	12.5	12.5	26.2	26.2	88	88	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.52	0.53	86	87	80-120	1	15	
Sulfate	mg/L	246	250	250	467	468	89	89	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: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 649459
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302156001

METHOD BLANK: 2992603 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/12/21 23:22	
Barium	ug/L	ND	10.0	11/12/21 23:22	
Boron	ug/L	ND	100	11/12/21 23:22	
Cadmium	ug/L	ND	2.0	11/12/21 23:22	
Calcium	ug/L	ND	1000	11/12/21 23:22	
Chromium	ug/L	ND	10.0	11/12/21 23:22	
Iron	ug/L	ND	100	11/12/21 23:22	
Lead	ug/L	ND	10.0	11/12/21 23:22	
Lithium	ug/L	ND	20.0	11/12/21 23:22	
Magnesium	ug/L	ND	1000	11/12/21 23:22	
Manganese	ug/L	ND	10.0	11/12/21 23:22	
Molybdenum	ug/L	ND	10.0	11/12/21 23:22	
Potassium	ug/L	ND	1000	11/12/21 23:22	
Silica	ug/L	ND	450	11/12/21 23:22	N2
Sodium	ug/L	ND	1000	11/12/21 23:22	

LABORATORY CONTROL SAMPLE: 2992604

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4690	94	80-120	
Barium	ug/L	1000	935	93	80-120	
Boron	ug/L	1000	962	96	80-120	
Cadmium	ug/L	1000	924	92	80-120	
Calcium	ug/L	5000	4700	94	80-120	
Chromium	ug/L	1000	953	95	80-120	
Iron	ug/L	2500	2360	94	80-120	
Lead	ug/L	1000	897	90	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	5000	4640	93	80-120	
Manganese	ug/L	1000	920	92	80-120	
Molybdenum	ug/L	1000	954	95	80-120	
Potassium	ug/L	5000	4700	94	80-120	
Silica	ug/L	5350	5100	95	80-120	N2
Sodium	ug/L	5000	4650	93	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992605 2992606

Parameter	Units	50302013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4690	4680	94	93	75-125	0	20	
Barium	ug/L	81.2	1000	1000	1020	1020	94	94	75-125	1	20	
Boron	ug/L	397	1000	1000	1380	1380	99	99	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	946	944	95	94	75-125	0	20	
Calcium	ug/L	214000	5000	5000	225000	220000	208	124	75-125	2	20	P6
Chromium	ug/L	ND	1000	1000	951	951	95	95	75-125	0	20	
Iron	ug/L	20400	2500	2500	22600	22800	91	99	75-125	1	20	
Lead	ug/L	ND	1000	1000	854	852	85	85	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1120	1110	110	109	75-125	1	20	
Magnesium	ug/L	66300	5000	5000	70600	71300	87	100	75-125	1	20	
Manganese	ug/L	1430	1000	1000	2320	2340	89	91	75-125	1	20	
Molybdenum	ug/L	ND	1000	1000	968	963	97	96	75-125	0	20	
Potassium	ug/L	2540	5000	5000	7660	7660	102	102	75-125	0	20	
Silica	ug/L	24400	5350	5350	30200	30500	107	114	75-125	1	20	N2
Sodium	ug/L	11900	5000	5000	16800	16800	99	100	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994032 2994033

Parameter	Units	50302284011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	211000	25000	25000	610000	649000	1600	1750	75-125	6	20	P6
Barium	ug/L	2570	5000	5000	8520	8640	119	122	75-125	2	20	
Boron	ug/L	ND	5000	5000	5760	5780	106	106	75-125	0	20	
Cadmium	ug/L	11.4	5000	5000	4620	4610	92	92	75-125	0	20	
Calcium	ug/L	2830000	25000	25000	4210000	4370000	5490	6160	75-125	4	20	P6
Chromium	ug/L	386	5000	5000	5440	5530	101	103	75-125	2	20	
Iron	ug/L	573000	12500	12500	1660000	1760000	8730	9480	75-125	5	20	P6
Lead	ug/L	418	5000	5000	4870	4920	89	90	75-125	1	20	
Lithium	ug/L	378	5000	5000	6640	6700	125	127	75-125	1	20	M0
Magnesium	ug/L	606000	25000	25000	1320000	1410000	2840	3220	75-125	7	20	P6
Manganese	ug/L	13800	5000	5000	27400	28500	272	294	75-125	4	20	M3
Molybdenum	ug/L	229	5000	5000	5060	5070	97	97	75-125	0	20	
Potassium	ug/L	67800	25000	25000	192000	203000	496	541	75-125	6	20	M3
Silica	ug/L	417000	26700	26700	971000	790000	2070	1400	75-125	20	20	N2
Sodium	ug/L	204000	25000	25000	233000	240000	114	145	75-125	3	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 649731
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 2994134 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/18/21 12:51	
Molybdenum, Dissolved	ug/L	ND	10.0	11/18/21 12:51	

LABORATORY CONTROL SAMPLE: 2994135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	932	93	80-120	
Molybdenum, Dissolved	ug/L	1000	979	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994136 2994137

Parameter	Units	50302256001 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	446	1000	1000	1360	1370	91	92	75-125	1	20	
Molybdenum, Dissolved	ug/L	505	1000	1000	1470	1480	97	97	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 649453
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 2992568 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/17/21 05:34	
Arsenic	ug/L	ND	1.0	11/17/21 05:34	
Beryllium	ug/L	ND	0.20	11/17/21 05:34	
Cobalt	ug/L	ND	1.0	11/17/21 05:34	
Selenium	ug/L	ND	1.0	11/17/21 05:34	
Thallium	ug/L	ND	1.0	11/17/21 05:34	

LABORATORY CONTROL SAMPLE: 2992569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.8	105	80-120	
Arsenic	ug/L	40	37.7	94	80-120	
Beryllium	ug/L	40	38.5	96	80-120	
Cobalt	ug/L	40	40.3	101	80-120	
Selenium	ug/L	40	38.3	96	80-120	
Thallium	ug/L	40	40.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992570 2992571

Parameter	Units	50302156001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.3	41.8	105	104	75-125	1	20	
Arsenic	ug/L	ND	40	40	37.4	36.6	93	91	75-125	2	20	
Beryllium	ug/L	ND	40	40	37.5	36.8	94	92	75-125	2	20	
Cobalt	ug/L	ND	40	40	38.7	38.2	95	94	75-125	1	20	
Selenium	ug/L	ND	40	40	38.9	38.4	95	94	75-125	1	20	
Thallium	ug/L	ND	40	40	40.6	39.9	102	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 649827
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 2994532 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/11/21 16:22	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/11/21 16:22	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/11/21 16:22	

LABORATORY CONTROL SAMPLE: 2994533

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: 2994534

Parameter	Units	50302159001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	248	254	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	248	254	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2994535

Parameter	Units	50302187003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	130	128	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	130	128	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 649493
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 2992747 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/10/21 09:08	

LABORATORY CONTROL SAMPLE: 2992748

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

SAMPLE DUPLICATE: 2992749

Parameter	Units	50302141004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2590	2590	0	10	

SAMPLE DUPLICATE: 2992750

Parameter	Units	50302141005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1200	1170	3	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 649626
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302156001

SAMPLE DUPLICATE: 2993451

Parameter	Units	50302144001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.2	2	2	H3

SAMPLE DUPLICATE: 2993452

Parameter	Units	50302187003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 648886
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 2990163 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/05/21 17:38	

LABORATORY CONTROL SAMPLE: 2990164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990165 2990166

Parameter	Units	50302080001 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	0.43	0.43	85	85	90-110	0	20	M3

MATRIX SPIKE SAMPLE: 2990167

Parameter	Units	50302141001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.34	60	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 650428
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302156001

METHOD BLANK: 2997947 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 11:32	H3,N2

LABORATORY CONTROL SAMPLE: 2997948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	106	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997949 2997950

Parameter	Units	50302013001 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	1.0	1.0	101	104	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 2997951

Parameter	Units	50302156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	109	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 648838
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 2989816 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/05/21 16:29	
Nitrogen, Nitrite	mg/L	ND	0.10	11/05/21 16:29	

LABORATORY CONTROL SAMPLE: 2989817

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.96	96	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989818 2989819

Parameter	Units	50302069002 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	2.5	1	1	3.4	3.4	90	92	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	113	113	90-110	0	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990155 2990156

Parameter	Units	50302141001 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	0.68	0.67	67	67	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.95	0.95	93	94	90-110	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 651262
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 3001515 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/18/21 16:17	

LABORATORY CONTROL SAMPLE: 3001516

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3001517 3001518

Parameter	Units	50302157001 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	23.8			45.4	41.4				9		

MATRIX SPIKE SAMPLE: 3001519

Parameter	Units	50302159004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.51		2.1			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 650843
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 2999707 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/16/21 19:22	

LABORATORY CONTROL SAMPLE: 2999708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2999709 2999710

Parameter	Units	50302108019 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	10.6	10.6	102	102	80-120	0	20	

MATRIX SPIKE SAMPLE: 2999711

Parameter	Units	50302128008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.7	10	12.9	103	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 651324
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302156001

METHOD BLANK: 3001925 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/18/21 17:24	

LABORATORY CONTROL SAMPLE: 3001926

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3001927 3001928

Parameter	Units	50302080006 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	2.0	10	10	12.6	12.5	106	106	80-120	0	20	

MATRIX SPIKE SAMPLE: 3001929

Parameter	Units	50302081002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.1	10	12.6	106	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.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

Sample: MW-25B **Lab ID: 50302156001** Collected: 11/05/21 09:41 Received: 11/05/21 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	**0.233 ± 0.532 (0.315) C:NA T:92%**	pCi/L	12/05/21 12:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.224 ± 0.425 (0.934) C:75% T:91%**	pCi/L	12/06/21 14:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.457 ± 0.957 (1.25)**	pCi/L	12/08/21 15:45	7440-14-4	

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(317)228-3100

QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 473944
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302156001

METHOD BLANK: 2289439 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.301 ± 0.318 (0.659) C:77% T:90%	pCi/L	12/06/21 14:32	

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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(317)228-3100

QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

QC Batch: 473943
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302156001

METHOD BLANK: 2289436 Matrix: Water
Associated Lab Samples: 50302156001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.353 (0.733) C:NA T:97%	pCi/L	12/05/21 12:29	

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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Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302156

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302156001	**MW-25B**	EPA 9056	649560		
50302156001	**MW-25B**	EPA 3010	649459	EPA 6010	650252
50302156001	**MW-25B**	EPA 3010	649731	EPA 6010	651222
50302156001	**MW-25B**	EPA 200.2	649453	EPA 6020	649632
50302156001	**MW-25B**	EPA 903.1	473943		
50302156001	**MW-25B**	EPA 904.0	473944		
50302156001	**MW-25B**	Total Radium Calculation	475495		
50302156001	**MW-25B**	SM 2320B	649827		
50302156001	**MW-25B**	SM 2540C	649493		
50302156001	**MW-25B**	SM 4500-H+B	649626		
50302156001	**MW-25B**	SM 4500-S2-D	648886		
50302156001	**MW-25B**	HACH 8146	650428		
50302156001	**MW-25B**	EPA 353.2	648838		
50302156001	**MW-25B**	EPA 365.1	651262	EPA 365.1	651348
50302156001	**MW-25B**	SM 5310C	650843		
50302156001	**MW-25B**	SM 5310C	651324		

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WO# : 50302156

50302156

CHAIN-OF-CUSTODY / Analytical Request Document

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

...gment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 1

Section A	Section B	Section C
Required Client Information:	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		Address:
Email: wil.teague@aes.com	Purchase Order #:	Pace Quote:
Phone: (812)354-8801 Fax:	Project Name: IDEM - CCR Sampling Profile 2 Report 5	Pace Project Manager: Hayden Putt
Requested Due Date:	Project #:	Pace Profile #: 8296/11

Regulatory Agency	State / Location
	IN

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
13	~~MW-26I~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
14	MW-25B	WT				11/05/21	941		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	001
15	~~MW-26A~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
16	~~MW-26I~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
17	~~MW-26B~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
18	~~MW-27B~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
19	~~MW-28A~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
20	~~MW-28I~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
21	~~MW-28B~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
22	~~MW-29A~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
23	~~MW-29I~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
24	~~MW-29B~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	

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)	Colton Palmer	11/05/21			11/5/21	1330	0.5	Y	Y	Y
6020 (Be, Co, As, Se, Sb, Tl)										
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

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:	Colton Palmer					
SIGNATURE of SAMPLER:	Colton Palmer	DATE Signed: 11/05/21				

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 11/5/21 1415

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°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.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: NO2 / NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

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																															
2												1	1			2	1	2	1	1	1		1					SS	✓	✓	
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 15, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 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
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

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 #: 460198
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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(317)228-3100

SAMPLE SUMMARY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302232001	**AP-2BO**	Water	11/07/21 08:00	11/08/21 10:30
50302232002	**AP-3**	Water	11/07/21 08:50	11/08/21 10:30
50302232003	**AP-3A**	Water	11/07/21 09:25	11/08/21 10:30
50302232004	**AP-4A**	Water	11/07/21 10:15	11/08/21 10:30
50302232005	**AP-4I**	Water	11/07/21 11:00	11/08/21 10:30
50302232006	**AP-4B**	Water	11/07/21 11:35	11/08/21 10:30
50302232007	**AP-5**	Water	11/07/21 13:50	11/08/21 10:30
50302232008	**AP-5A**	Water	11/07/21 14:30	11/08/21 10:30
50302232009	**AP-6A**	Water	11/07/21 15:15	11/08/21 10:30
50302232010	**AP-6B**	Water	11/07/21 16:15	11/08/21 10:30

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302232001	**AP-2BO**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302232002	**AP-3**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302232003	**AP-3A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JDG	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	MK1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302232004	**AP-4A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302232005	**AP-4I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302232006	**AP-4B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302232007	**AP-5**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	SKK	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 5310C	GWA	1	PASI-I
50302232008	**AP-5A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302232009	**AP-6A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	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	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302232010	**AP-6B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JDG	2	PASI-I
		EPA 6020	CAW	6	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302232001	**AP-2BO**					
EPA 9056	Chloride	95.9	mg/L	25.0	11/11/21 01:52	
EPA 9056	Sulfate	1470	mg/L	25.0	11/11/21 01:52	
EPA 6010	Barium	26.0	ug/L	10.0	11/21/21 23:40	
EPA 6010	Boron	16600	ug/L	100	11/21/21 23:40	
EPA 6010	Calcium	580000	ug/L	5000	11/22/21 00:39	
EPA 6010	Iron	316	ug/L	100	11/21/21 23:40	
EPA 6010	Lithium	25.8	ug/L	20.0	11/21/21 23:40	
EPA 6010	Magnesium	32600	ug/L	1000	11/21/21 23:40	
EPA 6010	Manganese	2480	ug/L	10.0	11/21/21 23:40	
EPA 6010	Molybdenum	158	ug/L	10.0	11/21/21 23:40	
EPA 6010	Potassium	13700	ug/L	1000	11/21/21 23:40	
EPA 6010	Silica	11900	ug/L	450	11/21/21 23:40	N2
EPA 6010	Sodium	36200	ug/L	1000	11/21/21 23:40	
EPA 6010	Manganese, Dissolved	2750	ug/L	10.0	11/18/21 13:28	
EPA 6010	Molybdenum, Dissolved	151	ug/L	10.0	11/18/21 13:28	
EPA 6020	Arsenic	2.5	ug/L	1.0	11/17/21 07:29	
EPA 6020	Cobalt	3.4	ug/L	1.0	11/17/21 07:29	
EPA 903.1	Radium-226	0.135 ± 0.495 (0.951) C:NA T:94%	pCi/L		12/20/21 14:15	
EPA 904.0	Radium-228	0.879 ± 0.517 (0.958) C:61% T:89%	pCi/L		12/17/21 11:26	
Total Radium Calculation	Total Radium	1.01 ± 1.01 (1.91)	pCi/L		12/23/21 17:09	
SM 2320B	Alkalinity, Total as CaCO3	165	mg/L	2.0	11/11/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	165	mg/L	2.0	11/11/21 16:22	
SM 2540C	Total Dissolved Solids	2450	mg/L	40.0	11/10/21 09:17	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/12/21 12:41	H3
EPA 353.2	Nitrogen, Nitrate	0.66	mg/L	0.10	11/08/21 17:36	
EPA 365.1	Phosphate as P04	0.20	mg/L	0.15	11/17/21 16:13	
SM 5310C	Total Organic Carbon	3.5	mg/L	1.0	11/17/21 05:21	
SM 5310C	Dissolved Organic Carbon	3.5	mg/L	1.0	11/19/21 20:22	
50302232002	**AP-3**					
EPA 9056	Chloride	31.5	mg/L	25.0	11/11/21 02:30	
EPA 9056	Sulfate	728	mg/L	25.0	11/11/21 02:30	
EPA 6010	Barium	38.2	ug/L	10.0	11/21/21 23:28	
EPA 6010	Boron	4000	ug/L	100	11/21/21 23:28	
EPA 6010	Calcium	376000	ug/L	5000	11/22/21 00:24	
EPA 6010	Magnesium	43800	ug/L	1000	11/21/21 23:28	
EPA 6010	Manganese	329	ug/L	10.0	11/21/21 23:28	
EPA 6010	Potassium	5360	ug/L	1000	11/21/21 23:28	
EPA 6010	Silica	14800	ug/L	450	11/21/21 23:28	N2
EPA 6010	Sodium	27100	ug/L	1000	11/21/21 23:28	
EPA 6010	Manganese, Dissolved	328	ug/L	10.0	11/18/21 13:30	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302232002	**AP-3**					
EPA 6020	Selenium	2.2	ug/L	1.0	11/17/21 07:34	
EPA 903.1	Radium-226	0.251 ± 0.287 (0.170) C:NA T:89%	pCi/L		12/20/21 14:15	
EPA 904.0	Radium-228	0.622 ± 0.471 (0.930) C:67% T:85%	pCi/L		12/17/21 11:26	
Total Radium Calculation	Total Radium	0.873 ± 0.758 (1.10)	pCi/L		12/23/21 17:09	
SM 2320B	Alkalinity, Total as CaCO3	370	mg/L	2.0	11/11/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	370	mg/L	2.0	11/11/21 16:22	
SM 2540C	Total Dissolved Solids	1500	mg/L	20.0	11/10/21 09:17	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/12/21 12:43	H3
EPA 353.2	Nitrogen, Nitrate	3.7	mg/L	0.10	11/08/21 17:38	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	11/19/21 20:32	
50302232003	**AP-3A**					
EPA 9056	Chloride	156	mg/L	25.0	11/11/21 03:09	
EPA 9056	Sulfate	1740	mg/L	25.0	11/11/21 03:09	
EPA 6010	Barium	34.5	ug/L	10.0	11/22/21 00:55	
EPA 6010	Boron	27800	ug/L	100	11/22/21 00:55	
EPA 6010	Calcium	722000	ug/L	5000	11/22/21 00:18	
EPA 6010	Iron	6740	ug/L	100	11/22/21 00:55	
EPA 6010	Magnesium	16300	ug/L	1000	11/22/21 00:55	
EPA 6010	Manganese	2420	ug/L	10.0	11/22/21 00:55	
EPA 6010	Molybdenum	536	ug/L	10.0	11/22/21 00:55	
EPA 6010	Potassium	15800	ug/L	1000	11/22/21 00:55	
EPA 6010	Silica	11800	ug/L	450	11/22/21 00:55	N2
EPA 6010	Sodium	49200	ug/L	1000	11/22/21 00:55	
EPA 6010	Manganese, Dissolved	2500	ug/L	10.0	11/18/21 13:32	
EPA 6010	Molybdenum, Dissolved	548	ug/L	10.0	11/18/21 13:32	
EPA 6020	Arsenic	1.8	ug/L	1.0	11/17/21 07:43	
EPA 903.1	Radium-226	0.527 ± 0.371 (0.179) C:NA T:88%	pCi/L		12/20/21 14:15	
EPA 904.0	Radium-228	1.10 ± 0.461 (0.711) C:67% T:88%	pCi/L		12/17/21 11:26	
Total Radium Calculation	Total Radium	1.63 ± 0.832 (0.890)	pCi/L		12/23/21 17:09	
SM 2320B	Alkalinity, Total as CaCO3	52.4	mg/L	2.0	11/11/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	52.4	mg/L	2.0	11/11/21 16:22	
SM 2540C	Total Dissolved Solids	2890	mg/L	40.0	11/10/21 09:17	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302232003	**AP-3A**					
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 12:44	H3
HACH 8146	Iron, Ferrous	1.6	mg/L	0.20	11/15/21 11:42	H3,N2
EPA 365.1	Phosphate as P04	0.16	mg/L	0.15	11/20/21 11:21	
SM 5310C	Total Organic Carbon	2.7	mg/L	1.0	11/17/21 05:58	
SM 5310C	Dissolved Organic Carbon	2.9	mg/L	1.0	11/19/21 20:44	
50302232004	**AP-4A**					
EPA 9056	Chloride	125	mg/L	25.0	11/11/21 03:47	
EPA 9056	Sulfate	1790	mg/L	25.0	11/11/21 03:47	
EPA 6010	Barium	30.9	ug/L	10.0	11/22/21 00:57	
EPA 6010	Boron	21600	ug/L	100	11/22/21 00:57	
EPA 6010	Calcium	618000	ug/L	5000	11/22/21 00:20	
EPA 6010	Iron	9260	ug/L	100	11/22/21 00:57	
EPA 6010	Lithium	51.3	ug/L	20.0	11/22/21 00:57	
EPA 6010	Magnesium	88400	ug/L	1000	11/22/21 00:57	
EPA 6010	Manganese	2680	ug/L	10.0	11/22/21 00:57	
EPA 6010	Molybdenum	214	ug/L	10.0	11/22/21 00:57	
EPA 6010	Potassium	17000	ug/L	1000	11/22/21 00:57	
EPA 6010	Silica	11800	ug/L	450	11/22/21 00:57	N2
EPA 6010	Sodium	53900	ug/L	1000	11/22/21 00:57	
EPA 6010	Manganese, Dissolved	2730	ug/L	10.0	11/18/21 13:34	
EPA 6010	Molybdenum, Dissolved	221	ug/L	10.0	11/18/21 13:34	
EPA 903.1	Radium-226	0.389 ± 0.478 (0.779) C:NA T:89%	pCi/L		12/20/21 14:32	
EPA 904.0	Radium-228	1.32 ± 0.511 (0.760) C:66% T:88%	pCi/L		12/17/21 11:26	
Total Radium Calculation	Total Radium	1.71 ± 0.989 (1.54)	pCi/L		12/23/21 17:09	
SM 2320B	Alkalinity, Total as CaCO3	143	mg/L	2.0	11/11/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	143	mg/L	2.0	11/11/21 16:22	
SM 2540C	Total Dissolved Solids	2900	mg/L	40.0	11/10/21 09:18	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 12:45	H3
HACH 8146	Iron, Ferrous	1.6	mg/L	0.20	11/15/21 11:43	H3,N2
EPA 365.1	Phosphate as P04	0.30	mg/L	0.15	11/20/21 11:22	
SM 5310C	Total Organic Carbon	2.1	mg/L	1.0	11/17/21 06:09	
SM 5310C	Dissolved Organic Carbon	2.8	mg/L	1.0	11/19/21 20:55	
50302232005	**AP-4I**					
EPA 9056	Chloride	106	mg/L	25.0	11/11/21 04:26	
EPA 9056	Fluoride	0.17	mg/L	0.10	11/11/21 04:06	
EPA 9056	Sulfate	1670	mg/L	25.0	11/11/21 04:26	
EPA 6010	Barium	29.1	ug/L	10.0	11/21/21 23:44	
EPA 6010	Boron	13900	ug/L	100	11/21/21 23:44	
EPA 6010	Calcium	582000	ug/L	5000	11/22/21 00:43	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302232005	**AP-4I**					
EPA 6010	Iron	2140	ug/L	100	11/21/21 23:44	
EPA 6010	Magnesium	23400	ug/L	1000	11/21/21 23:44	
EPA 6010	Manganese	4030	ug/L	10.0	11/21/21 23:44	
EPA 6010	Molybdenum	121	ug/L	10.0	11/21/21 23:44	
EPA 6010	Potassium	10000	ug/L	1000	11/21/21 23:44	
EPA 6010	Silica	9900	ug/L	450	11/21/21 23:44	N2
EPA 6010	Sodium	40400	ug/L	1000	11/21/21 23:44	
EPA 6010	Manganese, Dissolved	4250	ug/L	10.0	11/18/21 13:36	
EPA 6010	Molybdenum, Dissolved	141	ug/L	10.0	11/18/21 13:36	
EPA 6020	Cobalt	2.4	ug/L	1.0	11/17/21 08:03	
EPA 903.1	Radium-226	0.528 ± 0.488 (0.710) C:NA T:92%	pCi/L		12/20/21 14:32	
EPA 904.0	Radium-228	1.16 ± 0.573 (1.00) C:62% T:87%	pCi/L		12/17/21 11:26	
Total Radium Calculation	Total Radium	1.69 ± 1.06 (1.71)	pCi/L		12/23/21 17:09	
SM 2320B	Alkalinity, Total as CaCO3	99.7	mg/L	2.0	11/11/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	99.7	mg/L	2.0	11/11/21 16:22	
SM 2540C	Total Dissolved Solids	2560	mg/L	40.0	11/10/21 09:18	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 12:49	H3
SM 5310C	Total Organic Carbon	1.7	mg/L	1.0	11/17/21 06:20	
SM 5310C	Dissolved Organic Carbon	1.9	mg/L	1.0	11/19/21 21:06	
50302232006	**AP-4B**					
EPA 9056	Chloride	16.5	mg/L	2.5	11/11/21 12:33	
EPA 9056	Sulfate	217	mg/L	2.5	11/11/21 12:33	
EPA 6010	Barium	108	ug/L	10.0	11/21/21 23:30	
EPA 6010	Boron	910	ug/L	100	11/21/21 23:30	
EPA 6010	Calcium	236000	ug/L	2000	11/22/21 00:30	
EPA 6010	Magnesium	42700	ug/L	1000	11/21/21 23:30	
EPA 6010	Potassium	1050	ug/L	1000	11/21/21 23:30	
EPA 6010	Silica	13500	ug/L	450	11/21/21 23:30	N2
EPA 6010	Sodium	9560	ug/L	1000	11/21/21 23:30	
EPA 6020	Selenium	9.2	ug/L	1.0	11/17/21 08:07	
EPA 903.1	Radium-226	0.214 ± 0.326 (0.193) C:NA T:91%	pCi/L		12/20/21 14:32	
EPA 904.0	Radium-228	0.338 ± 0.412 (0.871) C:63% T:84%	pCi/L		12/17/21 11:26	
Total Radium Calculation	Total Radium	0.552 ± 0.738 (1.06)	pCi/L		12/23/21 17:09	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302232006	**AP-4B**					
SM 2320B	Alkalinity, Total as CaCO3	451	mg/L	2.0	11/11/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	451	mg/L	2.0	11/11/21 16:22	
SM 2540C	Total Dissolved Solids	856	mg/L	20.0	11/10/21 09:18	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 12:51	H3
EPA 353.2	Nitrogen, Nitrate	21.1	mg/L	0.50	11/11/21 11:54	H7
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	11/18/21 21:01	
SM 5310C	Dissolved Organic Carbon	2.2	mg/L	1.0	11/19/21 21:16	
50302232007	**AP-5**					
EPA 9056	Chloride	34.5	mg/L	2.5	11/11/21 12:48	
EPA 9056	Fluoride	0.13	mg/L	0.10	11/11/21 06:21	
EPA 9056	Sulfate	826	mg/L	25.0	11/11/21 07:00	
EPA 6010	Barium	35.0	ug/L	10.0	11/21/21 23:32	
EPA 6010	Boron	5210	ug/L	100	11/21/21 23:32	
EPA 6010	Calcium	390000	ug/L	5000	11/22/21 00:35	
EPA 6010	Iron	282	ug/L	100	11/21/21 23:32	
EPA 6010	Magnesium	37300	ug/L	1000	11/21/21 23:32	
EPA 6010	Manganese	2350	ug/L	10.0	11/21/21 23:32	
EPA 6010	Molybdenum	104	ug/L	10.0	11/21/21 23:32	
EPA 6010	Potassium	12200	ug/L	1000	11/21/21 23:32	
EPA 6010	Silica	13200	ug/L	450	11/21/21 23:32	N2
EPA 6010	Sodium	22700	ug/L	1000	11/21/21 23:32	
EPA 6010	Manganese, Dissolved	1530	ug/L	10.0	11/18/21 13:41	
EPA 6010	Molybdenum, Dissolved	97.7	ug/L	10.0	11/18/21 13:41	
EPA 6020	Cobalt	1.6	ug/L	1.0	11/17/21 08:17	
EPA 6020	Selenium	1.2	ug/L	1.0	11/17/21 08:17	
EPA 903.1	Radium-226	0.518 ± 0.512 (0.778) C:NA T:92%	pCi/L		12/20/21 14:32	
EPA 904.0	Radium-228	1.66 ± 0.612 (0.873) C:63% T:82%	pCi/L		12/17/21 11:26	
Total Radium Calculation	Total Radium	2.18 ± 1.12 (1.65)	pCi/L		12/23/21 17:09	
SM 2320B	Alkalinity, Total as CaCO3	277	mg/L	2.0	11/11/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	277	mg/L	2.0	11/11/21 16:22	
SM 2540C	Total Dissolved Solids	1570	mg/L	20.0	11/10/21 09:18	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/12/21 12:53	H3
EPA 353.2	Nitrogen, Nitrate	2.5	mg/L	0.10	11/08/21 17:49	
50302232008	**AP-5A**					
EPA 9056	Chloride	46.4	mg/L	2.5	11/11/21 14:17	
EPA 9056	Sulfate	1660	mg/L	25.0	11/11/21 07:58	
EPA 6010	Aluminum	328	ug/L	200	11/21/21 23:42	
EPA 6010	Barium	31.1	ug/L	10.0	11/21/21 23:42	
EPA 6010	Boron	12500	ug/L	100	11/21/21 23:42	
EPA 6010	Calcium	632000	ug/L	5000	11/22/21 00:41	

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(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302232008	**AP-5A**					
EPA 6010	Iron	11800	ug/L	100	11/21/21 23:42	
EPA 6010	Magnesium	27800	ug/L	1000	11/21/21 23:42	
EPA 6010	Manganese	1980	ug/L	10.0	11/21/21 23:42	
EPA 6010	Molybdenum	244	ug/L	10.0	11/21/21 23:42	
EPA 6010	Potassium	4570	ug/L	1000	11/21/21 23:42	
EPA 6010	Silica	14200	ug/L	450	11/21/21 23:42	N2
EPA 6010	Sodium	56700	ug/L	1000	11/21/21 23:42	
EPA 6010	Manganese, Dissolved	1980	ug/L	10.0	11/18/21 13:48	
EPA 6010	Molybdenum, Dissolved	250	ug/L	10.0	11/18/21 13:48	
EPA 6020	Cobalt	1.1	ug/L	1.0	11/17/21 08:22	
EPA 903.1	Radium-226	0.118 ± 0.490 (0.934) C:NA T:93%	pCi/L		12/20/21 14:32	
EPA 904.0	Radium-228	0.882 ± 0.468 (0.816) C:60% T:90%	pCi/L		12/17/21 11:27	
Total Radium Calculation	Total Radium	1.000 ± 0.958 (1.75)	pCi/L		12/23/21 17:09	
SM 2320B	Alkalinity, Total as CaCO3	107	mg/L	2.0	11/11/21 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	107	mg/L	2.0	11/11/21 17:16	
SM 2540C	Total Dissolved Solids	2560	mg/L	40.0	11/10/21 09:19	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 12:54	H3
HACH 8146	Iron, Ferrous	0.90	mg/L	0.20	11/15/21 11:44	H3,N2
EPA 365.1	Phosphate as P04	0.21	mg/L	0.15	11/20/21 11:26	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	11/18/21 21:52	
SM 5310C	Dissolved Organic Carbon	2.6	mg/L	1.0	11/19/21 21:36	
50302232009	**AP-6A**					
EPA 9056	Chloride	31.1	mg/L	2.5	11/11/21 13:27	
EPA 9056	Sulfate	1030	mg/L	25.0	11/11/21 09:34	
EPA 6010	Barium	25.8	ug/L	10.0	11/21/21 23:34	
EPA 6010	Boron	7320	ug/L	100	11/21/21 23:34	
EPA 6010	Calcium	403000	ug/L	5000	11/22/21 00:37	
EPA 6010	Iron	12400	ug/L	100	11/21/21 23:34	
EPA 6010	Magnesium	88800	ug/L	1000	11/21/21 23:34	
EPA 6010	Manganese	1160	ug/L	10.0	11/21/21 23:34	
EPA 6010	Potassium	2770	ug/L	1000	11/21/21 23:34	
EPA 6010	Silica	12600	ug/L	450	11/21/21 23:34	N2
EPA 6010	Sodium	19400	ug/L	1000	11/21/21 23:34	
EPA 6010	Manganese, Dissolved	1150	ug/L	10.0	11/18/21 13:50	
EPA 903.1	Radium-226	0.144 ± 0.447 (0.865) C:NA T:93%	pCi/L		12/20/21 14:32	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302232009	**AP-6A**					
EPA 904.0	Radium-228	0.747 ± 0.478 (0.907) C:63% T:93%	pCi/L		12/17/21 11:27	
Total Radium Calculation	Total Radium	0.891 ± 0.925 (1.77)	pCi/L		12/23/21 17:09	
SM 2320B	Alkalinity, Total as CaCO3	310	mg/L	2.0	11/11/21 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	310	mg/L	2.0	11/11/21 17:16	
SM 2540C	Total Dissolved Solids	1910	mg/L	20.0	11/10/21 09:19	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 12:55	H3
HACH 8146	Iron, Ferrous	0.40	mg/L	0.20	11/15/21 11:45	H3,N2
EPA 365.1	Phosphate as P04	0.44	mg/L	0.15	11/20/21 11:26	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	11/18/21 22:11	
SM 5310C	Dissolved Organic Carbon	2.3	mg/L	1.0	11/19/21 21:47	
50302232010	**AP-6B**					
EPA 9056	Chloride	19.0	mg/L	2.5	11/11/21 13:43	
EPA 9056	Sulfate	606	mg/L	25.0	11/11/21 13:59	
EPA 6010	Barium	29.8	ug/L	10.0	11/21/21 23:55	
EPA 6010	Boron	1840	ug/L	100	11/21/21 23:55	
EPA 6010	Calcium	256000	ug/L	2000	11/22/21 00:49	
EPA 6010	Iron	110	ug/L	100	11/21/21 23:55	
EPA 6010	Magnesium	44900	ug/L	1000	11/21/21 23:55	
EPA 6010	Silica	11700	ug/L	450	11/21/21 23:55	N2
EPA 6010	Sodium	17800	ug/L	1000	11/21/21 23:55	
EPA 6010	Manganese, Dissolved	13.1	ug/L	10.0	11/18/21 13:52	
EPA 6020	Selenium	1.3	ug/L	1.0	11/17/21 08:41	
EPA 903.1	Radium-226	0.000 ± 0.272 (0.439) C:NA T:90%	pCi/L		12/20/21 14:32	
EPA 904.0	Radium-228	-0.0358 ± 0.476 (1.10) C:64% T:89%	pCi/L		12/17/21 11:15	
Total Radium Calculation	Total Radium	0.000 ± 0.748 (1.54)	pCi/L		12/23/21 17:09	
SM 2320B	Alkalinity, Total as CaCO3	203	mg/L	2.0	11/11/21 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	203	mg/L	2.0	11/11/21 17:16	
SM 2540C	Total Dissolved Solids	1130	mg/L	20.0	11/10/21 09:19	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/12/21 12:56	H3
EPA 353.2	Nitrogen, Nitrate	1.3	mg/L	0.10	11/08/21 17:58	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-2BO **Lab ID: 50302232001** Collected: 11/07/21 08:00 Received: 11/08/21 10:30 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	**95.9**	mg/L	25.0	100		11/11/21 01:52	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 01:32	16984-48-8	
Sulfate	**1470**	mg/L	25.0	100		11/11/21 01:52	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/21/21 23:40	7429-90-5	
Barium	**26.0**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:40	7440-39-3	
Boron	**16600**	ug/L	100	1	11/16/21 14:15	11/21/21 23:40	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:40	7440-43-9	
Calcium	**580000**	ug/L	5000	5	11/16/21 14:15	11/22/21 00:39	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:40	7440-47-3	
Iron	**316**	ug/L	100	1	11/16/21 14:15	11/21/21 23:40	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:40	7439-92-1	
Lithium	**25.8**	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:40	7439-93-2	
Magnesium	**32600**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:40	7439-95-4	
Manganese	**2480**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:40	7439-96-5	
Molybdenum	**158**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:40	7439-98-7	
Potassium	**13700**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:40	7440-09-7	
Silica	**11900**	ug/L	450	1	11/16/21 14:15	11/21/21 23:40	7631-86-9	N2
Sodium	**36200**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:40	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2750**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:28	7439-96-5	
Molybdenum, Dissolved	**151**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:28	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	11/10/21 08:38	11/17/21 07:29	7440-36-0	
Arsenic	**2.5**	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:29	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/17/21 07:29	7440-41-7	
Cobalt	**3.4**	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:29	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:29	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:29	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**165**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**165**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2450**	mg/L	40.0	1		11/10/21 09:17		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-2BO **Lab ID: 50302232001** Collected: 11/07/21 08:00 Received: 11/08/21 10:30 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		11/12/21 12:41		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:42		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.66**	mg/L	0.10	1		11/08/21 17:36	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/08/21 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	**0.20**	mg/L	0.15	1	11/14/21 05:00	11/17/21 16:13		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**3.5**	mg/L	1.0	1		11/17/21 05:21	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.5**	mg/L	1.0	1		11/19/21 20:22		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-3 **Lab ID: 50302232002** Collected: 11/07/21 08:50 Received: 11/08/21 10:30 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	**31.5**	mg/L	25.0	100		11/11/21 02:30	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 02:11	16984-48-8	
Sulfate	**728**	mg/L	25.0	100		11/11/21 02:30	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/21/21 23:28	7429-90-5	
Barium	**38.2**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:28	7440-39-3	
Boron	**4000**	ug/L	100	1	11/16/21 14:15	11/21/21 23:28	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:28	7440-43-9	
Calcium	**376000**	ug/L	5000	5	11/16/21 14:15	11/22/21 00:24	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:28	7440-47-3	
Iron	ND	ug/L	100	1	11/16/21 14:15	11/21/21 23:28	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:28	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:28	7439-93-2	
Magnesium	**43800**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:28	7439-95-4	
Manganese	**329**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:28	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:28	7439-98-7	
Potassium	**5360**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:28	7440-09-7	
Silica	**14800**	ug/L	450	1	11/16/21 14:15	11/21/21 23:28	7631-86-9	N2
Sodium	**27100**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:28	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**328**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:30	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:30	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	11/10/21 08:38	11/17/21 07:34	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:34	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/17/21 07:34	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:34	7440-48-4	
Selenium	**2.2**	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:34	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:34	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**370**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**370**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1500**	mg/L	20.0	1		11/10/21 09:17		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-3 **Lab ID: 50302232002** Collected: 11/07/21 08:50 Received: 11/08/21 10:30 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		11/12/21 12:43		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:42		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**3.7**	mg/L	0.10	1		11/08/21 17:38	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/08/21 17:38	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	11/19/21 09:30	11/20/21 11:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/17/21 05:31	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		11/19/21 20:32		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-3A **Lab ID: 50302232003** Collected: 11/07/21 09:25 Received: 11/08/21 10:30 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	**156**	mg/L	25.0	100		11/11/21 03:09	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 02:49	16984-48-8	
Sulfate	**1740**	mg/L	25.0	100		11/11/21 03:09	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/22/21 00:55	7429-90-5	
Barium	**34.5**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:55	7440-39-3	
Boron	**27800**	ug/L	100	1	11/16/21 14:15	11/22/21 00:55	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/22/21 00:55	7440-43-9	
Calcium	**722000**	ug/L	5000	5	11/16/21 14:15	11/22/21 00:18	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:55	7440-47-3	
Iron	**6740**	ug/L	100	1	11/16/21 14:15	11/22/21 00:55	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:55	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/22/21 00:55	7439-93-2	
Magnesium	**16300**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:55	7439-95-4	
Manganese	**2420**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:55	7439-96-5	
Molybdenum	**536**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:55	7439-98-7	
Potassium	**15800**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:55	7440-09-7	
Silica	**11800**	ug/L	450	1	11/16/21 14:15	11/22/21 00:55	7631-86-9	N2
Sodium	**49200**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:55	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2500**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:32	7439-96-5	
Molybdenum, Dissolved	**548**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:32	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:43	7440-36-0	
Arsenic	**1.8**	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:43	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/17/21 07:43	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:43	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:43	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:43	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**52.4**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**52.4**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2890**	mg/L	40.0	1		11/10/21 09:17		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-3A **Lab ID: 50302232003** Collected: 11/07/21 09:25 Received: 11/08/21 10:30 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		11/12/21 12:44		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.6**	mg/L	0.20	1		11/15/21 11:42		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		11/08/21 17:40	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/08/21 17:40	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.16**	mg/L	0.15	1	11/19/21 09:30	11/20/21 11:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/17/21 05:58	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.9**	mg/L	1.0	1		11/19/21 20:44		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-4A **Lab ID: 50302232004** Collected: 11/07/21 10:15 Received: 11/08/21 10:30 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	**125**	mg/L	25.0	100		11/11/21 03:47	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 03:28	16984-48-8	
Sulfate	**1790**	mg/L	25.0	100		11/11/21 03:47	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/22/21 00:57	7429-90-5	
Barium	**30.9**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:57	7440-39-3	
Boron	**21600**	ug/L	100	1	11/16/21 14:15	11/22/21 00:57	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/22/21 00:57	7440-43-9	
Calcium	**618000**	ug/L	5000	5	11/16/21 14:15	11/22/21 00:20	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:57	7440-47-3	
Iron	**9260**	ug/L	100	1	11/16/21 14:15	11/22/21 00:57	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:57	7439-92-1	
Lithium	**51.3**	ug/L	20.0	1	11/16/21 14:15	11/22/21 00:57	7439-93-2	
Magnesium	**88400**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:57	7439-95-4	
Manganese	**2680**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:57	7439-96-5	
Molybdenum	**214**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:57	7439-98-7	
Potassium	**17000**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:57	7440-09-7	
Silica	**11800**	ug/L	450	1	11/16/21 14:15	11/22/21 00:57	7631-86-9	N2
Sodium	**53900**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:57	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2730**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:34	7439-96-5	
Molybdenum, Dissolved	**221**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:34	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	11/10/21 08:38	11/17/21 07:48	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:48	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/17/21 07:48	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:48	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:48	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 07:48	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**143**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**143**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2900**	mg/L	40.0	1		11/10/21 09:18		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-4A **Lab ID: 50302232004** Collected: 11/07/21 10:15 Received: 11/08/21 10:30 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		11/12/21 12:45		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.6**	mg/L	0.20	1		11/15/21 11:43		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		11/08/21 17:42	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/08/21 17:42	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.30**	mg/L	0.15	1	11/19/21 09:30	11/20/21 11:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.1**	mg/L	1.0	1		11/17/21 06:09	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.8**	mg/L	1.0	1		11/19/21 20:55		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-4I **Lab ID: 50302232005** Collected: 11/07/21 11:00 Received: 11/08/21 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**106**	mg/L	25.0	100		11/11/21 04:26	16887-00-6	
Fluoride	**0.17**	mg/L	0.10	1		11/11/21 04:06	16984-48-8	
Sulfate	**1670**	mg/L	25.0	100		11/11/21 04:26	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/21/21 23:44	7429-90-5	
Barium	**29.1**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:44	7440-39-3	
Boron	**13900**	ug/L	100	1	11/16/21 14:15	11/21/21 23:44	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:44	7440-43-9	
Calcium	**582000**	ug/L	5000	5	11/16/21 14:15	11/22/21 00:43	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:44	7440-47-3	
Iron	**2140**	ug/L	100	1	11/16/21 14:15	11/21/21 23:44	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:44	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:44	7439-93-2	
Magnesium	**23400**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:44	7439-95-4	
Manganese	**4030**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:44	7439-96-5	
Molybdenum	**121**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:44	7439-98-7	
Potassium	**10000**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:44	7440-09-7	
Silica	**9900**	ug/L	450	1	11/16/21 14:15	11/21/21 23:44	7631-86-9	N2
Sodium	**40400**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:44	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**4250**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:36	7439-96-5	
Molybdenum, Dissolved	**141**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:36	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	11/10/21 08:38	11/17/21 08:03	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:03	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/18/21 06:55	7440-41-7	
Cobalt	**2.4**	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:03	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:03	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:03	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**99.7**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**99.7**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2560**	mg/L	40.0	1		11/10/21 09:18		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-4I **Lab ID: 50302232005** Collected: 11/07/21 11:00 Received: 11/08/21 10:30 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		11/12/21 12:49		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:43		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		11/08/21 17:44	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/08/21 17:44	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	11/19/21 09:30	11/20/21 11:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.7**	mg/L	1.0	1		11/17/21 06:20	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.9**	mg/L	1.0	1		11/19/21 21:06		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-4B **Lab ID: 50302232006** Collected: 11/07/21 11:35 Received: 11/08/21 10:30 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	**16.5**	mg/L	2.5	10		11/11/21 12:33	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 05:24	16984-48-8	
Sulfate	**217**	mg/L	2.5	10		11/11/21 12:33	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/21/21 23:30	7429-90-5	
Barium	**108**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:30	7440-39-3	
Boron	**910**	ug/L	100	1	11/16/21 14:15	11/21/21 23:30	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:30	7440-43-9	
Calcium	**236000**	ug/L	2000	2	11/16/21 14:15	11/22/21 00:30	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:30	7440-47-3	
Iron	ND	ug/L	100	1	11/16/21 14:15	11/21/21 23:30	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:30	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:30	7439-93-2	
Magnesium	**42700**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:30	7439-95-4	
Manganese	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:30	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:30	7439-98-7	
Potassium	**1050**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:30	7440-09-7	
Silica	**13500**	ug/L	450	1	11/16/21 14:15	11/21/21 23:30	7631-86-9	N2
Sodium	**9560**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:30	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	11/16/21 06:55	11/18/21 13:39	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:39	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:07	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:07	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/18/21 07:04	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:07	7440-48-4	
Selenium	**9.2**	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:07	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:07	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**451**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**451**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**856**	mg/L	20.0	1		11/10/21 09:18		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-4B **Lab ID: 50302232006** Collected: 11/07/21 11:35 Received: 11/08/21 10:30 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		11/12/21 12:51		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:44		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**21.1**	mg/L	0.50	5		11/11/21 11:54	14797-55-8	H7
Nitrogen, Nitrite	ND	mg/L	0.50	5		11/11/21 11:54	14797-65-0	H7
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	11/19/21 09:30	11/20/21 11:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.3**	mg/L	1.0	1		11/18/21 21:01	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		11/19/21 21:16		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-5 **Lab ID: 50302232007** Collected: 11/07/21 13:50 Received: 11/08/21 10:30 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	**34.5**	mg/L	2.5	10		11/11/21 12:48	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		11/11/21 06:21	16984-48-8	
Sulfate	**826**	mg/L	25.0	100		11/11/21 07:00	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/21/21 23:32	7429-90-5	
Barium	**35.0**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:32	7440-39-3	
Boron	**5210**	ug/L	100	1	11/16/21 14:15	11/21/21 23:32	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:32	7440-43-9	
Calcium	**390000**	ug/L	5000	5	11/16/21 14:15	11/22/21 00:35	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:32	7440-47-3	
Iron	**282**	ug/L	100	1	11/16/21 14:15	11/21/21 23:32	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:32	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:32	7439-93-2	
Magnesium	**37300**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:32	7439-95-4	
Manganese	**2350**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:32	7439-96-5	
Molybdenum	**104**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:32	7439-98-7	
Potassium	**12200**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:32	7440-09-7	
Silica	**13200**	ug/L	450	1	11/16/21 14:15	11/21/21 23:32	7631-86-9	N2
Sodium	**22700**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:32	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1530**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:41	7439-96-5	
Molybdenum, Dissolved	**97.7**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:41	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	11/10/21 08:38	11/17/21 08:17	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:17	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/18/21 13:28	7440-41-7	
Cobalt	**1.6**	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:17	7440-48-4	
Selenium	**1.2**	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:17	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:17	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**277**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**277**	mg/L	2.0	1		11/11/21 16:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 16:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1570**	mg/L	20.0	1		11/10/21 09:18		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-5 **Lab ID: 50302232007** Collected: 11/07/21 13:50 Received: 11/08/21 10:30 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		11/12/21 12:53		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 11:44		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**2.5**	mg/L	0.10	1		11/08/21 17:49	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/08/21 17:49	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	11/19/21 09:30	11/20/21 11:25		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/18/21 21:27	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/19/21 21:26		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-5A **Lab ID: 50302232008** Collected: 11/07/21 14:30 Received: 11/08/21 10:30 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	**46.4**	mg/L	2.5	10		11/11/21 14:17	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 07:19	16984-48-8	
Sulfate	**1660**	mg/L	25.0	100		11/11/21 07:58	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**328**	ug/L	200	1	11/16/21 14:15	11/21/21 23:42	7429-90-5	
Barium	**31.1**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:42	7440-39-3	
Boron	**12500**	ug/L	100	1	11/16/21 14:15	11/21/21 23:42	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:42	7440-43-9	
Calcium	**632000**	ug/L	5000	5	11/16/21 14:15	11/22/21 00:41	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:42	7440-47-3	
Iron	**11800**	ug/L	100	1	11/16/21 14:15	11/21/21 23:42	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:42	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:42	7439-93-2	
Magnesium	**27800**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:42	7439-95-4	
Manganese	**1980**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:42	7439-96-5	
Molybdenum	**244**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:42	7439-98-7	
Potassium	**4570**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:42	7440-09-7	
Silica	**14200**	ug/L	450	1	11/16/21 14:15	11/21/21 23:42	7631-86-9	N2
Sodium	**56700**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:42	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1980**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:48	7439-96-5	
Molybdenum, Dissolved	**250**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:48	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:22	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:22	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/18/21 13:38	7440-41-7	
Cobalt	**1.1**	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:22	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:22	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:22	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**107**	mg/L	2.0	1		11/11/21 17:16		
Alkalinity,Bicarbonate (CaCO3)	**107**	mg/L	2.0	1		11/11/21 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2560**	mg/L	40.0	1		11/10/21 09:19		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-5A **Lab ID: 50302232008** Collected: 11/07/21 14:30 Received: 11/08/21 10:30 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		11/12/21 12:54		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.90**	mg/L	0.20	1		11/15/21 11:44		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		11/08/21 17:51	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/08/21 17:51	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	11/19/21 09:30	11/20/21 11:26		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.5**	mg/L	1.0	1		11/18/21 21:52	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.6**	mg/L	1.0	1		11/19/21 21:36		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-6A **Lab ID: 50302232009** Collected: 11/07/21 15:15 Received: 11/08/21 10:30 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	**31.1**	mg/L	2.5	10		11/11/21 13:27	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 08:56	16984-48-8	
Sulfate	**1030**	mg/L	25.0	100		11/11/21 09:34	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/21/21 23:34	7429-90-5	
Barium	**25.8**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:34	7440-39-3	
Boron	**7320**	ug/L	100	1	11/16/21 14:15	11/21/21 23:34	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:34	7440-43-9	
Calcium	**403000**	ug/L	5000	5	11/16/21 14:15	11/22/21 00:37	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:34	7440-47-3	
Iron	**12400**	ug/L	100	1	11/16/21 14:15	11/21/21 23:34	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:34	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:34	7439-93-2	
Magnesium	**88800**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:34	7439-95-4	
Manganese	**1160**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:34	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:34	7439-98-7	
Potassium	**2770**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:34	7440-09-7	
Silica	**12600**	ug/L	450	1	11/16/21 14:15	11/21/21 23:34	7631-86-9	N2
Sodium	**19400**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:34	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1150**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:50	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:50	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	11/10/21 08:38	11/17/21 08:36	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:36	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/18/21 13:47	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:36	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:36	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:36	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**310**	mg/L	2.0	1		11/11/21 17:16		
Alkalinity,Bicarbonate (CaCO3)	**310**	mg/L	2.0	1		11/11/21 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1910**	mg/L	20.0	1		11/10/21 09:19		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-6A **Lab ID: 50302232009** Collected: 11/07/21 15:15 Received: 11/08/21 10:30 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		11/12/21 12:55		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.40**	mg/L	0.20	1		11/15/21 11:45		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		11/08/21 17:53	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/08/21 17:53	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.44**	mg/L	0.15	1	11/19/21 09:30	11/20/21 11:26		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.3**	mg/L	1.0	1		11/18/21 22:11	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		11/19/21 21:47		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-6B **Lab ID: 50302232010** Collected: 11/07/21 16:15 Received: 11/08/21 10:30 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	**19.0**	mg/L	2.5	10		11/11/21 13:43	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/11/21 09:54	16984-48-8	
Sulfate	**606**	mg/L	25.0	100		11/11/21 13:59	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/21/21 23:55	7429-90-5	
Barium	**29.8**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:55	7440-39-3	
Boron	**1840**	ug/L	100	1	11/16/21 14:15	11/21/21 23:55	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:55	7440-43-9	
Calcium	**256000**	ug/L	2000	2	11/16/21 14:15	11/22/21 00:49	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:55	7440-47-3	
Iron	**110**	ug/L	100	1	11/16/21 14:15	11/21/21 23:55	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:55	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:55	7439-93-2	
Magnesium	**44900**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:55	7439-95-4	
Manganese	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:55	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:55	7439-98-7	
Potassium	ND	ug/L	1000	1	11/16/21 14:15	11/21/21 23:55	7440-09-7	
Silica	**11700**	ug/L	450	1	11/16/21 14:15	11/21/21 23:55	7631-86-9	N2
Sodium	**17800**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:55	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**13.1**	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:52	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/16/21 06:55	11/18/21 13:52	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:41	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:41	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 08:38	11/18/21 14:06	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:41	7440-48-4	
Selenium	**1.3**	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:41	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 08:38	11/17/21 08:41	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**203**	mg/L	2.0	1		11/11/21 17:16		
Alkalinity,Bicarbonate (CaCO3)	**203**	mg/L	2.0	1		11/11/21 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/11/21 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1130**	mg/L	20.0	1		11/10/21 09:19		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-6B **Lab ID: 50302232010** Collected: 11/07/21 16:15 Received: 11/08/21 10:30 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		11/12/21 12:56		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 10:30	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:44		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**1.3**	mg/L	0.10	1		11/08/21 17:58	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/08/21 17:58	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/19/21 09:30	11/20/21 11:27		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/18/21 22:30	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/19/21 21:58		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649560
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 2993087 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/10/21 14:09	
Fluoride	mg/L	ND	0.10	11/10/21 14:09	
Sulfate	mg/L	ND	0.25	11/10/21 14:09	

LABORATORY CONTROL SAMPLE: 2993088

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	88	80-120	
Fluoride	mg/L	0.5	0.43	85	80-120	
Sulfate	mg/L	2.5	2.3	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993089 2993090

Parameter	Units	50302156001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	15.2	12.5	12.5	26.2	26.2	88	88	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.52	0.53	86	87	80-120	1	15	
Sulfate	mg/L	246	250	250	467	468	89	89	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649727
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 2994108 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/21/21 23:26	
Barium	ug/L	ND	10.0	11/21/21 23:26	
Boron	ug/L	ND	100	11/21/21 23:26	
Cadmium	ug/L	ND	2.0	11/21/21 23:26	
Calcium	ug/L	ND	1000	11/21/21 23:26	
Chromium	ug/L	ND	10.0	11/21/21 23:26	
Iron	ug/L	ND	100	11/21/21 23:26	
Lead	ug/L	ND	10.0	11/21/21 23:26	
Lithium	ug/L	ND	20.0	11/21/21 23:26	
Magnesium	ug/L	ND	1000	11/21/21 23:26	
Manganese	ug/L	ND	10.0	11/21/21 23:26	
Molybdenum	ug/L	ND	10.0	11/21/21 23:26	
Potassium	ug/L	ND	1000	11/21/21 23:26	
Silica	ug/L	ND	450	11/21/21 23:26	N2
Sodium	ug/L	ND	1000	11/21/21 23:26	

LABORATORY CONTROL SAMPLE: 2994109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4670	93	80-120	
Barium	ug/L	1000	923	92	80-120	
Boron	ug/L	1000	929	93	80-120	
Cadmium	ug/L	1000	914	91	80-120	
Calcium	ug/L	5000	4750	95	80-120	
Chromium	ug/L	1000	945	95	80-120	
Iron	ug/L	2500	2300	92	80-120	
Lead	ug/L	1000	888	89	80-120	
Lithium	ug/L	1000	940	94	80-120	
Magnesium	ug/L	5000	4470	89	80-120	
Manganese	ug/L	1000	898	90	80-120	
Molybdenum	ug/L	1000	930	93	80-120	
Potassium	ug/L	5000	4680	94	80-120	
Silica	ug/L	5350	5040	94		N2
Sodium	ug/L	5000	4700	94	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994110 2994111

Parameter	Units	50302232005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4670	4740	92	94	75-125	1	20	
Barium	ug/L	29.1	1000	1000	926	956	90	93	75-125	3	20	
Boron	ug/L	13900	1000	1000	14500	14900	57	100	75-125	3	20	P6
Cadmium	ug/L	ND	1000	1000	931	943	93	94	75-125	1	20	
Calcium	ug/L	582000	5000	5000	560000	588000	-440	100	75-125	5	20	P6
Chromium	ug/L	ND	1000	1000	918	928	92	93	75-125	1	20	
Iron	ug/L	2140	2500	2500	4230	4360	83	89	75-125	3	20	
Lead	ug/L	ND	1000	1000	818	828	82	83	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1040	1070	102	106	75-125	3	20	
Magnesium	ug/L	23400	5000	5000	26700	27600	67	84	75-125	3	20	P6
Manganese	ug/L	4030	1000	1000	4700	4880	68	85	75-125	4	20	P6
Molybdenum	ug/L	121	1000	1000	1040	1060	92	94	75-125	2	20	
Potassium	ug/L	10000	5000	5000	14700	15400	94	109	75-125	5	20	
Silica	ug/L	9900	5350	5350	14600	15000	89	95		2		N2
Sodium	ug/L	40400	5000	5000	43800	45900	69	110	75-125	5	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649731
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 2994134 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/18/21 12:51	
Molybdenum, Dissolved	ug/L	ND	10.0	11/18/21 12:51	

LABORATORY CONTROL SAMPLE: 2994135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	932	93	80-120	
Molybdenum, Dissolved	ug/L	1000	979	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994136 2994137

Parameter	Units	50302256001 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	446	1000	1000	1360	1370	91	92	75-125	1	20	
Molybdenum, Dissolved	ug/L	505	1000	1000	1470	1480	97	97	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649453
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 2992568 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/17/21 05:34	
Arsenic	ug/L	ND	1.0	11/17/21 05:34	
Beryllium	ug/L	ND	0.20	11/17/21 05:34	
Cobalt	ug/L	ND	1.0	11/17/21 05:34	
Selenium	ug/L	ND	1.0	11/17/21 05:34	
Thallium	ug/L	ND	1.0	11/17/21 05:34	

LABORATORY CONTROL SAMPLE: 2992569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.8	105	80-120	
Arsenic	ug/L	40	37.7	94	80-120	
Beryllium	ug/L	40	38.5	96	80-120	
Cobalt	ug/L	40	40.3	101	80-120	
Selenium	ug/L	40	38.3	96	80-120	
Thallium	ug/L	40	40.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992570 2992571

Parameter	Units	50302156001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.3	41.8	105	104	75-125	1	20	
Arsenic	ug/L	ND	40	40	37.4	36.6	93	91	75-125	2	20	
Beryllium	ug/L	ND	40	40	37.5	36.8	94	92	75-125	2	20	
Cobalt	ug/L	ND	40	40	38.7	38.2	95	94	75-125	1	20	
Selenium	ug/L	ND	40	40	38.9	38.4	95	94	75-125	1	20	
Thallium	ug/L	ND	40	40	40.6	39.9	102	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649827 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007

METHOD BLANK: 2994532 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/11/21 16:22	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/11/21 16:22	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/11/21 16:22	

LABORATORY CONTROL SAMPLE: 2994533

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: 2994534

Parameter	Units	50302159001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	248	254	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	248	254	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2994535

Parameter	Units	50302187003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	130	128	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	130	128	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649901 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232008, 50302232009, 50302232010

METHOD BLANK: 2994987 Matrix: Water
Associated Lab Samples: 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/11/21 17:16	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/11/21 17:16	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/11/21 17:16	

LABORATORY CONTROL SAMPLE: 2994988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.1	96	90-110	

SAMPLE DUPLICATE: 2994989

Parameter	Units	50302232008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	107	112	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	107	112	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2994990

Parameter	Units	50302275001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	386	411	6	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	386	411	6	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649495 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 2992762 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/10/21 09:16	

LABORATORY CONTROL SAMPLE: 2992763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	292	97	80-120	

SAMPLE DUPLICATE: 2992764

Parameter	Units	50302187003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	209	196	6	10	

SAMPLE DUPLICATE: 2992765

Parameter	Units	50302256001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1990	1910	4	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 650034
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

SAMPLE DUPLICATE: 2995987

Parameter	Units	50302450001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	1	2	H3

SAMPLE DUPLICATE: 2995988

Parameter	Units	50302256001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649783 | 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: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 2994347 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/11/21 10:30	

LABORATORY CONTROL SAMPLE: 2994348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994349 2994350

Parameter	Units	50302256001 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	0.43	0.42	81	79	90-110	1	20	M3

MATRIX SPIKE SAMPLE: 2994351

Parameter	Units	50302275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.50	100	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 650428
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009

METHOD BLANK: 2997947 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 11:32	H3,N2

LABORATORY CONTROL SAMPLE: 2997948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	106	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997949 2997950

Parameter	Units	50302013001 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	1.0	1.0	101	104	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 2997951

Parameter	Units	50302156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	109	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 650430
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302232010

METHOD BLANK: 2997963 Matrix: Water
Associated Lab Samples: 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 13:43	H3,N2

LABORATORY CONTROL SAMPLE: 2997964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	107	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997965 2997966

Parameter	Units	50302319002 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	109	109	90-110	0	20	H3,N2

MATRIX SPIKE SAMPLE: 2997967

Parameter	Units	50302318003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.0	102	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649158 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: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 2991311 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/08/21 17:29	
Nitrogen, Nitrite	mg/L	ND	0.10	11/08/21 17:29	

LABORATORY CONTROL SAMPLE: 2991312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	100	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	110	90-110	

MATRIX SPIKE SAMPLE: 2991313

Parameter	Units	50302232005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.0	95	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	106	90-110	

MATRIX SPIKE SAMPLE: 2991314

Parameter	Units	50302256001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.0	94	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	107	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 649805
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232006

METHOD BLANK: 2994421 Matrix: Water
Associated Lab Samples: 50302232006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/11/21 11:05	
Nitrogen, Nitrite	mg/L	ND	0.10	11/11/21 11:05	

LABORATORY CONTROL SAMPLE: 2994422

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: 2994423 2994424

Parameter	Units	50302538003 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	0.30	0.29	30	29	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.78	0.78	74	74	90-110	0	20	M3

MATRIX SPIKE SAMPLE: 2994425

Parameter	Units	50302539005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.11	1	1.1	100	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	108	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 650282
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001

METHOD BLANK: 2997407 Matrix: Water
Associated Lab Samples: 50302232001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/17/21 16:04	

LABORATORY CONTROL SAMPLE: 2997408

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997409 2997410

Parameter	Units	50302187003 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	0.39			1.9	1.9				1		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 651470 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: 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 3002746 Matrix: Water
Associated Lab Samples: 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/20/21 11:19	

LABORATORY CONTROL SAMPLE: 3002747

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

MATRIX SPIKE SAMPLE: 3002748

Parameter	Units	50302232002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3002749 3002750

Parameter	Units	50302256001 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	0.64			2.3	2.2				2		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 650844 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005

METHOD BLANK: 2999712 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/17/21 00:52	

LABORATORY CONTROL SAMPLE: 2999713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2999714 2999715

Parameter	Units	50302187003 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	3.1	10	10	14.2	14.0	112	109	80-120	2	20	

MATRIX SPIKE SAMPLE: 2999716

Parameter	Units	50302232002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	11.2	103	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 651378
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 3002344 Matrix: Water
Associated Lab Samples: 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/18/21 20:17	

LABORATORY CONTROL SAMPLE: 3002345

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: 3002346 3002347

Parameter	Units	50302256001 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	1.8	10	10	11.6	11.6	98	98	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3002350 3002351

Parameter	Units	50302278003 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	13.3	10	10	22.7	22.9	94	95	80-120	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 651634
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 3003579 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/19/21 18:02	

LABORATORY CONTROL SAMPLE: 3003580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3003581 3003582

Parameter	Units	50302187003 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	3.1	10	10	14.4	14.3	113	112	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3003583 3003584

Parameter	Units	50302256001 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	2.1	10	10	12.8	13.2	107	111	80-120	3	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-2BO **Lab ID: 50302232001** Collected: 11/07/21 08:00 Received: 11/08/21 10:30 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	**0.135 ± 0.495 (0.951) C:NA T:94%**	pCi/L	12/20/21 14:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.879 ± 0.517 (0.958) C:61% T:89%**	pCi/L	12/17/21 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.01 ± 1.01 (1.91)**	pCi/L	12/23/21 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-3 **Lab ID: 50302232002** Collected: 11/07/21 08:50 Received: 11/08/21 10:30 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	**0.251 ± 0.287 (0.170) C:NA T:89%**	pCi/L	12/20/21 14:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.622 ± 0.471 (0.930) C:67% T:85%**	pCi/L	12/17/21 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.873 ± 0.758 (1.10)**	pCi/L	12/23/21 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-3A **Lab ID: 50302232003** Collected: 11/07/21 09:25 Received: 11/08/21 10:30 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	**0.527 ± 0.371 (0.179) C:NA T:88%**	pCi/L	12/20/21 14:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.10 ± 0.461 (0.711) C:67% T:88%**	pCi/L	12/17/21 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.63 ± 0.832 (0.890)**	pCi/L	12/23/21 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-4A **Lab ID: 50302232004** Collected: 11/07/21 10:15 Received: 11/08/21 10:30 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	**0.389 ± 0.478 (0.779) C:NA T:89%**	pCi/L	12/20/21 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.32 ± 0.511 (0.760) C:66% T:88%**	pCi/L	12/17/21 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.71 ± 0.989 (1.54)**	pCi/L	12/23/21 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-4I **Lab ID: 50302232005** Collected: 11/07/21 11:00 Received: 11/08/21 10:30 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	**0.528 ± 0.488 (0.710) C:NA T:92%**	pCi/L	12/20/21 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.16 ± 0.573 (1.00) C:62% T:87%**	pCi/L	12/17/21 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.69 ± 1.06 (1.71)**	pCi/L	12/23/21 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-4B **Lab ID: 50302232006** Collected: 11/07/21 11:35 Received: 11/08/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.214 ± 0.326 (0.193) C:NA T:91%**	pCi/L	12/20/21 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.338 ± 0.412 (0.871) C:63% T:84%**	pCi/L	12/17/21 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.552 ± 0.738 (1.06)**	pCi/L	12/23/21 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-5 **Lab ID: 50302232007** Collected: 11/07/21 13:50 Received: 11/08/21 10:30 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	**0.518 ± 0.512 (0.778) C:NA T:92%**	pCi/L	12/20/21 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.66 ± 0.612 (0.873) C:63% T:82%**	pCi/L	12/17/21 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.18 ± 1.12 (1.65)**	pCi/L	12/23/21 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-5A **Lab ID: 50302232008** Collected: 11/07/21 14:30 Received: 11/08/21 10:30 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	**0.118 ± 0.490 (0.934) C:NA T:93%**	pCi/L	12/20/21 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.882 ± 0.468 (0.816) C:60% T:90%**	pCi/L	12/17/21 11:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.000 ± 0.958 (1.75)**	pCi/L	12/23/21 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-6A **Lab ID: 50302232009** Collected: 11/07/21 15:15 Received: 11/08/21 10:30 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	**0.144 ± 0.447 (0.865) C:NA T:93%**	pCi/L	12/20/21 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.747 ± 0.478 (0.907) C:63% T:93%**	pCi/L	12/17/21 11:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.891 ± 0.925 (1.77)**	pCi/L	12/23/21 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Sample: AP-6B **Lab ID: 50302232010** Collected: 11/07/21 16:15 Received: 11/08/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.272 (0.439) C:NA T:90%**	pCi/L	12/20/21 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0358 ± 0.476 (1.10) C:64% T:89%**	pCi/L	12/17/21 11:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 0.748 (1.54)**	pCi/L	12/23/21 17:09	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

QC Batch: 475167 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: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 2295354 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.207 ± 0.380 (0.678) C:NA T:95%	pCi/L	12/20/21 13:50	

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 P2R4
Pace Project No.: 50302232

QC Batch: 475168 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: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

METHOD BLANK: 2295355 Matrix: Water
Associated Lab Samples: 50302232001, 50302232002, 50302232003, 50302232004, 50302232005, 50302232006, 50302232007, 50302232008, 50302232009, 50302232010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.459 ± 0.347 (0.670) C:66% T:92%	pCi/L	12/17/21 11:27	

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

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QUALIFIERS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

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.
H7	Re-extraction or re-analysis could not be performed within method holding time.
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 P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302232001	**AP-2BO**	EPA 9056	649560		
50302232002	**AP-3**	EPA 9056	649560		
50302232003	**AP-3A**	EPA 9056	649560		
50302232004	**AP-4A**	EPA 9056	649560		
50302232005	**AP-4I**	EPA 9056	649560		
50302232006	**AP-4B**	EPA 9056	649560		
50302232007	**AP-5**	EPA 9056	649560		
50302232008	**AP-5A**	EPA 9056	649560		
50302232009	**AP-6A**	EPA 9056	649560		
50302232010	**AP-6B**	EPA 9056	649560		
50302232001	**AP-2BO**	EPA 3010	649727	EPA 6010	651846
50302232002	**AP-3**	EPA 3010	649727	EPA 6010	651846
50302232003	**AP-3A**	EPA 3010	649727	EPA 6010	651846
50302232004	**AP-4A**	EPA 3010	649727	EPA 6010	651846
50302232005	**AP-4I**	EPA 3010	649727	EPA 6010	651846
50302232006	**AP-4B**	EPA 3010	649727	EPA 6010	651846
50302232007	**AP-5**	EPA 3010	649727	EPA 6010	651846
50302232008	**AP-5A**	EPA 3010	649727	EPA 6010	651846
50302232009	**AP-6A**	EPA 3010	649727	EPA 6010	651846
50302232010	**AP-6B**	EPA 3010	649727	EPA 6010	651846
50302232001	**AP-2BO**	EPA 3010	649731	EPA 6010	651222
50302232002	**AP-3**	EPA 3010	649731	EPA 6010	651222
50302232003	**AP-3A**	EPA 3010	649731	EPA 6010	651222
50302232004	**AP-4A**	EPA 3010	649731	EPA 6010	651222
50302232005	**AP-4I**	EPA 3010	649731	EPA 6010	651222
50302232006	**AP-4B**	EPA 3010	649731	EPA 6010	651222
50302232007	**AP-5**	EPA 3010	649731	EPA 6010	651222
50302232008	**AP-5A**	EPA 3010	649731	EPA 6010	651222
50302232009	**AP-6A**	EPA 3010	649731	EPA 6010	651222
50302232010	**AP-6B**	EPA 3010	649731	EPA 6010	651222
50302232001	**AP-2BO**	EPA 200.2	649453	EPA 6020	649632
50302232002	**AP-3**	EPA 200.2	649453	EPA 6020	649632
50302232003	**AP-3A**	EPA 200.2	649453	EPA 6020	649632
50302232004	**AP-4A**	EPA 200.2	649453	EPA 6020	649632
50302232005	**AP-4I**	EPA 200.2	649453	EPA 6020	649632
50302232006	**AP-4B**	EPA 200.2	649453	EPA 6020	649632
50302232007	**AP-5**	EPA 200.2	649453	EPA 6020	649632
50302232008	**AP-5A**	EPA 200.2	649453	EPA 6020	649632
50302232009	**AP-6A**	EPA 200.2	649453	EPA 6020	649632
50302232010	**AP-6B**	EPA 200.2	649453	EPA 6020	649632
50302232001	**AP-2BO**	EPA 903.1	475167		
50302232002	**AP-3**	EPA 903.1	475167		
50302232003	**AP-3A**	EPA 903.1	475167		
50302232004	**AP-4A**	EPA 903.1	475167		
50302232005	**AP-4I**	EPA 903.1	475167		
50302232006	**AP-4B**	EPA 903.1	475167		
50302232007	**AP-5**	EPA 903.1	475167		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302232008	**AP-5A**	EPA 903.1	475167		
50302232009	**AP-6A**	EPA 903.1	475167		
50302232010	**AP-6B**	EPA 903.1	475167		
50302232001	**AP-2BO**	EPA 904.0	475168		
50302232002	**AP-3**	EPA 904.0	475168		
50302232003	**AP-3A**	EPA 904.0	475168		
50302232004	**AP-4A**	EPA 904.0	475168		
50302232005	**AP-4I**	EPA 904.0	475168		
50302232006	**AP-4B**	EPA 904.0	475168		
50302232007	**AP-5**	EPA 904.0	475168		
50302232008	**AP-5A**	EPA 904.0	475168		
50302232009	**AP-6A**	EPA 904.0	475168		
50302232010	**AP-6B**	EPA 904.0	475168		
50302232001	**AP-2BO**	Total Radium Calculation	477415		
50302232002	**AP-3**	Total Radium Calculation	477415		
50302232003	**AP-3A**	Total Radium Calculation	477415		
50302232004	**AP-4A**	Total Radium Calculation	477415		
50302232005	**AP-4I**	Total Radium Calculation	477415		
50302232006	**AP-4B**	Total Radium Calculation	477415		
50302232007	**AP-5**	Total Radium Calculation	477415		
50302232008	**AP-5A**	Total Radium Calculation	477415		
50302232009	**AP-6A**	Total Radium Calculation	477415		
50302232010	**AP-6B**	Total Radium Calculation	477415		
50302232001	**AP-2BO**	SM 2320B	649827		
50302232002	**AP-3**	SM 2320B	649827		
50302232003	**AP-3A**	SM 2320B	649827		
50302232004	**AP-4A**	SM 2320B	649827		
50302232005	**AP-4I**	SM 2320B	649827		
50302232006	**AP-4B**	SM 2320B	649827		
50302232007	**AP-5**	SM 2320B	649827		
50302232008	**AP-5A**	SM 2320B	649901		
50302232009	**AP-6A**	SM 2320B	649901		
50302232010	**AP-6B**	SM 2320B	649901		
50302232001	**AP-2BO**	SM 2540C	649495		
50302232002	**AP-3**	SM 2540C	649495		
50302232003	**AP-3A**	SM 2540C	649495		
50302232004	**AP-4A**	SM 2540C	649495		
50302232005	**AP-4I**	SM 2540C	649495		
50302232006	**AP-4B**	SM 2540C	649495		
50302232007	**AP-5**	SM 2540C	649495		
50302232008	**AP-5A**	SM 2540C	649495		
50302232009	**AP-6A**	SM 2540C	649495		
50302232010	**AP-6B**	SM 2540C	649495		
50302232001	**AP-2BO**	SM 4500-H+B	650034		
50302232002	**AP-3**	SM 4500-H+B	650034		
50302232003	**AP-3A**	SM 4500-H+B	650034		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302232004	**AP-4A**	SM 4500-H+B	650034		
50302232005	**AP-4I**	SM 4500-H+B	650034		
50302232006	**AP-4B**	SM 4500-H+B	650034		
50302232007	**AP-5**	SM 4500-H+B	650034		
50302232008	**AP-5A**	SM 4500-H+B	650034		
50302232009	**AP-6A**	SM 4500-H+B	650034		
50302232010	**AP-6B**	SM 4500-H+B	650034		
50302232001	**AP-2BO**	SM 4500-S2-D	649783		
50302232002	**AP-3**	SM 4500-S2-D	649783		
50302232003	**AP-3A**	SM 4500-S2-D	649783		
50302232004	**AP-4A**	SM 4500-S2-D	649783		
50302232005	**AP-4I**	SM 4500-S2-D	649783		
50302232006	**AP-4B**	SM 4500-S2-D	649783		
50302232007	**AP-5**	SM 4500-S2-D	649783		
50302232008	**AP-5A**	SM 4500-S2-D	649783		
50302232009	**AP-6A**	SM 4500-S2-D	649783		
50302232010	**AP-6B**	SM 4500-S2-D	649783		
50302232001	**AP-2BO**	HACH 8146	650428		
50302232002	**AP-3**	HACH 8146	650428		
50302232003	**AP-3A**	HACH 8146	650428		
50302232004	**AP-4A**	HACH 8146	650428		
50302232005	**AP-4I**	HACH 8146	650428		
50302232006	**AP-4B**	HACH 8146	650428		
50302232007	**AP-5**	HACH 8146	650428		
50302232008	**AP-5A**	HACH 8146	650428		
50302232009	**AP-6A**	HACH 8146	650428		
50302232010	**AP-6B**	HACH 8146	650430		
50302232001	**AP-2BO**	EPA 353.2	649158		
50302232002	**AP-3**	EPA 353.2	649158		
50302232003	**AP-3A**	EPA 353.2	649158		
50302232004	**AP-4A**	EPA 353.2	649158		
50302232005	**AP-4I**	EPA 353.2	649158		
50302232006	**AP-4B**	EPA 353.2	649805		
50302232007	**AP-5**	EPA 353.2	649158		
50302232008	**AP-5A**	EPA 353.2	649158		
50302232009	**AP-6A**	EPA 353.2	649158		
50302232010	**AP-6B**	EPA 353.2	649158		
50302232001	**AP-2BO**	EPA 365.1	650282	EPA 365.1	651022
50302232002	**AP-3**	EPA 365.1	651470	EPA 365.1	651748
50302232003	**AP-3A**	EPA 365.1	651470	EPA 365.1	651748
50302232004	**AP-4A**	EPA 365.1	651470	EPA 365.1	651748
50302232005	**AP-4I**	EPA 365.1	651470	EPA 365.1	651748
50302232006	**AP-4B**	EPA 365.1	651470	EPA 365.1	651748
50302232007	**AP-5**	EPA 365.1	651470	EPA 365.1	651748
50302232008	**AP-5A**	EPA 365.1	651470	EPA 365.1	651748

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50302232

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302232009	**AP-6A**	EPA 365.1	651470	EPA 365.1	651748
50302232010	**AP-6B**	EPA 365.1	651470	EPA 365.1	651748
50302232001	**AP-2BO**	SM 5310C	650844		
50302232002	**AP-3**	SM 5310C	650844		
50302232003	**AP-3A**	SM 5310C	650844		
50302232004	**AP-4A**	SM 5310C	650844		
50302232005	**AP-4I**	SM 5310C	650844		
50302232006	**AP-4B**	SM 5310C	651378		
50302232007	**AP-5**	SM 5310C	651378		
50302232008	**AP-5A**	SM 5310C	651378		
50302232009	**AP-6A**	SM 5310C	651378		
50302232010	**AP-6B**	SM 5310C	651378		
50302232001	**AP-2BO**	SM 5310C	651634		
50302232002	**AP-3**	SM 5310C	651634		
50302232003	**AP-3A**	SM 5310C	651634		
50302232004	**AP-4A**	SM 5310C	651634		
50302232005	**AP-4I**	SM 5310C	651634		
50302232006	**AP-4B**	SM 5310C	651634		
50302232007	**AP-5**	SM 5310C	651634		
50302232008	**AP-5A**	SM 5310C	651634		
50302232009	**AP-6A**	SM 5310C	651634		
50302232010	**AP-6B**	SM 5310C	651634		

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CHAIN-OF-CUSTODY / Analytical Request Do

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mus

WO# : 50302232

50302232

Section A Required Client Information:		Section B Required Project Information:	Section C Invoice Information:	
Company: AES/IPL Petersburg		Report To: Teague, Wil	Attention:	
Address: 6925 IN-57		Copy To:	Company Name:	Regulatory Agency
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 4	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date:		Project #:	Pace Profile #: 8296/11	IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Requested Analysis Filtered (Y/N)				Y				Y					
1	AP-1R	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
2	AP-2A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
3	AP-2BO	WT		11/7	0800				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		001
4	AP-3	WT		11/7	0850				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		002
5	AP-3A	WT		11/7	0925				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		003
6	AP-4A	WT		11/7	1015				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		004
7	AP-4I	WT		11/7	1100				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		005
8	AP-4B	WT		11/7	1135				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		006
9	AP-5	WT		11/7	1350				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		007
10	AP-5A	WT		11/7	1430				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		008
11	AP-6A	WT		11/7	1515				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		009
12	AP-6B	WT		11/7	1615				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		010

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)		11.8.21	8:00		11-8	800				
6020 (Be, Co, As, Se, Sb, Tl)		11-8-21	1030		11/8/21	1030	I.S	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:			
SIGNATURE of SAMPLER:	DATE Signed:		

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	AES/IPL Petersburg	Report To:	Teague, 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 4	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/11

Regulatory Agency	
State / Location	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
	Requested Analysis Filtered (Y/N)																					Y						Y			
13	AP-7	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
14	AP-8	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
15	DUP 2	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
16	MS	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
17	MSD	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
18	FIELD BLANK 2	WT							9	3	2	3		1					X	X	X		X	X	X	X		X		
19																															
20																															
21																															
22																															
23																															
24																															

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)		11.8.21	8:00		11-8	8:00				
6020 (Be, Co, As, Se, Sb, Tl)		11-8-21	10:30		11/8/21	1030	1.5	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:				
SIGNATURE of SAMPLER:	DATE Signed:	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: NICS 11/8/21 10:36

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:** 1.5 / 1.5°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.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: NO2 / NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

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																															
2																															
3												1	1			2	1	2	1	1	1		1					3	✓	✓	
4												↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	↓	↓	
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 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
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

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 #: 460198
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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(317)228-3100

SAMPLE SUMMARY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302318001	**MW-29A**	Water	11/08/21 12:51	11/09/21 10:30
50302318002	**MW-29I**	Water	11/08/21 13:49	11/09/21 10:30
50302318003	**MW-29B**	Water	11/08/21 14:57	11/09/21 10:30

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Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302318001	**MW-29A**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302318002	**MW-29I**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302318003	**MW-29B**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302318001	**MW-29A**					
EPA 9056	Chloride	31.1	mg/L	2.5	11/12/21 22:22	
EPA 9056	Sulfate	441	mg/L	25.0	11/12/21 21:45	
EPA 6010	Barium	47.2	ug/L	10.0	11/21/21 23:57	
EPA 6010	Boron	5080	ug/L	100	11/21/21 23:57	
EPA 6010	Calcium	213000	ug/L	2000	11/22/21 01:02	
EPA 6010	Iron	5870	ug/L	100	11/21/21 23:57	
EPA 6010	Magnesium	35200	ug/L	1000	11/21/21 23:57	
EPA 6010	Manganese	1040	ug/L	10.0	11/21/21 23:57	
EPA 6010	Molybdenum	44.0	ug/L	10.0	11/21/21 23:57	
EPA 6010	Potassium	1780	ug/L	1000	11/21/21 23:57	
EPA 6010	Silica	11800	ug/L	450	11/21/21 23:57	N2
EPA 6010	Sodium	15600	ug/L	1000	11/21/21 23:57	
EPA 6010	Manganese, Dissolved	1140	ug/L	10.0	11/19/21 00:23	
EPA 6010	Molybdenum, Dissolved	59.7	ug/L	10.0	11/19/21 00:23	
EPA 903.1	Radium-226	0.305 ± 0.360 (0.566) C:NA T:99%	pCi/L		12/13/21 13:18	
EPA 904.0	Radium-228	0.124 ± 0.331 (0.741) C:71% T:89%	pCi/L		12/20/21 14:45	
Total Radium Calculation	Total Radium	0.429 ± 0.691 (1.31)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	258	mg/L	2.0	11/12/21 16:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	258	mg/L	2.0	11/12/21 16:29	
SM 2540C	Total Dissolved Solids	907	mg/L	10.0	11/11/21 08:42	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	11/12/21 13:56	H3
EPA 365.1	Phosphate as P04	0.21	mg/L	0.15	11/20/21 11:49	
SM 5310C	Dissolved Organic Carbon	1.3	mg/L	1.0	11/20/21 09:47	
50302318002	**MW-29I**					
EPA 9056	Chloride	13.9	mg/L	2.5	11/12/21 22:48	
EPA 9056	Sulfate	118	mg/L	2.5	11/12/21 22:48	
EPA 6010	Barium	69.6	ug/L	10.0	11/21/21 23:59	
EPA 6010	Boron	1000	ug/L	100	11/21/21 23:59	
EPA 6010	Calcium	123000	ug/L	1000	11/21/21 23:59	
EPA 6010	Iron	6600	ug/L	100	11/21/21 23:59	
EPA 6010	Magnesium	28000	ug/L	1000	11/21/21 23:59	
EPA 6010	Manganese	1340	ug/L	10.0	11/21/21 23:59	
EPA 6010	Silica	11400	ug/L	450	11/21/21 23:59	N2
EPA 6010	Sodium	6640	ug/L	1000	11/21/21 23:59	
EPA 6010	Manganese, Dissolved	1400	ug/L	10.0	11/19/21 00:25	
EPA 903.1	Radium-226	0.266 ± 0.585 (1.06) C:NA T:94%	pCi/L		12/13/21 13:18	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302318002	**MW-29I**					
EPA 904.0	Radium-228	0.256 ± 0.268 (0.551) C:76% T:98%	pCi/L		12/20/21 14:45	
Total Radium Calculation	Total Radium	0.522 ± 0.853 (1.61)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	300	mg/L	2.0	11/12/21 16:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	300	mg/L	2.0	11/12/21 16:29	
SM 2540C	Total Dissolved Solids	484	mg/L	10.0	11/11/21 08:42	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	11/12/21 14:00	H3
EPA 365.1	Phosphate as P04	0.49	mg/L	0.15	11/20/21 11:50	
50302318003	**MW-29B**					
EPA 9056	Chloride	10.5	mg/L	0.25	11/12/21 23:11	
EPA 9056	Sulfate	49.1	mg/L	2.5	11/12/21 23:25	
EPA 6010	Barium	95.9	ug/L	10.0	11/22/21 00:05	
EPA 6010	Boron	201	ug/L	100	11/22/21 00:05	
EPA 6010	Calcium	146000	ug/L	1000	11/22/21 00:05	
EPA 6010	Magnesium	25600	ug/L	1000	11/22/21 00:05	
EPA 6010	Manganese	2240	ug/L	10.0	11/22/21 00:05	
EPA 6010	Silica	12500	ug/L	450	11/22/21 00:05	N2
EPA 6010	Sodium	7530	ug/L	1000	11/22/21 00:05	
EPA 6010	Manganese, Dissolved	2360	ug/L	10.0	11/19/21 00:27	
EPA 6020	Cobalt	1.9	ug/L	1.0	11/14/21 06:43	
EPA 903.1	Radium-226	-0.139 ± 0.509 (1.10) C:NA T:93%	pCi/L		12/13/21 13:18	
EPA 904.0	Radium-228	0.297 ± 0.297 (0.608) C:73% T:94%	pCi/L		12/20/21 14:45	
Total Radium Calculation	Total Radium	0.297 ± 0.806 (1.71)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	420	mg/L	2.0	11/12/21 16:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	420	mg/L	2.0	11/12/21 16:29	
SM 2540C	Total Dissolved Solids	528	mg/L	10.0	11/11/21 08:42	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	11/12/21 14:02	H3
EPA 353.2	Nitrogen, Nitrate	1.8	mg/L	0.10	11/09/21 17:19	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Sample: MW-29A **Lab ID: 50302318001** Collected: 11/08/21 12:51 Received: 11/09/21 10:30 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	**31.1**	mg/L	2.5	10		11/12/21 22:22	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/21 21:34	16984-48-8	
Sulfate	**441**	mg/L	25.0	100		11/12/21 21:45	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/21/21 23:57	7429-90-5	
Barium	**47.2**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:57	7440-39-3	
Boron	**5080**	ug/L	100	1	11/16/21 14:15	11/21/21 23:57	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:57	7440-43-9	
Calcium	**213000**	ug/L	2000	2	11/16/21 14:15	11/22/21 01:02	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:57	7440-47-3	
Iron	**5870**	ug/L	100	1	11/16/21 14:15	11/21/21 23:57	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:57	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:57	7439-93-2	
Magnesium	**35200**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:57	7439-95-4	
Manganese	**1040**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:57	7439-96-5	
Molybdenum	**44.0**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:57	7439-98-7	
Potassium	**1780**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:57	7440-09-7	
Silica	**11800**	ug/L	450	1	11/16/21 14:15	11/21/21 23:57	7631-86-9	N2
Sodium	**15600**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:57	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1140**	ug/L	10.0	1	11/17/21 06:44	11/19/21 00:23	7439-96-5	
Molybdenum, Dissolved	**59.7**	ug/L	10.0	1	11/17/21 06:44	11/19/21 00:23	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	11/10/21 18:00	11/14/21 06:34	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:34	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 18:00	11/14/21 06:34	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:34	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:34	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:34	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**258**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Bicarbonate (CaCO3)	**258**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/12/21 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**907**	mg/L	10.0	1		11/11/21 08:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Sample: MW-29A **Lab ID: 50302318001** Collected: 11/08/21 12:51 Received: 11/09/21 10:30 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	**7.7**	Std. Units	0.10	1		11/12/21 13:56		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 12:29	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:46		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		11/09/21 17:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/09/21 17:11	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.21**	mg/L	0.15	1	11/19/21 11:00	11/20/21 11:49		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/19/21 07:50	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.3**	mg/L	1.0	1		11/20/21 09:47		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Sample: MW-29I **Lab ID: 50302318002** Collected: 11/08/21 13:49 Received: 11/09/21 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**13.9**	mg/L	2.5	10		11/12/21 22:48	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/21 22:34	16984-48-8	
Sulfate	**118**	mg/L	2.5	10		11/12/21 22:48	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/21/21 23:59	7429-90-5	
Barium	**69.6**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:59	7440-39-3	
Boron	**1000**	ug/L	100	1	11/16/21 14:15	11/21/21 23:59	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/21/21 23:59	7440-43-9	
Calcium	**123000**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:59	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:59	7440-47-3	
Iron	**6600**	ug/L	100	1	11/16/21 14:15	11/21/21 23:59	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:59	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/21/21 23:59	7439-93-2	
Magnesium	**28000**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:59	7439-95-4	
Manganese	**1340**	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:59	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/21/21 23:59	7439-98-7	
Potassium	ND	ug/L	1000	1	11/16/21 14:15	11/21/21 23:59	7440-09-7	
Silica	**11400**	ug/L	450	1	11/16/21 14:15	11/21/21 23:59	7631-86-9	N2
Sodium	**6640**	ug/L	1000	1	11/16/21 14:15	11/21/21 23:59	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1400**	ug/L	10.0	1	11/17/21 06:44	11/19/21 00:25	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/17/21 06:44	11/19/21 00:25	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:38	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:38	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 18:00	11/14/21 06:38	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:38	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:38	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:38	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**300**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Bicarbonate (CaCO3)	**300**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/12/21 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**484**	mg/L	10.0	1		11/11/21 08:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Sample: MW-29I **Lab ID: 50302318002** Collected: 11/08/21 13:49 Received: 11/09/21 10:30 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	**7.7**	Std. Units	0.10	1		11/12/21 14:00		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 12:29	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:48		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		11/09/21 17:15	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/09/21 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	**0.49**	mg/L	0.15	1	11/19/21 11:00	11/20/21 11:50		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/19/21 08:09	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/20/21 09:56		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Sample: MW-29B **Lab ID: 50302318003** Collected: 11/08/21 14:57 Received: 11/09/21 10:30 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	**10.5**	mg/L	0.25	1		11/12/21 23:11	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/21 23:11	16984-48-8	
Sulfate	**49.1**	mg/L	2.5	10		11/12/21 23:25	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/22/21 00:05	7429-90-5	
Barium	**95.9**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:05	7440-39-3	
Boron	**201**	ug/L	100	1	11/16/21 14:15	11/22/21 00:05	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/22/21 00:05	7440-43-9	
Calcium	**146000**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:05	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:05	7440-47-3	
Iron	ND	ug/L	100	1	11/16/21 14:15	11/22/21 00:05	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:05	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/22/21 00:05	7439-93-2	
Magnesium	**25600**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:05	7439-95-4	
Manganese	**2240**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:05	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:05	7439-98-7	
Potassium	ND	ug/L	1000	1	11/16/21 14:15	11/22/21 00:05	7440-09-7	
Silica	**12500**	ug/L	450	1	11/16/21 14:15	11/22/21 00:05	7631-86-9	N2
Sodium	**7530**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:05	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2360**	ug/L	10.0	1	11/17/21 06:44	11/19/21 00:27	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/17/21 06:44	11/19/21 00:27	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:43	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:43	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 18:00	11/14/21 06:43	7440-41-7	
Cobalt	**1.9**	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:43	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:43	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:43	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**420**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Bicarbonate (CaCO3)	**420**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/12/21 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**528**	mg/L	10.0	1		11/11/21 08:42		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Sample: MW-29B **Lab ID: 50302318003** Collected: 11/08/21 14:57 Received: 11/09/21 10:30 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	**7.7**	Std. Units	0.10	1		11/12/21 14:02		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 12:29	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:51		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**1.8**	mg/L	0.10	1		11/09/21 17:19	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/09/21 17:19	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/15/21 06:00	11/17/21 16:56		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/19/21 10:53	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/20/21 10:06		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 649634
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2993478 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/12/21 21:09	
Fluoride	mg/L	ND	0.10	11/12/21 21:09	
Sulfate	mg/L	ND	0.25	11/12/21 21:09	

LABORATORY CONTROL SAMPLE: 2993479

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	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993480 2993481

Parameter	Units	50302389001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	44.8	12.5	12.5	56.7	56.6	95	94	80-120	0	15	
Fluoride	mg/L	0.59	0.5	0.5	1.0	1.0	82	83	80-120	1	15	
Sulfate	mg/L	<2.0	2.5	2.5	2.5	2.5	99	98	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 649727
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2994108 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/21/21 23:26	
Barium	ug/L	ND	10.0	11/21/21 23:26	
Boron	ug/L	ND	100	11/21/21 23:26	
Cadmium	ug/L	ND	2.0	11/21/21 23:26	
Calcium	ug/L	ND	1000	11/21/21 23:26	
Chromium	ug/L	ND	10.0	11/21/21 23:26	
Iron	ug/L	ND	100	11/21/21 23:26	
Lead	ug/L	ND	10.0	11/21/21 23:26	
Lithium	ug/L	ND	20.0	11/21/21 23:26	
Magnesium	ug/L	ND	1000	11/21/21 23:26	
Manganese	ug/L	ND	10.0	11/21/21 23:26	
Molybdenum	ug/L	ND	10.0	11/21/21 23:26	
Potassium	ug/L	ND	1000	11/21/21 23:26	
Silica	ug/L	ND	450	11/21/21 23:26	N2
Sodium	ug/L	ND	1000	11/21/21 23:26	

LABORATORY CONTROL SAMPLE: 2994109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4670	93	80-120	
Barium	ug/L	1000	923	92	80-120	
Boron	ug/L	1000	929	93	80-120	
Cadmium	ug/L	1000	914	91	80-120	
Calcium	ug/L	5000	4750	95	80-120	
Chromium	ug/L	1000	945	95	80-120	
Iron	ug/L	2500	2300	92	80-120	
Lead	ug/L	1000	888	89	80-120	
Lithium	ug/L	1000	940	94	80-120	
Magnesium	ug/L	5000	4470	89	80-120	
Manganese	ug/L	1000	898	90	80-120	
Molybdenum	ug/L	1000	930	93	80-120	
Potassium	ug/L	5000	4680	94	80-120	
Silica	ug/L	5350	5040	94	80-120	N2
Sodium	ug/L	5000	4700	94	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994110 2994111

Parameter	Units	50302232005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4670	4740	92	94	75-125	1	20	
Barium	ug/L	29.1	1000	1000	926	956	90	93	75-125	3	20	
Boron	ug/L	13900	1000	1000	14500	14900	57	100	75-125	3	20	P6
Cadmium	ug/L	ND	1000	1000	931	943	93	94	75-125	1	20	
Calcium	ug/L	582000	5000	5000	560000	588000	-440	100	75-125	5	20	P6
Chromium	ug/L	ND	1000	1000	918	928	92	93	75-125	1	20	
Iron	ug/L	2140	2500	2500	4230	4360	83	89	75-125	3	20	
Lead	ug/L	ND	1000	1000	818	828	82	83	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1040	1070	102	106	75-125	3	20	
Magnesium	ug/L	23400	5000	5000	26700	27600	67	84	75-125	3	20	P6
Manganese	ug/L	4030	1000	1000	4700	4880	68	85	75-125	4	20	P6
Molybdenum	ug/L	121	1000	1000	1040	1060	92	94	75-125	2	20	
Potassium	ug/L	10000	5000	5000	14700	15400	94	109	75-125	5	20	
Silica	ug/L	9900	5350	5350	14600	15000	89	95	75-125	2	20	N2
Sodium	ug/L	40400	5000	5000	43800	45900	69	110	75-125	5	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 650083
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2996164 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/19/21 00:21	
Molybdenum, Dissolved	ug/L	ND	10.0	11/19/21 00:21	

LABORATORY CONTROL SAMPLE: 2996165

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: 2996166 2996167

Parameter	Units	50302394005 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	175	1000	1000	1140	1160	97	98	75-125	1	20	
Molybdenum, Dissolved	ug/L	<0.050 mg/L	1000	1000	1020	1030	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 649508
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2992852 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/14/21 05:16	
Arsenic	ug/L	ND	1.0	11/14/21 05:16	
Beryllium	ug/L	ND	0.20	11/14/21 05:16	
Cobalt	ug/L	ND	1.0	11/14/21 05:16	
Selenium	ug/L	ND	1.0	11/14/21 05:16	
Thallium	ug/L	ND	1.0	11/14/21 05:16	

LABORATORY CONTROL SAMPLE: 2992853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.3	103	80-120	
Arsenic	ug/L	40	39.0	97	80-120	
Beryllium	ug/L	40	36.6	91	80-120	
Cobalt	ug/L	40	38.5	96	80-120	
Selenium	ug/L	40	38.9	97	80-120	
Thallium	ug/L	40	39.2	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992854 2992855

Parameter	Units	50302272001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<1.0	40	40	42.3	42.7	106	107	75-125	1	20	
Arsenic	ug/L	<1.0	40	40	40.2	40.0	100	100	75-125	0	20	
Beryllium	ug/L	<0.20	40	40	39.2	39.4	98	98	75-125	1	20	
Cobalt	ug/L	<1.0	40	40	36.5	36.2	91	90	75-125	1	20	
Selenium	ug/L	<1.0	40	40	38.7	39.3	96	98	75-125	2	20	
Thallium	ug/L	<1.0	40	40	39.7	40.2	99	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 650093 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2996225 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/12/21 16:29	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/12/21 16:29	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/12/21 16:29	

LABORATORY CONTROL SAMPLE: 2996226

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: 2996227

Parameter	Units	50302278003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	377	382	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	377	382	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2996228

Parameter	Units	50302319001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	103	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	100	103	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 649744 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2994203 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/11/21 08:40	

LABORATORY CONTROL SAMPLE: 2994204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	255	85	80-120	

SAMPLE DUPLICATE: 2994205

Parameter	Units	50302278003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	480	484	1	10	

SAMPLE DUPLICATE: 2994206

Parameter	Units	50302278004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1450	1480	2	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 650040
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

SAMPLE DUPLICATE: 2996006

Parameter	Units	50302109008 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	1	2	H3

SAMPLE DUPLICATE: 2996007

Parameter	Units	50302278003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.7	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 649785
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2994354 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/11/21 12:29	

LABORATORY CONTROL SAMPLE: 2994355

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: 2994356 2994357

Parameter	Units	50302278003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.11J	0.5	0.5	0.61	0.59	99	96	90-110	3	20	

MATRIX SPIKE SAMPLE: 2994358

Parameter	Units	50302318001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.52	85	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 650430 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2997963 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 13:43	H3,N2

LABORATORY CONTROL SAMPLE: 2997964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	107	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997965 2997966

Parameter	Units	50302319002 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	109	109	90-110	0	20	H3,N2

MATRIX SPIKE SAMPLE: 2997967

Parameter	Units	50302318003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.0	102	90-110	H3,N2

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REPORT OF LABORATORY ANALYSIS

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(317)228-3100

QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 649401
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2992331 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/09/21 16:47	
Nitrogen, Nitrite	mg/L	ND	0.10	11/09/21 16:47	

LABORATORY CONTROL SAMPLE: 2992332

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	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992333 2992334

Parameter	Units	50302292004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.0	1.0	94	95	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	108	108	90-110	0	20	

MATRIX SPIKE SAMPLE: 2992335

Parameter	Units	50302276004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.78	74	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	101	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 650340
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318003

METHOD BLANK: 2997729 Matrix: Water
Associated Lab Samples: 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/17/21 16:42	

LABORATORY CONTROL SAMPLE: 2997730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.8			

MATRIX SPIKE SAMPLE: 2997731

Parameter	Units	50302275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.9			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997732 2997733

Parameter	Units	50302278003 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			1.7	1.6				9		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 651473
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002

METHOD BLANK: 3002759 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/20/21 11:47	

LABORATORY CONTROL SAMPLE: 3002760

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3002761 3002762

Parameter	Units	50302318001 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	0.21			1.8	1.7				2		

MATRIX SPIKE SAMPLE: 3002763

Parameter	Units	50303121001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	19.0		20.9			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 651379 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 3002353 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/19/21 07:11	

LABORATORY CONTROL SAMPLE: 3002354

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3002355 3002356

Parameter	Units	50302389001 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	2.1	10	10	12.0	12.0	100	100	80-120	0	20	

MATRIX SPIKE SAMPLE: 3002358

Parameter	Units	50302319006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.3	10	11.4	101	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 651635
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 3003585 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/19/21 23:52	

LABORATORY CONTROL SAMPLE: 3003586

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3003587 3003588

Parameter	Units	50302278003 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	14.7	20	20	35.9	35.9	106	106	80-120	0	20	

MATRIX SPIKE SAMPLE: 3003589

Parameter	Units	50302318003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	ND	10	11.1	102	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Sample: MW-29A **Lab ID: 50302318001** Collected: 11/08/21 12:51 Received: 11/09/21 10:30 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	**0.305 ± 0.360 (0.566) C:NA T:99%**	pCi/L	12/13/21 13:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.124 ± 0.331 (0.741) C:71% T:89%**	pCi/L	12/20/21 14:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.429 ± 0.691 (1.31)**	pCi/L	12/21/21 09:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Sample: MW-29I **Lab ID: 50302318002** Collected: 11/08/21 13:49 Received: 11/09/21 10:30 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	**0.266 ± 0.585 (1.06) C:NA T:94%**	pCi/L	12/13/21 13:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.256 ± 0.268 (0.551) C:76% T:98%**	pCi/L	12/20/21 14:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.522 ± 0.853 (1.61)**	pCi/L	12/21/21 09:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Sample: MW-29B **Lab ID: 50302318003** Collected: 11/08/21 14:57 Received: 11/09/21 10:30 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 ± 0.509 (1.10) C:NA T:93%**	pCi/L	12/13/21 13:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.297 ± 0.297 (0.608) C:73% T:94%**	pCi/L	12/20/21 14:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.297 ± 0.806 (1.71)**	pCi/L	12/21/21 09:26	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 473900
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2289294 Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.101 ± 0.244 (0.608) C:NA T:90%	pCi/L	12/13/21 12:55	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

QC Batch: 473902
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302318001, 50302318002, 50302318003

METHOD BLANK: 2289309
Matrix: Water
Associated Lab Samples: 50302318001, 50302318002, 50302318003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.237 ± 0.332 (0.712) C:73% T:87%	pCi/L	12/20/21 11:43	

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QUALIFIERS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

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.
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 P2R5
Pace Project No.: 50302318

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302318001	**MW-29A**	EPA 9056	649634		
50302318002	**MW-29I**	EPA 9056	649634		
50302318003	**MW-29B**	EPA 9056	649634		
50302318001	**MW-29A**	EPA 3010	649727	EPA 6010	651846
50302318002	**MW-29I**	EPA 3010	649727	EPA 6010	651846
50302318003	**MW-29B**	EPA 3010	649727	EPA 6010	651846
50302318001	**MW-29A**	EPA 3010	650083	EPA 6010	651438
50302318002	**MW-29I**	EPA 3010	650083	EPA 6010	651438
50302318003	**MW-29B**	EPA 3010	650083	EPA 6010	651438
50302318001	**MW-29A**	EPA 200.2	649508	EPA 6020	649734
50302318002	**MW-29I**	EPA 200.2	649508	EPA 6020	649734
50302318003	**MW-29B**	EPA 200.2	649508	EPA 6020	649734
50302318001	**MW-29A**	EPA 903.1	473900		
50302318002	**MW-29I**	EPA 903.1	473900		
50302318003	**MW-29B**	EPA 903.1	473900		
50302318001	**MW-29A**	EPA 904.0	473902		
50302318002	**MW-29I**	EPA 904.0	473902		
50302318003	**MW-29B**	EPA 904.0	473902		
50302318001	**MW-29A**	Total Radium Calculation	476970		
50302318002	**MW-29I**	Total Radium Calculation	476970		
50302318003	**MW-29B**	Total Radium Calculation	476970		
50302318001	**MW-29A**	SM 2320B	650093		
50302318002	**MW-29I**	SM 2320B	650093		
50302318003	**MW-29B**	SM 2320B	650093		
50302318001	**MW-29A**	SM 2540C	649744		
50302318002	**MW-29I**	SM 2540C	649744		
50302318003	**MW-29B**	SM 2540C	649744		
50302318001	**MW-29A**	SM 4500-H+B	650040		
50302318002	**MW-29I**	SM 4500-H+B	650040		
50302318003	**MW-29B**	SM 4500-H+B	650040		
50302318001	**MW-29A**	SM 4500-S2-D	649785		
50302318002	**MW-29I**	SM 4500-S2-D	649785		
50302318003	**MW-29B**	SM 4500-S2-D	649785		
50302318001	**MW-29A**	HACH 8146	650430		
50302318002	**MW-29I**	HACH 8146	650430		
50302318003	**MW-29B**	HACH 8146	650430		
50302318001	**MW-29A**	EPA 353.2	649401		
50302318002	**MW-29I**	EPA 353.2	649401		
50302318003	**MW-29B**	EPA 353.2	649401		
50302318001	**MW-29A**	EPA 365.1	651473	EPA 365.1	651750
50302318002	**MW-29I**	EPA 365.1	651473	EPA 365.1	651750
50302318003	**MW-29B**	EPA 365.1	650340	EPA 365.1	651029

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302318

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302318001	**MW-29A**	SM 5310C	651379		
50302318002	**MW-29I**	SM 5310C	651379		
50302318003	**MW-29B**	SM 5310C	651379		
50302318001	**MW-29A**	SM 5310C	651635		
50302318002	**MW-29I**	SM 5310C	651635		
50302318003	**MW-29B**	SM 5310C	651635		

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WO# : 50302318

50302318

Pace An... WWW.PACEL...

CHAIN-OF-CUSTODY / Analytical Request Document

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

...edgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 1

Section C

Invoice Information:

...on A

...ired Client Infor...

...pany: AES/IPL Petersburg

...ess: 6925 IN-57

...rsburg, IN 47567

...il: wil.teague@aes.com

...ne: (812)354-8801 Fax:

...quested Due Date:

Report To: Teague, Wil

Copy To:

Purchase Order #:

Project Name: IDEM - CCR Sampling Profile 2 Report 5

Project #:

Attention:

Company Name:

Address:

Pace Quote:

Pace Project Manager: Hayden Putt

Pace Profile #: 8296/11

Regulatory Agency

State / Location

IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)
13	MW-25I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
14	MW-25B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
15	MW-26A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
16	MW-26I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
17	MW-26B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
18	MW-27B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
19	MW-28A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
20	MW-28I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
21	MW-28B	WT				11/08/21	1251		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
22	MW-29A	WT				↓	1349		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
23	MW-29I	WT					1457		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
24	MW-29B																													

ADDITIONAL COMMENTS

* Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)

6020 (Be, Co, As, Se, Sb, Tl)

** Dissolved FF 6010 (Mo, Mn)

Alkalinity = (Total , Bicarb & Carb)

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11-9	8.15	[signature]	11-9	8.15
[signature]	11-9	10:30	[signature]	11/9/21	1030

SAMPLE CONDITIONS

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.3	Y	Y	Y
0.6			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Golton Palmer

SIGNATURE of SAMPLER: [signature]

DATE Signed: 11/08/21

F-IN-Q-290-rev.21, 02Feb2021

SAMPLE CONDITION UPON RECEIPT FORM

Pace Analytical®

Date/Time and Initials of person examining contents: dgn 11/9/21 1115

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:** 0.7/0.6, 0.4/0.3 (Initial/Corrected)
Temp should be above freezing to 6°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
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓
Short Hold Time Analysis (48 hours or less)? **Analysis:** Nitrate	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1200	
Rush TAT Requested (4 days or less):		✓
Custody Signatures Present?	✓	
Containers Intact?:	✓	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓	
Extra labels on Terracore Vials? (soils only)		

	Yes	No	N/A
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.** **Circle:** HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form	✓		
	Present	Absent	N/A
Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Headspace Wisconsin Sulfide?			✓
	Present	Absent	No VOA Vials Sent
Headspace in VOA Vials (>6mm): See Containter Count form for details			✓
Trip Blank Present?		✓	
Trip Blank Custody Seals?:			✓

COMMENTS:

)C PAGE ____ of ____

Sample Container Count

OC Line Item	WGFU	SBS / DI / MeOH (only) / BK / Kit R	DG9H VG9H	VOA MAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10												1	1			2	1	2	1	1	1		1		
11												↓	↓			↓	↓	↓	↓	↓	↓		↓		
12																									

** Place a RED dot on containers that are out of conformance **

Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
WT	✓	✓	
	↓	↓	↓

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
ON	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 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
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

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 #: 460198
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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7726 Moller Road
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(317)228-3100

SAMPLE SUMMARY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302319001	**MW-19A**	Water	11/08/21 13:32	11/09/21 10:30
50302319002	**MW-19I**	Water	11/08/21 14:20	11/09/21 10:30
50302319003	**MW-19B**	Water	11/08/21 15:00	11/09/21 10:30
50302319004	**MW-20A**	Water	11/08/21 10:25	11/09/21 10:30
50302319005	**MW-20I**	Water	11/08/21 11:10	11/09/21 10:30
50302319006	**MW-20B**	Water	11/08/21 11:50	11/09/21 10:30

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302319001	**MW-19A**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302319002	**MW-19I**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302319003	**MW-19B**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302319004	**MW-20A**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302319005	**MW-20I**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302319006	**MW-20B**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302319001	**MW-19A**					
EPA 9056	Chloride	110	mg/L	25.0	11/12/21 13:50	
EPA 9056	Sulfate	1580	mg/L	25.0	11/12/21 13:50	
EPA 6010	Barium	33.9	ug/L	10.0	11/22/21 00:59	
EPA 6010	Boron	23500	ug/L	100	11/22/21 00:59	
EPA 6010	Calcium	622000	ug/L	5000	11/22/21 00:22	
EPA 6010	Iron	8970	ug/L	100	11/22/21 00:59	
EPA 6010	Magnesium	26200	ug/L	1000	11/22/21 00:59	
EPA 6010	Manganese	1750	ug/L	10.0	11/22/21 00:59	
EPA 6010	Molybdenum	847	ug/L	10.0	11/22/21 00:59	
EPA 6010	Potassium	12400	ug/L	1000	11/22/21 00:59	
EPA 6010	Silica	12100	ug/L	450	11/22/21 00:59	N2
EPA 6010	Sodium	42800	ug/L	1000	11/22/21 00:59	
EPA 6010	Manganese, Dissolved	1800	ug/L	10.0	11/18/21 13:04	
EPA 6010	Molybdenum, Dissolved	829	ug/L	10.0	11/18/21 13:04	
EPA 6020	Arsenic	1.1	ug/L	1.0	11/14/21 06:47	
EPA 903.1	Radium-226	0.247 ± 0.344 (0.575) C:NA T:96%	pCi/L		12/13/21 13:18	
EPA 904.0	Radium-228	0.768 ± 0.370 (0.622) C:74% T:95%	pCi/L		12/20/21 14:46	
Total Radium Calculation	Total Radium	1.02 ± 0.714 (1.20)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	100	mg/L	2.0	11/12/21 16:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	100	mg/L	2.0	11/12/21 16:29	
SM 2540C	Total Dissolved Solids	2460	mg/L	40.0	11/11/21 08:43	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/12/21 14:27	H3
HACH 8146	Iron, Ferrous	2.7	mg/L	0.50	11/15/21 13:46	H3,N2
EPA 353.2	Nitrogen, Nitrate	0.19	mg/L	0.10	11/09/21 17:13	
EPA 365.1	Phosphate as P04	0.19	mg/L	0.15	11/20/21 11:51	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	11/19/21 11:19	
SM 5310C	Dissolved Organic Carbon	2.7	mg/L	1.0	11/20/21 10:27	
50302319002	**MW-19I**					
EPA 9056	Chloride	11.1	mg/L	0.25	11/12/21 14:08	
EPA 9056	Sulfate	67.9	mg/L	2.5	11/12/21 14:26	
EPA 6010	Barium	63.3	ug/L	10.0	11/22/21 00:07	
EPA 6010	Boron	964	ug/L	100	11/22/21 00:07	
EPA 6010	Calcium	101000	ug/L	1000	11/22/21 00:07	
EPA 6010	Magnesium	22600	ug/L	1000	11/22/21 00:07	
EPA 6010	Manganese	1620	ug/L	10.0	11/22/21 00:07	
EPA 6010	Silica	8600	ug/L	450	11/22/21 00:07	N2
EPA 6010	Sodium	6650	ug/L	1000	11/22/21 00:07	
EPA 6010	Manganese, Dissolved	1670	ug/L	10.0	11/18/21 13:06	

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302319002	**MW-19I**					
EPA 903.1	Radium-226	-0.0720 ± 0.374 (0.865) C:NA T:95%	pCi/L		12/13/21 13:18	
EPA 904.0	Radium-228	0.474 ± 0.341 (0.657) C:75% T:89%	pCi/L		12/20/21 14:46	
Total Radium Calculation	Total Radium	0.474 ± 0.715 (1.52)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	287	mg/L	2.0	11/12/21 16:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	287	mg/L	2.0	11/12/21 16:29	
SM 2540C	Total Dissolved Solids	401	mg/L	10.0	11/11/21 08:43	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/12/21 14:42	H3
50302319003	**MW-19B**					
EPA 9056	Chloride	10.8	mg/L	0.25	11/12/21 14:45	
EPA 9056	Fluoride	0.13	mg/L	0.10	11/12/21 14:45	
EPA 9056	Sulfate	69.8	mg/L	2.5	11/12/21 15:03	
EPA 6010	Barium	60.1	ug/L	10.0	11/22/21 00:09	
EPA 6010	Boron	702	ug/L	100	11/22/21 00:09	
EPA 6010	Calcium	99800	ug/L	1000	11/22/21 00:09	
EPA 6010	Magnesium	20200	ug/L	1000	11/22/21 00:09	
EPA 6010	Potassium	1360	ug/L	1000	11/22/21 00:09	
EPA 6010	Silica	10500	ug/L	450	11/22/21 00:09	N2
EPA 6010	Sodium	9580	ug/L	1000	11/22/21 00:09	
EPA 6020	Selenium	3.3	ug/L	1.0	11/14/21 07:03	
EPA 903.1	Radium-226	0.277 ± 0.385 (0.643) C:NA T:89%	pCi/L		12/13/21 13:18	
EPA 904.0	Radium-228	0.760 ± 0.389 (0.676) C:74% T:92%	pCi/L		12/20/21 14:46	
Total Radium Calculation	Total Radium	1.04 ± 0.774 (1.32)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	260	mg/L	2.0	11/12/21 16:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	260	mg/L	2.0	11/12/21 16:29	
SM 2540C	Total Dissolved Solids	413	mg/L	10.0	11/11/21 08:43	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/12/21 14:44	H3
EPA 353.2	Nitrogen, Nitrate	3.6	mg/L	0.10	11/09/21 17:20	
50302319004	**MW-20A**					
EPA 9056	Chloride	79.3	mg/L	2.5	11/12/21 15:40	
EPA 9056	Sulfate	1060	mg/L	25.0	11/16/21 12:22	P8
EPA 6010	Barium	35.7	ug/L	10.0	11/22/21 00:11	
EPA 6010	Boron	15800	ug/L	100	11/22/21 00:11	

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(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302319004	**MW-20A**					
EPA 6010	Calcium	455000	ug/L	5000	11/22/21 01:04	
EPA 6010	Iron	8290	ug/L	100	11/22/21 00:11	
EPA 6010	Magnesium	32600	ug/L	1000	11/22/21 00:11	
EPA 6010	Manganese	1410	ug/L	10.0	11/22/21 00:11	
EPA 6010	Molybdenum	463	ug/L	10.0	11/22/21 00:11	
EPA 6010	Potassium	5910	ug/L	1000	11/22/21 00:11	
EPA 6010	Silica	12300	ug/L	450	11/22/21 00:11	N2
EPA 6010	Sodium	30700	ug/L	1000	11/22/21 00:11	
EPA 6010	Manganese, Dissolved	1480	ug/L	10.0	11/18/21 13:11	
EPA 6010	Molybdenum, Dissolved	474	ug/L	10.0	11/18/21 13:11	
EPA 6020	Arsenic	2.1	ug/L	1.0	11/14/21 07:08	
EPA 903.1	Radium-226	-0.406 ± 0.499 (1.18) C:NA T:92%	pCi/L		12/13/21 13:33	
EPA 904.0	Radium-228	0.553 ± 0.357 (0.668) C:70% T:95%	pCi/L		12/20/21 14:46	
Total Radium Calculation	Total Radium	0.553 ± 0.856 (1.85)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	191	mg/L	2.0	11/12/21 16:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	191	mg/L	2.0	11/12/21 16:29	
SM 2540C	Total Dissolved Solids	1850	mg/L	20.0	11/11/21 08:43	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 14:46	H3
HACH 8146	Iron, Ferrous	1.3	mg/L	0.20	11/15/21 13:44	H3,N2
EPA 365.1	Phosphate as P04	0.19	mg/L	0.15	11/20/21 11:51	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	11/19/21 12:22	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	11/20/21 10:56	
50302319005	**MW-20I**					
EPA 9056	Chloride	11.2	mg/L	0.25	11/12/21 23:47	
EPA 9056	Sulfate	47.0	mg/L	2.5	11/13/21 00:02	
EPA 6010	Barium	64.4	ug/L	10.0	11/22/21 00:14	
EPA 6010	Boron	313	ug/L	100	11/22/21 00:14	
EPA 6010	Calcium	128000	ug/L	1000	11/22/21 00:14	
EPA 6010	Magnesium	26700	ug/L	1000	11/22/21 00:14	
EPA 6010	Manganese	1820	ug/L	10.0	11/22/21 00:14	
EPA 6010	Silica	11100	ug/L	450	11/22/21 00:14	N2
EPA 6010	Sodium	5780	ug/L	1000	11/22/21 00:14	
EPA 6010	Manganese, Dissolved	1920	ug/L	10.0	11/18/21 13:13	
EPA 6020	Cobalt	1.3	ug/L	1.0	11/14/21 07:12	
EPA 6020	Selenium	1.7	ug/L	1.0	11/14/21 07:12	
EPA 903.1	Radium-226	0.267 ± 0.667 (1.21) C:NA T:98%	pCi/L		12/13/21 13:33	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302319005	**MW-20I**					
EPA 904.0	Radium-228	0.638 ± 0.332 (0.561) C:74% T:92%	pCi/L		12/20/21 14:46	
Total Radium Calculation	Total Radium	0.905 ± 0.999 (1.77)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	345	mg/L	2.0	11/12/21 16:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	345	mg/L	2.0	11/12/21 16:29	
SM 2540C	Total Dissolved Solids	476	mg/L	10.0	11/11/21 08:43	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 14:48	H3
EPA 353.2	Nitrogen, Nitrate	1.8	mg/L	0.10	11/09/21 16:56	
50302319006	**MW-20B**					
EPA 9056	Chloride	18.2	mg/L	2.5	11/13/21 00:13	
EPA 9056	Sulfate	80.7	mg/L	2.5	11/13/21 00:13	
EPA 6010	Aluminum	301	ug/L	200	11/22/21 00:16	
EPA 6010	Barium	119	ug/L	10.0	11/22/21 00:16	
EPA 6010	Boron	632	ug/L	100	11/22/21 00:16	
EPA 6010	Calcium	172000	ug/L	1000	11/22/21 00:16	
EPA 6010	Iron	322	ug/L	100	11/22/21 00:16	
EPA 6010	Magnesium	25300	ug/L	1000	11/22/21 00:16	
EPA 6010	Manganese	140	ug/L	10.0	11/22/21 00:16	
EPA 6010	Potassium	1090	ug/L	1000	11/22/21 00:16	
EPA 6010	Silica	14600	ug/L	450	11/22/21 00:16	N2
EPA 6010	Sodium	12200	ug/L	1000	11/22/21 00:16	
EPA 6010	Manganese, Dissolved	122	ug/L	10.0	11/18/21 13:20	
EPA 6020	Selenium	3.7	ug/L	1.0	11/14/21 07:16	
EPA 903.1	Radium-226	0.346 ± 0.555 (0.961) C:NA T:96%	pCi/L		12/13/21 13:33	
EPA 904.0	Radium-228	0.522 ± 0.341 (0.634) C:73% T:89%	pCi/L		12/20/21 14:46	
Total Radium Calculation	Total Radium	0.868 ± 0.896 (1.60)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	418	mg/L	2.0	11/12/21 16:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	418	mg/L	2.0	11/12/21 16:29	
SM 2540C	Total Dissolved Solids	618	mg/L	10.0	11/11/21 08:44	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/12/21 14:24	H3
EPA 353.2	Nitrogen, Nitrate	3.0	mg/L	0.10	11/09/21 17:09	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	11/19/21 13:01	
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	11/20/21 11:15	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-19A **Lab ID: 50302319001** Collected: 11/08/21 13:32 Received: 11/09/21 10:30 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	**110**	mg/L	25.0	100		11/12/21 13:50	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/21 13:31	16984-48-8	
Sulfate	**1580**	mg/L	25.0	100		11/12/21 13:50	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/22/21 00:59	7429-90-5	
Barium	**33.9**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:59	7440-39-3	
Boron	**23500**	ug/L	100	1	11/16/21 14:15	11/22/21 00:59	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/22/21 00:59	7440-43-9	
Calcium	**622000**	ug/L	5000	5	11/16/21 14:15	11/22/21 00:22	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:59	7440-47-3	
Iron	**8970**	ug/L	100	1	11/16/21 14:15	11/22/21 00:59	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:59	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/22/21 00:59	7439-93-2	
Magnesium	**26200**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:59	7439-95-4	
Manganese	**1750**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:59	7439-96-5	
Molybdenum	**847**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:59	7439-98-7	
Potassium	**12400**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:59	7440-09-7	
Silica	**12100**	ug/L	450	1	11/16/21 14:15	11/22/21 00:59	7631-86-9	N2
Sodium	**42800**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:59	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1800**	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:04	7439-96-5	
Molybdenum, Dissolved	**829**	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:04	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	11/10/21 18:00	11/14/21 06:47	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:47	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 18:00	11/14/21 06:47	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:47	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:47	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:47	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**100**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Bicarbonate (CaCO3)	**100**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/12/21 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2460**	mg/L	40.0	1		11/11/21 08:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-19A **Lab ID: 50302319001** Collected: 11/08/21 13:32 Received: 11/09/21 10:30 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		11/12/21 14:27		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 12:29	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**2.7**	mg/L	0.50	2.5		11/15/21 13:46		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.19**	mg/L	0.10	1		11/09/21 17:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/09/21 17:13	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.19**	mg/L	0.15	1	11/19/21 11:00	11/20/21 11:51		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.5**	mg/L	1.0	1		11/19/21 11:19	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.7**	mg/L	1.0	1		11/20/21 10:27		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-19I **Lab ID: 50302319002** Collected: 11/08/21 14:20 Received: 11/09/21 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**11.1**	mg/L	0.25	1		11/12/21 14:08	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/21 14:08	16984-48-8	
Sulfate	**67.9**	mg/L	2.5	10		11/12/21 14:26	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/22/21 00:07	7429-90-5	
Barium	**63.3**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:07	7440-39-3	
Boron	**964**	ug/L	100	1	11/16/21 14:15	11/22/21 00:07	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/22/21 00:07	7440-43-9	
Calcium	**101000**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:07	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:07	7440-47-3	
Iron	ND	ug/L	100	1	11/16/21 14:15	11/22/21 00:07	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:07	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/22/21 00:07	7439-93-2	
Magnesium	**22600**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:07	7439-95-4	
Manganese	**1620**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:07	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:07	7439-98-7	
Potassium	ND	ug/L	1000	1	11/16/21 14:15	11/22/21 00:07	7440-09-7	
Silica	**8600**	ug/L	450	1	11/16/21 14:15	11/22/21 00:07	7631-86-9	N2
Sodium	**6650**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:07	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1670**	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:06	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:06	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	11/10/21 18:00	11/14/21 06:51	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:51	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 18:00	11/14/21 06:51	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:51	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:51	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 06:51	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**287**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Bicarbonate (CaCO3)	**287**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/12/21 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**401**	mg/L	10.0	1		11/11/21 08:43		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-19I **Lab ID: 50302319002** Collected: 11/08/21 14:20 Received: 11/09/21 10:30 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		11/12/21 14:42		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 12:29	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:48		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		11/09/21 17:17	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/09/21 17:17	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	11/15/21 06:00	11/17/21 16:58		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/19/21 11:38	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/20/21 10:37		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-19B **Lab ID: 50302319003** Collected: 11/08/21 15:00 Received: 11/09/21 10:30 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	**10.8**	mg/L	0.25	1		11/12/21 14:45	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		11/12/21 14:45	16984-48-8	
Sulfate	**69.8**	mg/L	2.5	10		11/12/21 15:03	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/22/21 00:09	7429-90-5	
Barium	**60.1**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:09	7440-39-3	
Boron	**702**	ug/L	100	1	11/16/21 14:15	11/22/21 00:09	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/22/21 00:09	7440-43-9	
Calcium	**99800**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:09	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:09	7440-47-3	
Iron	ND	ug/L	100	1	11/16/21 14:15	11/22/21 00:09	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:09	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/22/21 00:09	7439-93-2	
Magnesium	**20200**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:09	7439-95-4	
Manganese	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:09	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:09	7439-98-7	
Potassium	**1360**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:09	7440-09-7	
Silica	**10500**	ug/L	450	1	11/16/21 14:15	11/22/21 00:09	7631-86-9	N2
Sodium	**9580**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:09	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	11/17/21 06:44	11/18/21 13:09	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:09	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	11/10/21 18:00	11/14/21 07:03	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:03	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 18:00	11/14/21 07:03	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:03	7440-48-4	
Selenium	**3.3**	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:03	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:03	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**260**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Bicarbonate (CaCO3)	**260**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/12/21 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**413**	mg/L	10.0	1		11/11/21 08:43		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-19B **Lab ID: 50302319003** Collected: 11/08/21 15:00 Received: 11/09/21 10:30 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		11/12/21 14:44		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 12:29	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:53		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**3.6**	mg/L	0.10	1		11/09/21 17:20	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/09/21 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	11/15/21 06:00	11/17/21 16:58		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/19/21 12:03	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/20/21 10:46		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-20A **Lab ID: 50302319004** Collected: 11/08/21 10:25 Received: 11/09/21 10:30 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	**79.3**	mg/L	2.5	10		11/12/21 15:40	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/21 15:22	16984-48-8	
Sulfate	**1060**	mg/L	25.0	100		11/16/21 12:22	14808-79-8	P8
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/22/21 00:11	7429-90-5	
Barium	**35.7**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:11	7440-39-3	
Boron	**15800**	ug/L	100	1	11/16/21 14:15	11/22/21 00:11	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/22/21 00:11	7440-43-9	
Calcium	**455000**	ug/L	5000	5	11/16/21 14:15	11/22/21 01:04	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:11	7440-47-3	
Iron	**8290**	ug/L	100	1	11/16/21 14:15	11/22/21 00:11	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:11	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/22/21 00:11	7439-93-2	
Magnesium	**32600**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:11	7439-95-4	
Manganese	**1410**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:11	7439-96-5	
Molybdenum	**463**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:11	7439-98-7	
Potassium	**5910**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:11	7440-09-7	
Silica	**12300**	ug/L	450	1	11/16/21 14:15	11/22/21 00:11	7631-86-9	N2
Sodium	**30700**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:11	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1480**	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:11	7439-96-5	
Molybdenum, Dissolved	**474**	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:11	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	11/10/21 18:00	11/14/21 07:08	7440-36-0	
Arsenic	**2.1**	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:08	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 18:00	11/14/21 07:08	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:08	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:08	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:08	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**191**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Bicarbonate (CaCO3)	**191**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/12/21 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1850**	mg/L	20.0	1		11/11/21 08:43		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-20A **Lab ID: 50302319004** Collected: 11/08/21 10:25 Received: 11/09/21 10:30 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		11/12/21 14:46		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 12:29	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.3**	mg/L	0.20	1		11/15/21 13:44		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		11/09/21 16:54	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/09/21 16:54	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.19**	mg/L	0.15	1	11/19/21 11:00	11/20/21 11:51		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.2**	mg/L	1.0	1		11/19/21 12:22	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		11/20/21 10:56		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-20I **Lab ID: 50302319005** Collected: 11/08/21 11:10 Received: 11/09/21 10:30 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	**11.2**	mg/L	0.25	1		11/12/21 23:47	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/21 23:47	16984-48-8	
Sulfate	**47.0**	mg/L	2.5	10		11/13/21 00:02	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/16/21 14:15	11/22/21 00:14	7429-90-5	
Barium	**64.4**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:14	7440-39-3	
Boron	**313**	ug/L	100	1	11/16/21 14:15	11/22/21 00:14	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/22/21 00:14	7440-43-9	
Calcium	**128000**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:14	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:14	7440-47-3	
Iron	ND	ug/L	100	1	11/16/21 14:15	11/22/21 00:14	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:14	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/22/21 00:14	7439-93-2	
Magnesium	**26700**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:14	7439-95-4	
Manganese	**1820**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:14	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:14	7439-98-7	
Potassium	ND	ug/L	1000	1	11/16/21 14:15	11/22/21 00:14	7440-09-7	
Silica	**11100**	ug/L	450	1	11/16/21 14:15	11/22/21 00:14	7631-86-9	N2
Sodium	**5780**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:14	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1920**	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:13	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:13	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:12	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:12	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 18:00	11/14/21 07:12	7440-41-7	
Cobalt	**1.3**	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:12	7440-48-4	
Selenium	**1.7**	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:12	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**345**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Bicarbonate (CaCO3)	**345**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/12/21 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**476**	mg/L	10.0	1		11/11/21 08:43		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-20I **Lab ID: 50302319005** Collected: 11/08/21 11:10 Received: 11/09/21 10:30 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		11/12/21 14:48		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 12:29	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:45		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**1.8**	mg/L	0.10	1		11/09/21 16:56	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/09/21 16:56	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	11/15/21 06:00	11/17/21 17:02		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/19/21 12:42	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/20/21 11:06		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-20B **Lab ID: 50302319006** Collected: 11/08/21 11:50 Received: 11/09/21 10:30 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	**18.2**	mg/L	2.5	10		11/13/21 00:13	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/21 00:50	16984-48-8	
Sulfate	**80.7**	mg/L	2.5	10		11/13/21 00:13	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**301**	ug/L	200	1	11/16/21 14:15	11/22/21 00:16	7429-90-5	
Barium	**119**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:16	7440-39-3	
Boron	**632**	ug/L	100	1	11/16/21 14:15	11/22/21 00:16	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/16/21 14:15	11/22/21 00:16	7440-43-9	
Calcium	**172000**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:16	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:16	7440-47-3	
Iron	**322**	ug/L	100	1	11/16/21 14:15	11/22/21 00:16	7439-89-6	
Lead	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:16	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/16/21 14:15	11/22/21 00:16	7439-93-2	
Magnesium	**25300**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:16	7439-95-4	
Manganese	**140**	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:16	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/16/21 14:15	11/22/21 00:16	7439-98-7	
Potassium	**1090**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:16	7440-09-7	
Silica	**14600**	ug/L	450	1	11/16/21 14:15	11/22/21 00:16	7631-86-9	N2
Sodium	**12200**	ug/L	1000	1	11/16/21 14:15	11/22/21 00:16	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**122**	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:20	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/17/21 06:44	11/18/21 13:20	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:16	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:16	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/10/21 18:00	11/14/21 07:16	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:16	7440-48-4	
Selenium	**3.7**	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:16	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/10/21 18:00	11/14/21 07:16	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**418**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Bicarbonate (CaCO3)	**418**	mg/L	2.0	1		11/12/21 16:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/12/21 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**618**	mg/L	10.0	1		11/11/21 08:44		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-20B **Lab ID: 50302319006** Collected: 11/08/21 11:50 Received: 11/09/21 10:30 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		11/12/21 14:24		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 12:29	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:46		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**3.0**	mg/L	0.10	1		11/09/21 17:09	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/09/21 17:09	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/19/21 11:00	11/20/21 11:52		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.3**	mg/L	1.0	1		11/19/21 13:01	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		11/20/21 11:15		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 649633
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004

METHOD BLANK: 2993474 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/12/21 02:45	
Fluoride	mg/L	ND	0.10	11/12/21 02:45	
Sulfate	mg/L	ND	0.25	11/12/21 02:45	

LABORATORY CONTROL SAMPLE: 2993475

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	0.47	94	80-120	
Sulfate	mg/L	2.5	2.3	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993476 2993477

Parameter	Units	50302256001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	164	125	125	289	287	100	98	80-120	1	15	
Fluoride	mg/L	0.15	0.5	0.5	0.58	0.58	87	87	80-120	1	15	
Sulfate	mg/L	1180	250	250	1400	1400	90	87	80-120	1	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 649634
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319005, 50302319006

METHOD BLANK: 2993478 Matrix: Water
Associated Lab Samples: 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/12/21 21:09	
Fluoride	mg/L	ND	0.10	11/12/21 21:09	
Sulfate	mg/L	ND	0.25	11/12/21 21:09	

LABORATORY CONTROL SAMPLE: 2993479

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	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993480 2993481

Parameter	Units	50302389001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	44.8	12.5	12.5	56.7	56.6	95	94	80-120	0	15	
Fluoride	mg/L	0.59	0.5	0.5	1.0	1.0	82	83	80-120	1	15	
Sulfate	mg/L	<2.0	2.5	2.5	2.5	2.5	99	98	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 649727
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2994108 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/21/21 23:26	
Barium	ug/L	ND	10.0	11/21/21 23:26	
Boron	ug/L	ND	100	11/21/21 23:26	
Cadmium	ug/L	ND	2.0	11/21/21 23:26	
Calcium	ug/L	ND	1000	11/21/21 23:26	
Chromium	ug/L	ND	10.0	11/21/21 23:26	
Iron	ug/L	ND	100	11/21/21 23:26	
Lead	ug/L	ND	10.0	11/21/21 23:26	
Lithium	ug/L	ND	20.0	11/21/21 23:26	
Magnesium	ug/L	ND	1000	11/21/21 23:26	
Manganese	ug/L	ND	10.0	11/21/21 23:26	
Molybdenum	ug/L	ND	10.0	11/21/21 23:26	
Potassium	ug/L	ND	1000	11/21/21 23:26	
Silica	ug/L	ND	450	11/21/21 23:26	N2
Sodium	ug/L	ND	1000	11/21/21 23:26	

LABORATORY CONTROL SAMPLE: 2994109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4670	93	80-120	
Barium	ug/L	1000	923	92	80-120	
Boron	ug/L	1000	929	93	80-120	
Cadmium	ug/L	1000	914	91	80-120	
Calcium	ug/L	5000	4750	95	80-120	
Chromium	ug/L	1000	945	95	80-120	
Iron	ug/L	2500	2300	92	80-120	
Lead	ug/L	1000	888	89	80-120	
Lithium	ug/L	1000	940	94	80-120	
Magnesium	ug/L	5000	4470	89	80-120	
Manganese	ug/L	1000	898	90	80-120	
Molybdenum	ug/L	1000	930	93	80-120	
Potassium	ug/L	5000	4680	94	80-120	
Silica	ug/L	5350	5040	94	80-120	N2
Sodium	ug/L	5000	4700	94	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994110 2994111

Parameter	Units	50302232005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4670	4740	92	94	75-125	1	20	
Barium	ug/L	29.1	1000	1000	926	956	90	93	75-125	3	20	
Boron	ug/L	13900	1000	1000	14500	14900	57	100	75-125	3	20	P6
Cadmium	ug/L	ND	1000	1000	931	943	93	94	75-125	1	20	
Calcium	ug/L	582000	5000	5000	560000	588000	-440	100	75-125	5	20	P6
Chromium	ug/L	ND	1000	1000	918	928	92	93	75-125	1	20	
Iron	ug/L	2140	2500	2500	4230	4360	83	89	75-125	3	20	
Lead	ug/L	ND	1000	1000	818	828	82	83	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1040	1070	102	106	75-125	3	20	
Magnesium	ug/L	23400	5000	5000	26700	27600	67	84	75-125	3	20	P6
Manganese	ug/L	4030	1000	1000	4700	4880	68	85	75-125	4	20	P6
Molybdenum	ug/L	121	1000	1000	1040	1060	92	94	75-125	2	20	
Potassium	ug/L	10000	5000	5000	14700	15400	94	109	75-125	5	20	
Silica	ug/L	9900	5350	5350	14600	15000	89	95	75-125	2	20	N2
Sodium	ug/L	40400	5000	5000	43800	45900	69	110	75-125	5	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 650081
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2996152 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/18/21 12:03	
Molybdenum, Dissolved	ug/L	ND	10.0	11/18/21 12:03	

LABORATORY CONTROL SAMPLE: 2996153

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	989	99	80-120	
Molybdenum, Dissolved	ug/L	1000	973	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2996154 2996155

Parameter	Units	50302273001 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	16.8	1000	1000	1010	1030	99	101	75-125	2	20	
Molybdenum, Dissolved	ug/L	<10.0	1000	1000	968	992	97	99	75-125	2	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 649508
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2992852 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/14/21 05:16	
Arsenic	ug/L	ND	1.0	11/14/21 05:16	
Beryllium	ug/L	ND	0.20	11/14/21 05:16	
Cobalt	ug/L	ND	1.0	11/14/21 05:16	
Selenium	ug/L	ND	1.0	11/14/21 05:16	
Thallium	ug/L	ND	1.0	11/14/21 05:16	

LABORATORY CONTROL SAMPLE: 2992853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.3	103	80-120	
Arsenic	ug/L	40	39.0	97	80-120	
Beryllium	ug/L	40	36.6	91	80-120	
Cobalt	ug/L	40	38.5	96	80-120	
Selenium	ug/L	40	38.9	97	80-120	
Thallium	ug/L	40	39.2	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992854 2992855

Parameter	Units	50302272001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<1.0	40	40	42.3	42.7	106	107	75-125	1	20	
Arsenic	ug/L	<1.0	40	40	40.2	40.0	100	100	75-125	0	20	
Beryllium	ug/L	<0.20	40	40	39.2	39.4	98	98	75-125	1	20	
Cobalt	ug/L	<1.0	40	40	36.5	36.2	91	90	75-125	1	20	
Selenium	ug/L	<1.0	40	40	38.7	39.3	96	98	75-125	2	20	
Thallium	ug/L	<1.0	40	40	39.7	40.2	99	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 650093 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2996225 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/12/21 16:29	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/12/21 16:29	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/12/21 16:29	

LABORATORY CONTROL SAMPLE: 2996226

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: 2996227

Parameter	Units	50302278003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	377	382	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	377	382	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2996228

Parameter	Units	50302319001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	103	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	100	103	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 649744 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2994203 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/11/21 08:40	

LABORATORY CONTROL SAMPLE: 2994204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	255	85	80-120	

SAMPLE DUPLICATE: 2994205

Parameter	Units	50302278003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	480	484	1	10	

SAMPLE DUPLICATE: 2994206

Parameter	Units	50302278004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1450	1480	2	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 650077
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

SAMPLE DUPLICATE: 2996137

Parameter	Units	50302371001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.8	1	2	H3

SAMPLE DUPLICATE: 2996138

Parameter	Units	50302399001 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: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 649785 | 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: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2994354 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/11/21 12:29	

LABORATORY CONTROL SAMPLE: 2994355

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: 2994356 2994357

Parameter	Units	50302278003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.11J	0.5	0.5	0.61	0.59	99	96	90-110	3	20	

MATRIX SPIKE SAMPLE: 2994358

Parameter	Units	50302318001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.52	85	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 650430 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2997963 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 13:43	H3,N2

LABORATORY CONTROL SAMPLE: 2997964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	107	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997965 2997966

Parameter	Units	50302319002 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	109	109	90-110	0	20	H3,N2

MATRIX SPIKE SAMPLE: 2997967

Parameter	Units	50302318003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.0	102	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 649401 | 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: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2992331 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/09/21 16:47	
Nitrogen, Nitrite	mg/L	ND	0.10	11/09/21 16:47	

LABORATORY CONTROL SAMPLE: 2992332

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	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992333 2992334

Parameter	Units	50302292004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.0	1.0	94	95	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	108	108	90-110	0	20	

MATRIX SPIKE SAMPLE: 2992335

Parameter	Units	50302276004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.78	74	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	101	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 650340
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319002, 50302319003

METHOD BLANK: 2997729 Matrix: Water
Associated Lab Samples: 50302319002, 50302319003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/17/21 16:42	

LABORATORY CONTROL SAMPLE: 2997730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.8			

MATRIX SPIKE SAMPLE: 2997731

Parameter	Units	50302275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.9			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997732 2997733

Parameter	Units	50302278003 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			1.7	1.6				9		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 650341
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319005

METHOD BLANK: 2997734 Matrix: Water
Associated Lab Samples: 50302319005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/17/21 17:00	

LABORATORY CONTROL SAMPLE: 2997735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.9			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997736 2997737

Parameter	Units	50302371002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.6	1.7				4		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 651473 | 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: 50302319001, 50302319004, 50302319006

METHOD BLANK: 3002759 Matrix: Water
Associated Lab Samples: 50302319001, 50302319004, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/20/21 11:47	

LABORATORY CONTROL SAMPLE: 3002760

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3002761 3002762

Parameter	Units	50302318001 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	0.21			1.8	1.7				2		

MATRIX SPIKE SAMPLE: 3002763

Parameter	Units	50303121001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	19.0		20.9			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 651379 — Analysis Method: SM 5310C
QC Batch Method: SM 5310C — Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 3002353 — Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/19/21 07:11	

LABORATORY CONTROL SAMPLE: 3002354

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3002355 3002356

Parameter	Units	50302389001 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	2.1	10	10	12.0	12.0	100	100	80-120	0	20	

MATRIX SPIKE SAMPLE: 3002358

Parameter	Units	50302319006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.3	10	11.4	101	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 651635 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 3003585 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/19/21 23:52	

LABORATORY CONTROL SAMPLE: 3003586

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3003587 3003588

Parameter	Units	50302278003 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	14.7	20	20	35.9	35.9	106	106	80-120	0	20	

MATRIX SPIKE SAMPLE: 3003589

Parameter	Units	50302318003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	ND	10	11.1	102	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-19A **Lab ID: 50302319001** Collected: 11/08/21 13:32 Received: 11/09/21 10:30 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	**0.247 ± 0.344 (0.575) C:NA T:96%**	pCi/L	12/13/21 13:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.768 ± 0.370 (0.622) C:74% T:95%**	pCi/L	12/20/21 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.02 ± 0.714 (1.20)**	pCi/L	12/21/21 09:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-19I **Lab ID: 50302319002** Collected: 11/08/21 14:20 Received: 11/09/21 10:30 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	**-0.0720 ± 0.374 (0.865) C:NA T:95%**	pCi/L	12/13/21 13:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.474 ± 0.341 (0.657) C:75% T:89%**	pCi/L	12/20/21 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.474 ± 0.715 (1.52)**	pCi/L	12/21/21 09:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-19B **Lab ID: 50302319003** Collected: 11/08/21 15:00 Received: 11/09/21 10:30 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	**0.277 ± 0.385 (0.643) C:NA T:89%**	pCi/L	12/13/21 13:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.760 ± 0.389 (0.676) C:74% T:92%**	pCi/L	12/20/21 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.04 ± 0.774 (1.32)**	pCi/L	12/21/21 09:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-20A **Lab ID: 50302319004** Collected: 11/08/21 10:25 Received: 11/09/21 10:30 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	**-0.406 ± 0.499 (1.18) C:NA T:92%**	pCi/L	12/13/21 13:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.553 ± 0.357 (0.668) C:70% T:95%**	pCi/L	12/20/21 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.553 ± 0.856 (1.85)**	pCi/L	12/21/21 09:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-20I **Lab ID: 50302319005** Collected: 11/08/21 11:10 Received: 11/09/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.267 ± 0.667 (1.21) C:NA T:98%**	pCi/L	12/13/21 13:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.638 ± 0.332 (0.561) C:74% T:92%**	pCi/L	12/20/21 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.905 ± 0.999 (1.77)**	pCi/L	12/21/21 09:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Sample: MW-20B **Lab ID: 50302319006** Collected: 11/08/21 11:50 Received: 11/09/21 10:30 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	**0.346 ± 0.555 (0.961) C:NA T:96%**	pCi/L	12/13/21 13:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.522 ± 0.341 (0.634) C:73% T:89%**	pCi/L	12/20/21 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.868 ± 0.896 (1.60)**	pCi/L	12/21/21 09:26	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 473900 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: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2289294 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.101 ± 0.244 (0.608) C:NA T:90%	pCi/L	12/13/21 12:55	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

QC Batch: 473902 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: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

METHOD BLANK: 2289309 Matrix: Water
Associated Lab Samples: 50302319001, 50302319002, 50302319003, 50302319004, 50302319005, 50302319006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.237 ± 0.332 (0.712) C:73% T:87%	pCi/L	12/20/21 11:43	

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QUALIFIERS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

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.
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.
P8	Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302319001	**MW-19A**	EPA 9056	649633		
50302319002	**MW-19I**	EPA 9056	649633		
50302319003	**MW-19B**	EPA 9056	649633		
50302319004	**MW-20A**	EPA 9056	649633		
50302319005	**MW-20I**	EPA 9056	649634		
50302319006	**MW-20B**	EPA 9056	649634		
50302319001	**MW-19A**	EPA 3010	649727	EPA 6010	651846
50302319002	**MW-19I**	EPA 3010	649727	EPA 6010	651846
50302319003	**MW-19B**	EPA 3010	649727	EPA 6010	651846
50302319004	**MW-20A**	EPA 3010	649727	EPA 6010	651846
50302319005	**MW-20I**	EPA 3010	649727	EPA 6010	651846
50302319006	**MW-20B**	EPA 3010	649727	EPA 6010	651846
50302319001	**MW-19A**	EPA 3010	650081	EPA 6010	651264
50302319002	**MW-19I**	EPA 3010	650081	EPA 6010	651264
50302319003	**MW-19B**	EPA 3010	650081	EPA 6010	651264
50302319004	**MW-20A**	EPA 3010	650081	EPA 6010	651264
50302319005	**MW-20I**	EPA 3010	650081	EPA 6010	651264
50302319006	**MW-20B**	EPA 3010	650081	EPA 6010	651264
50302319001	**MW-19A**	EPA 200.2	649508	EPA 6020	649734
50302319002	**MW-19I**	EPA 200.2	649508	EPA 6020	649734
50302319003	**MW-19B**	EPA 200.2	649508	EPA 6020	649734
50302319004	**MW-20A**	EPA 200.2	649508	EPA 6020	649734
50302319005	**MW-20I**	EPA 200.2	649508	EPA 6020	649734
50302319006	**MW-20B**	EPA 200.2	649508	EPA 6020	649734
50302319001	**MW-19A**	EPA 903.1	473900		
50302319002	**MW-19I**	EPA 903.1	473900		
50302319003	**MW-19B**	EPA 903.1	473900		
50302319004	**MW-20A**	EPA 903.1	473900		
50302319005	**MW-20I**	EPA 903.1	473900		
50302319006	**MW-20B**	EPA 903.1	473900		
50302319001	**MW-19A**	EPA 904.0	473902		
50302319002	**MW-19I**	EPA 904.0	473902		
50302319003	**MW-19B**	EPA 904.0	473902		
50302319004	**MW-20A**	EPA 904.0	473902		
50302319005	**MW-20I**	EPA 904.0	473902		
50302319006	**MW-20B**	EPA 904.0	473902		
50302319001	**MW-19A**	Total Radium Calculation	476970		
50302319002	**MW-19I**	Total Radium Calculation	476970		
50302319003	**MW-19B**	Total Radium Calculation	476970		
50302319004	**MW-20A**	Total Radium Calculation	476970		
50302319005	**MW-20I**	Total Radium Calculation	476970		
50302319006	**MW-20B**	Total Radium Calculation	476970		
50302319001	**MW-19A**	SM 2320B	650093		
50302319002	**MW-19I**	SM 2320B	650093		
50302319003	**MW-19B**	SM 2320B	650093		

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302319004	**MW-20A**	SM 2320B	650093		
50302319005	**MW-20I**	SM 2320B	650093		
50302319006	**MW-20B**	SM 2320B	650093		
50302319001	**MW-19A**	SM 2540C	649744		
50302319002	**MW-19I**	SM 2540C	649744		
50302319003	**MW-19B**	SM 2540C	649744		
50302319004	**MW-20A**	SM 2540C	649744		
50302319005	**MW-20I**	SM 2540C	649744		
50302319006	**MW-20B**	SM 2540C	649744		
50302319001	**MW-19A**	SM 4500-H+B	650077		
50302319002	**MW-19I**	SM 4500-H+B	650077		
50302319003	**MW-19B**	SM 4500-H+B	650077		
50302319004	**MW-20A**	SM 4500-H+B	650077		
50302319005	**MW-20I**	SM 4500-H+B	650077		
50302319006	**MW-20B**	SM 4500-H+B	650077		
50302319001	**MW-19A**	SM 4500-S2-D	649785		
50302319002	**MW-19I**	SM 4500-S2-D	649785		
50302319003	**MW-19B**	SM 4500-S2-D	649785		
50302319004	**MW-20A**	SM 4500-S2-D	649785		
50302319005	**MW-20I**	SM 4500-S2-D	649785		
50302319006	**MW-20B**	SM 4500-S2-D	649785		
50302319001	**MW-19A**	HACH 8146	650430		
50302319002	**MW-19I**	HACH 8146	650430		
50302319003	**MW-19B**	HACH 8146	650430		
50302319004	**MW-20A**	HACH 8146	650430		
50302319005	**MW-20I**	HACH 8146	650430		
50302319006	**MW-20B**	HACH 8146	650430		
50302319001	**MW-19A**	EPA 353.2	649401		
50302319002	**MW-19I**	EPA 353.2	649401		
50302319003	**MW-19B**	EPA 353.2	649401		
50302319004	**MW-20A**	EPA 353.2	649401		
50302319005	**MW-20I**	EPA 353.2	649401		
50302319006	**MW-20B**	EPA 353.2	649401		
50302319001	**MW-19A**	EPA 365.1	651473	EPA 365.1	651750
50302319002	**MW-19I**	EPA 365.1	650340	EPA 365.1	651029
50302319003	**MW-19B**	EPA 365.1	650340	EPA 365.1	651029
50302319004	**MW-20A**	EPA 365.1	651473	EPA 365.1	651750
50302319005	**MW-20I**	EPA 365.1	650341	EPA 365.1	651030
50302319006	**MW-20B**	EPA 365.1	651473	EPA 365.1	651750
50302319001	**MW-19A**	SM 5310C	651379		
50302319002	**MW-19I**	SM 5310C	651379		
50302319003	**MW-19B**	SM 5310C	651379		
50302319004	**MW-20A**	SM 5310C	651379		

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Indianapolis, IN 46268
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302319

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302319005	**MW-20I**	SM 5310C	651379		
50302319006	**MW-20B**	SM 5310C	651379		
50302319001	**MW-19A**	SM 5310C	651635		
50302319002	**MW-19I**	SM 5310C	651635		
50302319003	**MW-19B**	SM 5310C	651635		
50302319004	**MW-20A**	SM 5310C	651635		
50302319005	**MW-20I**	SM 5310C	651635		
50302319006	**MW-20B**	SM 5310C	651635		

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WO# : 50302319

50302319

CHAIN-OF-CUSTODY / Analytical Request Document

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

...cknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Clien...	...ion:	Section C Invoice Information:
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 5	Pace Project Manager: Hayden Putt
Requested Due Date:	Project #:	Pace Profile #: 8296/11

Regulatory Agency	
State / Location	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS			2021														Requested Analysis Filtered (Y/N)												
1	AP-9A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
2	AP-18A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
3	MW-19A	WT		11-8	1332				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		001
4	MW-19I	WT		11.8	1420				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		002
5	MW-19B	WT		11.8	1500				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		003
6	MW-20A	WT		11.8	1025				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		004
7	MW-20I	WT		11.8	1110				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		005
8	MW-20B	WT		11.8	1150				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		006
9	MW-21A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
10	MW-21I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
11	MW-21B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
12	MW-25A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		

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)		11.9.21	800		11-9-21	8:00				
6020 (Be, Co, As, Se, Sb, Tl)		11-9	10:30		11/9/21	1030	1.4	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)							1.6			
Alkalinity = (Total , Bicarb & Carb)							2.6			

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:					
SIGNATURE of SAMPLER:	DATE Signed:				

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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.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
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 5	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/11

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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		Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Requested Analysis Filtered (Y/N)													
25	DUP 4	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
26	FIELD BLANK 4	WT							9	3	2	3		1					X	X	X		X	X	X	X		X	X			
27																																
28																																
29																																
30																																
31																																
32																																
33																																
34																																
35																																
36																																

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)		11-9-21	8:00		11-9-21	8:06	
6020 (Be, Co, As, Se, Sb, Tl)	Jay Wellons	11-9-21	10:30		11/9/21	1030	Pg 1
** Dissolved FF 6010 (Mo, Mn)							
Alkalinity = (Total , Bicarb & Carb)							

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:					
SIGNATURE of SAMPLER:	DATE Signed:				

CHAIN-OF-CUSTODY / Analytical Request Document

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Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
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 5	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/11

Regulatory Agency	
State / Location	IN

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

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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		Residual Chlorine (Y/N)	
13	MW-25I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
14	MW-25B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
15	MW-26A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
16	MW-26I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
17	MW-26B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
18	MW-27B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
19	MW-28A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
20	MW-28I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
21	MW-28B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
22	MW-29A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
23	MW-29I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
24	MW-29B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			

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)	[signature]	11.9.24	8:00	[signature]	11-9-24	8:00	
6020 (Be, Co, As, Se, Sb, Tl)	Jay Wallace	11-9-24	16:30	[signature]	11/9/21	1030	pg 1
** Dissolved FF 6010 (Mo, Mn)							
Alkalinity = (Total , Bicarb & Carb)							

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:					
SIGNATURE of SAMPLER:	DATE Signed:				

Pace Analytical

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: agr 11/9/21 1100

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:** 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.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** Nitrate	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1200			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS: Temp: 1.7/1.6, 3.4/2.6, 1.5/1.4 agr 11/9

COC PAGE 1 **of** 3 (no other pages)

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																															
2																															
3												1	1			2	1	2	1	1	1		1					WT	✓	✓	
4												↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	↓	↓	
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
1	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 10, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Hayden Putt

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

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

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 #: 460198
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 P2R5
Pace Project No.: 50302460

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302460001	**MW-21A**	Water	11/09/21 08:54	11/10/21 10:15
50302460002	**MW-21I**	Water	11/09/21 10:29	11/10/21 10:15
50302460003	**MW-21B**	Water	11/09/21 11:56	11/10/21 10:15

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302460001	**MW-21A**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302460002	**MW-21I**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302460003	**MW-21B**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302460001	**MW-21A**					
EPA 9056	Chloride	106	mg/L	2.5	11/13/21 03:43	
EPA 9056	Fluoride	0.14	mg/L	0.10	11/13/21 03:29	
EPA 9056	Sulfate	1520	mg/L	25.0	11/13/21 03:54	
EPA 6010	Barium	33.7	ug/L	10.0	11/22/21 16:15	
EPA 6010	Boron	11000	ug/L	500	11/22/21 17:00	
EPA 6010	Calcium	529000	ug/L	5000	11/22/21 17:00	
EPA 6010	Iron	6360	ug/L	100	11/22/21 16:15	
EPA 6010	Lithium	84.4	ug/L	20.0	11/22/21 16:15	
EPA 6010	Magnesium	41100	ug/L	1000	11/22/21 16:15	
EPA 6010	Manganese	904	ug/L	10.0	11/22/21 16:15	
EPA 6010	Molybdenum	204	ug/L	10.0	11/22/21 16:15	
EPA 6010	Potassium	19100	ug/L	1000	11/22/21 16:15	
EPA 6010	Silica	13000	ug/L	450	11/22/21 16:15	N2
EPA 6010	Sodium	72500	ug/L	1000	11/22/21 16:15	
EPA 6010	Manganese, Dissolved	891	ug/L	10.0	11/19/21 01:02	
EPA 6010	Molybdenum, Dissolved	210	ug/L	10.0	11/19/21 01:02	
EPA 6020	Arsenic	1.6	ug/L	1.0	11/15/21 01:35	
EPA 903.1	Radium-226	0.0732 ± 0.334 (0.538) C:NA T:89%	pCi/L		12/22/21 12:38	
EPA 904.0	Radium-228	0.451 ± 0.343 (0.671) C:75% T:98%	pCi/L		12/27/21 14:43	
Total Radium Calculation	Total Radium	0.524 ± 0.677 (1.21)	pCi/L		01/04/22 13:13	
SM 2320B	Alkalinity, Total as CaCO3	77.4	mg/L	2.0	11/13/21 15:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	77.4	mg/L	2.0	11/13/21 15:11	
SM 2540C	Total Dissolved Solids	2200	mg/L	40.0	11/12/21 08:59	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/12/21 15:37	H3
HACH 8146	Iron, Ferrous	1.2	mg/L	0.20	11/15/21 13:53	H3,N2
EPA 365.1	Phosphate as P04	0.77	mg/L	0.15	11/18/21 18:19	
SM 5310C	Total Organic Carbon	1.9	mg/L	1.0	11/22/21 21:48	
SM 5310C	Dissolved Organic Carbon	2.4	mg/L	1.0	11/23/21 00:01	
50302460002	**MW-21I**					
EPA 9056	Chloride	72.5	mg/L	2.5	11/13/21 04:20	
EPA 9056	Fluoride	0.15	mg/L	0.10	11/13/21 04:06	
EPA 9056	Sulfate	389	mg/L	25.0	11/13/21 04:31	
EPA 6010	Barium	39.0	ug/L	10.0	11/22/21 16:17	
EPA 6010	Boron	2670	ug/L	200	11/22/21 17:02	
EPA 6010	Calcium	239000	ug/L	2000	11/22/21 17:02	
EPA 6010	Iron	5660	ug/L	100	11/22/21 16:17	
EPA 6010	Magnesium	40200	ug/L	1000	11/22/21 16:17	
EPA 6010	Manganese	1360	ug/L	10.0	11/22/21 16:17	
EPA 6010	Molybdenum	89.1	ug/L	10.0	11/22/21 16:17	
EPA 6010	Potassium	6560	ug/L	1000	11/22/21 16:17	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302460002	**MW-21I**					
EPA 6010	Silica	14600	ug/L	450	11/22/21 16:17	N2
EPA 6010	Sodium	40100	ug/L	1000	11/22/21 16:17	
EPA 6010	Manganese, Dissolved	1360	ug/L	10.0	11/19/21 01:04	
EPA 6010	Molybdenum, Dissolved	92.4	ug/L	10.0	11/19/21 01:04	
EPA 903.1	Radium-226	0.750 ± 0.490 (0.502) C:NA T:93%	pCi/L		12/22/21 12:38	
EPA 904.0	Radium-228	0.565 ± 0.404 (0.783) C:72% T:92%	pCi/L		12/27/21 14:43	
Total Radium Calculation	Total Radium	1.32 ± 0.894 (1.29)	pCi/L		01/04/22 13:13	
SM 2320B	Alkalinity, Total as CaCO3	334	mg/L	2.0	11/13/21 15:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	334	mg/L	2.0	11/13/21 15:11	
SM 2540C	Total Dissolved Solids	990	mg/L	20.0	11/12/21 08:59	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/12/21 15:39	H3
EPA 365.1	Phosphate as P04	0.96	mg/L	0.15	11/18/21 18:20	
SM 5310C	Total Organic Carbon	1.9	mg/L	1.0	11/22/21 22:09	
SM 5310C	Dissolved Organic Carbon	4.2	mg/L	1.0	11/23/21 00:20	
50302460003	**MW-21B**					
EPA 9056	Chloride	65.0	mg/L	2.5	11/13/21 04:57	
EPA 9056	Sulfate	387	mg/L	25.0	11/13/21 05:08	
EPA 6010	Barium	70.0	ug/L	10.0	11/22/21 16:19	
EPA 6010	Boron	879	ug/L	200	11/22/21 17:05	
EPA 6010	Calcium	241000	ug/L	2000	11/22/21 17:05	
EPA 6010	Iron	374	ug/L	100	11/22/21 16:19	
EPA 6010	Magnesium	55700	ug/L	1000	11/22/21 16:19	
EPA 6010	Manganese	2130	ug/L	10.0	11/22/21 16:19	
EPA 6010	Potassium	1550	ug/L	1000	11/22/21 16:19	
EPA 6010	Silica	16900	ug/L	450	11/22/21 16:19	N2
EPA 6010	Sodium	37000	ug/L	1000	11/22/21 16:19	
EPA 6010	Manganese, Dissolved	2140	ug/L	10.0	11/19/21 01:06	
EPA 6020	Cobalt	4.2	ug/L	1.0	11/15/21 01:45	
EPA 903.1	Radium-226	0.454 ± 0.385 (0.478) C:NA T:94%	pCi/L		12/22/21 12:38	
EPA 904.0	Radium-228	0.656 ± 0.394 (0.721) C:69% T:93%	pCi/L		12/27/21 14:43	
Total Radium Calculation	Total Radium	1.11 ± 0.779 (1.20)	pCi/L		01/04/22 13:13	
SM 2320B	Alkalinity, Total as CaCO3	409	mg/L	2.0	11/13/21 15:11	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302460003	**MW-21B**					
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	409	mg/L	2.0	11/13/21 15:11	
SM 2540C	Total Dissolved Solids	1010	mg/L	20.0	11/12/21 09:00	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 15:40	H3
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	11/22/21 22:19	
SM 5310C	Dissolved Organic Carbon	2.2	mg/L	1.0	11/23/21 01:06	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Sample: MW-21A **Lab ID: 50302460001** Collected: 11/09/21 08:54 Received: 11/10/21 10:15 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	**106**	mg/L	2.5	10		11/13/21 03:43	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	1		11/13/21 03:29	16984-48-8	
Sulfate	**1520**	mg/L	25.0	100		11/13/21 03:54	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/22/21 16:15	7429-90-5	
Barium	**33.7**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:15	7440-39-3	
Boron	**11000**	ug/L	500	5	11/17/21 14:36	11/22/21 17:00	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/22/21 16:15	7440-43-9	
Calcium	**529000**	ug/L	5000	5	11/17/21 14:36	11/22/21 17:00	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:15	7440-47-3	
Iron	**6360**	ug/L	100	1	11/17/21 14:36	11/22/21 16:15	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:15	7439-92-1	
Lithium	**84.4**	ug/L	20.0	1	11/17/21 14:36	11/22/21 16:15	7439-93-2	
Magnesium	**41100**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:15	7439-95-4	
Manganese	**904**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:15	7439-96-5	
Molybdenum	**204**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:15	7439-98-7	
Potassium	**19100**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:15	7440-09-7	
Silica	**13000**	ug/L	450	1	11/17/21 14:36	11/22/21 16:15	7631-86-9	N2
Sodium	**72500**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:15	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**891**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:02	7439-96-5	
Molybdenum, Dissolved	**210**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:02	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	11/11/21 07:25	11/15/21 01:35	7440-36-0	
Arsenic	**1.6**	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:35	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/21 07:25	11/18/21 06:17	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:35	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:35	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:35	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**77.4**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Bicarbonate (CaCO3)	**77.4**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/13/21 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2200**	mg/L	40.0	1		11/12/21 08:59		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Sample: MW-21A **Lab ID: 50302460001** Collected: 11/09/21 08:54 Received: 11/10/21 10:15 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		11/12/21 15:37		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 13:28	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.2**	mg/L	0.20	1		11/15/21 13:53		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		11/10/21 14:27	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/10/21 14:27	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.77**	mg/L	0.15	1	11/17/21 10:30	11/18/21 18:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.9**	mg/L	1.0	1		11/22/21 21:48	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.4**	mg/L	1.0	1		11/23/21 00:01		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Sample: MW-21I **Lab ID: 50302460002** Collected: 11/09/21 10:29 Received: 11/10/21 10:15 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	**72.5**	mg/L	2.5	10		11/13/21 04:20	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		11/13/21 04:06	16984-48-8	
Sulfate	**389**	mg/L	25.0	100		11/13/21 04:31	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/22/21 16:17	7429-90-5	
Barium	**39.0**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:17	7440-39-3	
Boron	**2670**	ug/L	200	2	11/17/21 14:36	11/22/21 17:02	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/22/21 16:17	7440-43-9	
Calcium	**239000**	ug/L	2000	2	11/17/21 14:36	11/22/21 17:02	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:17	7440-47-3	
Iron	**5660**	ug/L	100	1	11/17/21 14:36	11/22/21 16:17	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:17	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/17/21 14:36	11/22/21 16:17	7439-93-2	
Magnesium	**40200**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:17	7439-95-4	
Manganese	**1360**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:17	7439-96-5	
Molybdenum	**89.1**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:17	7439-98-7	
Potassium	**6560**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:17	7440-09-7	
Silica	**14600**	ug/L	450	1	11/17/21 14:36	11/22/21 16:17	7631-86-9	N2
Sodium	**40100**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:17	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1360**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:04	7439-96-5	
Molybdenum, Dissolved	**92.4**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:04	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	11/11/21 07:25	11/15/21 01:40	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:40	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/21 07:25	11/15/21 14:17	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:40	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:40	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:40	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**334**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Bicarbonate (CaCO3)	**334**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/13/21 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**990**	mg/L	20.0	1		11/12/21 08:59		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Sample: MW-21I **Lab ID: 50302460002** Collected: 11/09/21 10:29 Received: 11/10/21 10:15 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		11/12/21 15:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 13:28	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:54		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		11/10/21 14:29	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/10/21 14:29	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.96**	mg/L	0.15	1	11/17/21 10:30	11/18/21 18:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.9**	mg/L	1.0	1		11/22/21 22:09	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		11/23/21 00:20		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Sample: MW-21B **Lab ID: 50302460003** Collected: 11/09/21 11:56 Received: 11/10/21 10:15 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	**65.0**	mg/L	2.5	10		11/13/21 04:57	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/21 04:43	16984-48-8	
Sulfate	**387**	mg/L	25.0	100		11/13/21 05:08	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/22/21 16:19	7429-90-5	
Barium	**70.0**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:19	7440-39-3	
Boron	**879**	ug/L	200	2	11/17/21 14:36	11/22/21 17:05	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/22/21 16:19	7440-43-9	
Calcium	**241000**	ug/L	2000	2	11/17/21 14:36	11/22/21 17:05	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:19	7440-47-3	
Iron	**374**	ug/L	100	1	11/17/21 14:36	11/22/21 16:19	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:19	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/17/21 14:36	11/22/21 16:19	7439-93-2	
Magnesium	**55700**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:19	7439-95-4	
Manganese	**2130**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:19	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:19	7439-98-7	
Potassium	**1550**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:19	7440-09-7	
Silica	**16900**	ug/L	450	1	11/17/21 14:36	11/22/21 16:19	7631-86-9	N2
Sodium	**37000**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:19	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2140**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:06	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:06	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	11/11/21 07:25	11/15/21 01:45	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:45	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/21 07:25	11/15/21 13:48	7440-41-7	
Cobalt	**4.2**	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:45	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:45	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:45	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**409**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Bicarbonate (CaCO3)	**409**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/13/21 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1010**	mg/L	20.0	1		11/12/21 09:00		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Sample: MW-21B **Lab ID: 50302460003** Collected: 11/09/21 11:56 Received: 11/10/21 10:15 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		11/12/21 15:40		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 13:28	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 13:55		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		11/10/21 14:31	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/10/21 14:31	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	11/17/21 10:30	11/18/21 18:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.8**	mg/L	1.0	1		11/22/21 22:19	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		11/23/21 01:06		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 649634
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2993478 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/12/21 21:09	
Fluoride	mg/L	ND	0.10	11/12/21 21:09	
Sulfate	mg/L	ND	0.25	11/12/21 21:09	

LABORATORY CONTROL SAMPLE: 2993479

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	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993480 2993481

Parameter	Units	50302389001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	44.8	12.5	12.5	56.7	56.6	95	94	80-120	0	15	
Fluoride	mg/L	0.59	0.5	0.5	1.0	1.0	82	83	80-120	1	15	
Sulfate	mg/L	<2.0	2.5	2.5	2.5	2.5	99	98	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 650603
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2998570 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/22/21 15:38	
Barium	ug/L	ND	10.0	11/22/21 15:38	
Boron	ug/L	ND	100	11/22/21 15:38	
Cadmium	ug/L	ND	2.0	11/22/21 15:38	
Calcium	ug/L	ND	1000	11/22/21 15:38	
Chromium	ug/L	ND	10.0	11/22/21 15:38	
Iron	ug/L	ND	100	11/22/21 15:38	
Lead	ug/L	ND	10.0	11/22/21 15:38	
Lithium	ug/L	ND	20.0	11/22/21 15:38	
Magnesium	ug/L	ND	1000	11/22/21 15:38	
Manganese	ug/L	ND	10.0	11/22/21 15:38	
Molybdenum	ug/L	ND	10.0	11/22/21 15:38	
Potassium	ug/L	ND	1000	11/22/21 15:38	
Silica	ug/L	ND	450	11/22/21 15:38	N2
Sodium	ug/L	ND	1000	11/22/21 15:38	

LABORATORY CONTROL SAMPLE: 2998571

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4590	92	80-120	
Barium	ug/L	1000	959	96	80-120	
Boron	ug/L	1000	969	97	80-120	
Cadmium	ug/L	1000	924	92	80-120	
Calcium	ug/L	5000	4950	99	80-120	
Chromium	ug/L	1000	973	97	80-120	
Iron	ug/L	2500	2440	98	80-120	
Lead	ug/L	1000	912	91	80-120	
Lithium	ug/L	1000	962	96	80-120	
Magnesium	ug/L	5000	4740	95	80-120	
Manganese	ug/L	1000	953	95	80-120	
Molybdenum	ug/L	1000	953	95	80-120	
Potassium	ug/L	5000	5010	100	80-120	
Silica	ug/L	5350	5250	98	80-120	N2
Sodium	ug/L	5000	4880	98	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998572 2998573

Parameter	Units	50302392001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4730	4750	92	93	75-125	0	20	
Barium	ug/L	0.17 mg/L	1000	1000	1120	1130	95	96	75-125	1	20	
Boron	ug/L	0.34 mg/L	1000	1000	1340	1360	100	102	75-125	2	20	
Cadmium	ug/L	ND	1000	1000	931	933	93	93	75-125	0	20	
Calcium	ug/L	124 mg/L	5000	5000	123000	128000	-8	100	75-125	4	20	P6
Chromium	ug/L	ND	1000	1000	957	966	96	96	75-125	1	20	
Iron	ug/L	1.1 mg/L	2500	2500	3450	3520	94	97	75-125	2	20	
Lead	ug/L	ND	1000	1000	867	866	87	87	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1000	1010	99	100	75-125	1	20	
Magnesium	ug/L	53.9 mg/L	5000	5000	56400	59200	51	108	75-125	5	20	P6
Manganese	ug/L	0.42 mg/L	1000	1000	1330	1360	92	94	75-125	2	20	
Molybdenum	ug/L	ND	1000	1000	957	957	96	96	75-125	0	20	
Potassium	ug/L	4.3 mg/L	5000	5000	9350	9630	101	106	75-125	3	20	
Silica	ug/L	24.7 mg/L	5350	5350	28800	30200	76	103	75-125	5	20	N2
Sodium	ug/L	79.2 mg/L	5000	5000	81400	86400	43	142	75-125	6	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 650083
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2996164 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/19/21 00:21	
Molybdenum, Dissolved	ug/L	ND	10.0	11/19/21 00:21	

LABORATORY CONTROL SAMPLE: 2996165

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: 2996166 2996167

Parameter	Units	50302394005 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	175	1000	1000	1140	1160	97	98	75-125	1	20	
Molybdenum, Dissolved	ug/L	<0.050 mg/L	1000	1000	1020	1030	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 649717
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2994063 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/14/21 23:50	
Arsenic	ug/L	ND	1.0	11/14/21 23:50	
Beryllium	ug/L	ND	0.20	11/14/21 23:50	
Cobalt	ug/L	ND	1.0	11/14/21 23:50	
Selenium	ug/L	ND	1.0	11/14/21 23:50	
Thallium	ug/L	ND	1.0	11/14/21 23:50	

LABORATORY CONTROL SAMPLE: 2994064

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.8	102	80-120	
Arsenic	ug/L	40	35.9	90	80-120	
Beryllium	ug/L	40	37.1	93	80-120	
Cobalt	ug/L	40	38.3	96	80-120	
Selenium	ug/L	40	37.6	94	80-120	
Thallium	ug/L	40	38.0	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994065 2994066

Parameter	Units	50302070019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.6	40.9	104	102	75-125	2	20	
Arsenic	ug/L	ND	40	40	36.2	36.2	90	90	75-125	0	20	
Beryllium	ug/L	ND	40	40	37.2	37.7	93	94	75-125	1	20	
Cobalt	ug/L	ND	40	40	38.9	38.6	97	96	75-125	1	20	
Selenium	ug/L	ND	40	40	37.0	37.1	92	93	75-125	0	20	
Thallium	ug/L	ND	40	40	38.9	38.5	97	96	75-125	1	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 650277
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2997373 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/13/21 15:11	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/13/21 15:11	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/13/21 15:11	

LABORATORY CONTROL SAMPLE: 2997374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.0	98	90-110	

SAMPLE DUPLICATE: 2997375

Parameter	Units	50302460001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	77.4	74.6	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	77.4	74.6	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2997376

Parameter	Units	50302482001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	486	490	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	486	490	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 650012 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2995840 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/12/21 08:59	

LABORATORY CONTROL SAMPLE: 2995841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	304	101	80-120	

SAMPLE DUPLICATE: 2995842

Parameter	Units	50302474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	220	232	5	10	

SAMPLE DUPLICATE: 2995843

Parameter	Units	50302474004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	83	87	5	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 650080
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

SAMPLE DUPLICATE: 2996147

Parameter	Units	50302400001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	2	H3

SAMPLE DUPLICATE: 2996148

Parameter	Units	50302460001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 649786 | 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: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2994359 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/11/21 13:28	

LABORATORY CONTROL SAMPLE: 2994360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994361 2994362

Parameter	Units	50302392001 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	0.13	0.13	25	25	90-110	1	20	M3

MATRIX SPIKE SAMPLE: 2994363

Parameter	Units	50302399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.34J	0.5	0.69	69	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 650430 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2997963 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 13:43	H3,N2

LABORATORY CONTROL SAMPLE: 2997964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	107	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997965 2997966

Parameter	Units	50302319002 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	109	109	90-110	0	20	H3,N2

MATRIX SPIKE SAMPLE: 2997967

Parameter	Units	50302318003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.0	102	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 649545
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2993024 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/10/21 13:43	
Nitrogen, Nitrite	mg/L	ND	0.10	11/10/21 13:43	

LABORATORY CONTROL SAMPLE: 2993025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.1	105	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993026 2993027

Parameter	Units	50302392001 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	1.0	104	103	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	109	110	90-110	0	20	

MATRIX SPIKE SAMPLE: 2993028

Parameter	Units	50302420009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.10	10	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.84	78	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 650803 | 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: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2999437 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/18/21 18:11	

LABORATORY CONTROL SAMPLE: 2999438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2999439 2999440

Parameter	Units	50302400002 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	0.32			1.8	1.7				10		

MATRIX SPIKE SAMPLE: 2999441

Parameter	Units	50302474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.6			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 651940 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 3004818 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/22/21 16:27	

LABORATORY CONTROL SAMPLE: 3004819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3004820 3004821

Parameter	Units	50302400006 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	25.8	10	10	38.3	37.8	124	120	80-120	1	20	M0

MATRIX SPIKE SAMPLE: 3004822

Parameter	Units	50302460001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.9	10	12.2	104	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 651937 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 3004813 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/22/21 14:28	

LABORATORY CONTROL SAMPLE: 3004814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.2	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3004815 3004816

Parameter	Units	50302400006 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	24.0	10	10	33.6	33.5	97	95	80-120	0	20	

MATRIX SPIKE SAMPLE: 3004817

Parameter	Units	50302460002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	4.2	10	13.9	98	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Sample: MW-21A **Lab ID: 50302460001** Collected: 11/09/21 08:54 Received: 11/10/21 10:15 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	**0.0732 ± 0.334 (0.538) C:NA T:89%**	pCi/L	12/22/21 12:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.451 ± 0.343 (0.671) C:75% T:98%**	pCi/L	12/27/21 14:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.524 ± 0.677 (1.21)**	pCi/L	01/04/22 13:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Sample: MW-21I **Lab ID: 50302460002** Collected: 11/09/21 10:29 Received: 11/10/21 10:15 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	**0.750 ± 0.490 (0.502) C:NA T:93%**	pCi/L	12/22/21 12:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.565 ± 0.404 (0.783) C:72% T:92%**	pCi/L	12/27/21 14:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.32 ± 0.894 (1.29)**	pCi/L	01/04/22 13:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Sample: MW-21B **Lab ID: 50302460003** Collected: 11/09/21 11:56 Received: 11/10/21 10:15 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	**0.454 ± 0.385 (0.478) C:NA T:94%**	pCi/L	12/22/21 12:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.656 ± 0.394 (0.721) C:69% T:93%**	pCi/L	12/27/21 14:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.11 ± 0.779 (1.20)**	pCi/L	01/04/22 13:13	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 475861
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2298531 Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0976 ± 0.332 (0.640) C:NA T:93%	pCi/L	12/22/21 12:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

QC Batch: 475862
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302460001, 50302460002, 50302460003

METHOD BLANK: 2298532
Matrix: Water
Associated Lab Samples: 50302460001, 50302460002, 50302460003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.342 ± 0.324 (0.657) C:69% T:96%	pCi/L	12/27/21 14:43	

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QUALIFIERS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302460001	**MW-21A**	EPA 9056	649634		
50302460002	**MW-21I**	EPA 9056	649634		
50302460003	**MW-21B**	EPA 9056	649634		
50302460001	**MW-21A**	EPA 3010	650603	EPA 6010	652011
50302460002	**MW-21I**	EPA 3010	650603	EPA 6010	652011
50302460003	**MW-21B**	EPA 3010	650603	EPA 6010	652011
50302460001	**MW-21A**	EPA 3010	650083	EPA 6010	651438
50302460002	**MW-21I**	EPA 3010	650083	EPA 6010	651438
50302460003	**MW-21B**	EPA 3010	650083	EPA 6010	651438
50302460001	**MW-21A**	EPA 200.2	649717	EPA 6020	649874
50302460002	**MW-21I**	EPA 200.2	649717	EPA 6020	649874
50302460003	**MW-21B**	EPA 200.2	649717	EPA 6020	649874
50302460001	**MW-21A**	EPA 903.1	475861		
50302460002	**MW-21I**	EPA 903.1	475861		
50302460003	**MW-21B**	EPA 903.1	475861		
50302460001	**MW-21A**	EPA 904.0	475862		
50302460002	**MW-21I**	EPA 904.0	475862		
50302460003	**MW-21B**	EPA 904.0	475862		
50302460001	**MW-21A**	Total Radium Calculation	478233		
50302460002	**MW-21I**	Total Radium Calculation	478233		
50302460003	**MW-21B**	Total Radium Calculation	478233		
50302460001	**MW-21A**	SM 2320B	650277		
50302460002	**MW-21I**	SM 2320B	650277		
50302460003	**MW-21B**	SM 2320B	650277		
50302460001	**MW-21A**	SM 2540C	650012		
50302460002	**MW-21I**	SM 2540C	650012		
50302460003	**MW-21B**	SM 2540C	650012		
50302460001	**MW-21A**	SM 4500-H+B	650080		
50302460002	**MW-21I**	SM 4500-H+B	650080		
50302460003	**MW-21B**	SM 4500-H+B	650080		
50302460001	**MW-21A**	SM 4500-S2-D	649786		
50302460002	**MW-21I**	SM 4500-S2-D	649786		
50302460003	**MW-21B**	SM 4500-S2-D	649786		
50302460001	**MW-21A**	HACH 8146	650430		
50302460002	**MW-21I**	HACH 8146	650430		
50302460003	**MW-21B**	HACH 8146	650430		
50302460001	**MW-21A**	EPA 353.2	649545		
50302460002	**MW-21I**	EPA 353.2	649545		
50302460003	**MW-21B**	EPA 353.2	649545		
50302460001	**MW-21A**	EPA 365.1	650803	EPA 365.1	651389
50302460002	**MW-21I**	EPA 365.1	650803	EPA 365.1	651389
50302460003	**MW-21B**	EPA 365.1	650803	EPA 365.1	651389

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302460

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302460001	**MW-21A**	SM 5310C	651940		
50302460002	**MW-21I**	SM 5310C	651940		
50302460003	**MW-21B**	SM 5310C	651940		
50302460001	**MW-21A**	SM 5310C	651937		
50302460002	**MW-21I**	SM 5310C	651937		
50302460003	**MW-21B**	SM 5310C	651937		

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WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Docu

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.cc

WO# : 50302460

50302460

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: AES/IPL Petersburg	Report To: Teague, Wil	Attention:	
Address: 6925 IN-57	Copy To:	Company Name:	
Petersburg, IN 47567		Address:	Regulatory Agency
Email: wil.teague@aes.com	Purchase Order #:	Pace Quote:	
Phone: (812)354-8801 Fax:	Project Name: IDEM - CCR Sampling Profile 2 Report 5	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date:	Project #:	Pace Profile #: 8296/11	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Requested Analysis Filtered (Y/N)													
1	~~AP-9A~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
2	~~AP-10A~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
3	MW-19A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
4	~~MW-19I~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
5	~~MW-19B~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
6	~~MW-20A~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
7	~~MW-20I~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
8	~~MW-20B~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
9	MW-21A	WT				11/09/21	854		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		001
10	MW-21I	WT				↓	1029		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		002
11	MW-21B	WT				↓	1156		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		003
12	~~MW-25A~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		

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)		11-10	800		11-10	8:00	
6020 (Be, Co, As, Se, Sb, Tl)		11-10	10:15		11/10/21	1015	Ice Ice
** Dissolved FF 6010 (Mo, Mn)							
Alkalinity = (Total , Bicarb & Carb)							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colleen Palmer

SIGNATURE of SAMPLER: Colleen Palmer DATE Signed: 11/09/21

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

F-IN-Q-290-rev.21, 02Feb2021

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MR 1/10/21 1145

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:** _____
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
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1215	
Rush TAT Requested (4 days or less):		✓
Custody Signatures Present?	✓	
Containers Intact?:	✓	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓	
Extra labels on Terracore Vials? (soils only)		✓

	Yes	No	N/A
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.** **Circle:** ~~HNO3 (<2)~~ ~~H2SO4 (<2)~~ **NaOH (>10)** ~~NaOH/ZnAc (>9)~~ Any non-conformance to pH recommendations will be noted on the container count form	✓		
	Present	Absent	N/A
Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Headspace Wisconsin Sulfide?			✓
	Present	Absent	No VOA Vials Sent
Headspace in VOA Vials (>6mm): See Containter Count form for details			✓
Trip Blank Present?		✓	
Trip Blank Custody Seals?:		✓	

COMMENTS: 0.8/0.7 0.4/0.3 1.3/1.2 1.0/0.9 0.5/0.5

COC PAGE ____ of ____

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																															
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9												1	1			2	1	2	1	1	1		1					G	✓	✓	
10												1	1			1	1	1	1	1	1		1					1	1	1	
11												1	1			1	1	1	1	1	1		1					1	1	1	
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
GN	General	AG3C	250mL NaOH amber glass

Plastic / Misc.

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 10, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

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 #: 460198
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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7726 Moller Road
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(317)228-3100

SAMPLE SUMMARY

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302463001	**MW-22**	Water	11/09/21 15:35	11/10/21 10:15
50302463002	**MW-23**	Water	11/09/21 13:55	11/10/21 10:15

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302463001	**MW-22**	EPA 9056	RID	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302463002	**MW-23**	EPA 9056	RID	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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

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(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302463001	**MW-22**					
EPA 9056	Chloride	228	mg/L	25.0	11/13/21 05:56	
EPA 9056	Sulfate	1770	mg/L	25.0	11/13/21 05:56	
EPA 6010	Barium	74.2	ug/L	10.0	11/23/21 10:54	
EPA 6010	Boron	2740	ug/L	100	11/23/21 10:54	
EPA 6010	Calcium	397000	ug/L	5000	11/23/21 11:19	
EPA 6010	Iron	5180	ug/L	100	11/23/21 10:54	
EPA 6010	Lithium	4880	ug/L	20.0	11/23/21 10:54	
EPA 6010	Magnesium	22300	ug/L	1000	11/23/21 10:54	
EPA 6010	Manganese	1980	ug/L	10.0	11/23/21 10:54	
EPA 6010	Molybdenum	1010	ug/L	10.0	11/23/21 10:54	
EPA 6010	Potassium	456000	ug/L	5000	11/23/21 11:19	
EPA 6010	Silica	15200	ug/L	450	11/23/21 10:54	N2
EPA 6010	Sodium	356000	ug/L	5000	11/23/21 11:19	
EPA 6010	Manganese, Dissolved	2280	ug/L	10.0	11/19/21 01:08	
EPA 6010	Molybdenum, Dissolved	571	ug/L	10.0	11/19/21 01:08	
EPA 6020	Arsenic	7.7	ug/L	1.0	11/15/21 01:59	
EPA 6020	Selenium	1.0	ug/L	1.0	11/15/21 01:59	
EPA 903.1	Radium-226	0.911 ± 0.638 (0.841) C:NA T:90%	pCi/L		12/23/21 12:37	
EPA 904.0	Radium-228	1.35 ± 0.542 (0.838) C:70% T:76%	pCi/L		01/05/22 11:08	
Total Radium Calculation	Total Radium	2.26 ± 1.18 (1.68)	pCi/L		01/06/22 10:28	
SM 2320B	Alkalinity, Total as CaCO3	321	mg/L	2.0	11/13/21 15:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	321	mg/L	2.0	11/13/21 15:11	
SM 2540C	Total Dissolved Solids	3260	mg/L	40.0	11/12/21 09:00	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/12/21 15:42	H3
EPA 353.2	Nitrogen, Nitrate	1.9	mg/L	0.10	11/10/21 14:53	
EPA 365.1	Phosphate as P04	1.1	mg/L	0.15	11/18/21 18:21	
SM 5310C	Total Organic Carbon	5.4	mg/L	1.0	11/22/21 23:03	
SM 5310C	Dissolved Organic Carbon	5.3	mg/L	1.0	11/23/21 13:55	
50302463002	**MW-23**					
EPA 9056	Chloride	9.1	mg/L	0.25	11/13/21 06:11	
EPA 9056	Fluoride	0.14	mg/L	0.10	11/13/21 06:11	
EPA 9056	Sulfate	18.2	mg/L	0.25	11/13/21 06:11	
EPA 6010	Barium	14.1	ug/L	10.0	11/23/21 10:56	
EPA 6010	Calcium	61400	ug/L	1000	11/23/21 10:56	
EPA 6010	Magnesium	17000	ug/L	1000	11/23/21 10:56	
EPA 6010	Silica	15900	ug/L	450	11/23/21 10:56	N2
EPA 6010	Sodium	1600	ug/L	1000	11/24/21 13:13	
EPA 903.1	Radium-226	0.0607 ± 0.315 (0.653) C:NA T:97%	pCi/L		12/23/21 12:37	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302463002	**MW-23**					
EPA 904.0	Radium-228	0.0912 ± 0.384 (0.872) C:69% T:81%	pCi/L		01/05/22 11:09	
Total Radium Calculation	Total Radium	0.152 ± 0.699 (1.53)	pCi/L		01/06/22 10:28	
SM 2320B	Alkalinity, Total as CaCO3	144	mg/L	2.0	11/13/21 15:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	144	mg/L	2.0	11/13/21 15:11	
SM 2540C	Total Dissolved Solids	212	mg/L	10.0	11/12/21 09:00	
SM 4500-H+B	pH at 25 Degrees C	7.8	Std. Units	0.10	11/12/21 15:43	H3
EPA 353.2	Nitrogen, Nitrate	0.11	mg/L	0.10	11/10/21 14:52	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Sample: MW-22 **Lab ID: 50302463001** Collected: 11/09/21 15:35 Received: 11/10/21 10:15 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	**228**	mg/L	25.0	100		11/13/21 05:56	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/21 05:45	16984-48-8	
Sulfate	**1770**	mg/L	25.0	100		11/13/21 05:56	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/23/21 10:54	7429-90-5	
Barium	**74.2**	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:54	7440-39-3	
Boron	**2740**	ug/L	100	1	11/17/21 14:36	11/23/21 10:54	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/23/21 10:54	7440-43-9	
Calcium	**397000**	ug/L	5000	5	11/17/21 14:36	11/23/21 11:19	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:54	7440-47-3	
Iron	**5180**	ug/L	100	1	11/17/21 14:36	11/23/21 10:54	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:54	7439-92-1	
Lithium	**4880**	ug/L	20.0	1	11/17/21 14:36	11/23/21 10:54	7439-93-2	
Magnesium	**22300**	ug/L	1000	1	11/17/21 14:36	11/23/21 10:54	7439-95-4	
Manganese	**1980**	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:54	7439-96-5	
Molybdenum	**1010**	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:54	7439-98-7	
Potassium	**456000**	ug/L	5000	5	11/17/21 14:36	11/23/21 11:19	7440-09-7	
Silica	**15200**	ug/L	450	1	11/17/21 14:36	11/23/21 10:54	7631-86-9	N2
Sodium	**356000**	ug/L	5000	5	11/17/21 14:36	11/23/21 11:19	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2280**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:08	7439-96-5	
Molybdenum, Dissolved	**571**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:08	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:59	7440-36-0	
Arsenic	**7.7**	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:59	7440-38-2	
Beryllium	ND	ug/L	2.0	10	11/11/21 07:25	11/18/21 14:21	7440-41-7	D3
Cobalt	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:59	7440-48-4	
Selenium	**1.0**	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:59	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 01:59	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**321**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Bicarbonate (CaCO3)	**321**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/13/21 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**3260**	mg/L	40.0	1		11/12/21 09:00		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Sample: MW-22 **Lab ID: 50302463001** Collected: 11/09/21 15:35 Received: 11/10/21 10:15 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		11/12/21 15:42		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 13:28	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 15:02		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**1.9**	mg/L	0.10	1		11/10/21 14:53	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/10/21 14:53	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.1**	mg/L	0.15	1	11/17/21 10:30	11/18/21 18:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**5.4**	mg/L	1.0	1		11/22/21 23:03	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**5.3**	mg/L	1.0	1		11/23/21 13:55		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Sample: MW-23 **Lab ID: 50302463002** Collected: 11/09/21 13:55 Received: 11/10/21 10:15 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	**9.1**	mg/L	0.25	1		11/13/21 06:11	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	1		11/13/21 06:11	16984-48-8	
Sulfate	**18.2**	mg/L	0.25	1		11/13/21 06:11	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/23/21 10:56	7429-90-5	
Barium	**14.1**	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:56	7440-39-3	
Boron	ND	ug/L	100	1	11/17/21 14:36	11/23/21 10:56	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/23/21 10:56	7440-43-9	
Calcium	**61400**	ug/L	1000	1	11/17/21 14:36	11/23/21 10:56	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:56	7440-47-3	
Iron	ND	ug/L	100	1	11/17/21 14:36	11/23/21 10:56	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:56	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/17/21 14:36	11/23/21 10:56	7439-93-2	
Magnesium	**17000**	ug/L	1000	1	11/17/21 14:36	11/23/21 10:56	7439-95-4	
Manganese	ND	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:56	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:56	7439-98-7	
Potassium	ND	ug/L	1000	1	11/17/21 14:36	11/24/21 13:13	7440-09-7	
Silica	**15900**	ug/L	450	1	11/17/21 14:36	11/23/21 10:56	7631-86-9	N2
Sodium	**1600**	ug/L	1000	1	11/17/21 14:36	11/24/21 13:13	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	11/17/21 06:44	11/19/21 01:11	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:11	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:04	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:04	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/21 07:25	11/15/21 13:57	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:04	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:04	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:04	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**144**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Bicarbonate (CaCO3)	**144**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/13/21 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**212**	mg/L	10.0	1		11/12/21 09:00		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Sample: MW-23 **Lab ID: 50302463002** Collected: 11/09/21 13:55 Received: 11/10/21 10:15 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	**7.8**	Std. Units	0.10	1		11/12/21 15:43		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 13:28	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 15:02		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.11**	mg/L	0.10	1		11/10/21 14:52	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/10/21 14:52	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	11/17/21 10:30	11/18/21 18:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/22/21 23:16	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/23/21 14:14		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 649634
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2993478 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/12/21 21:09	
Fluoride	mg/L	ND	0.10	11/12/21 21:09	
Sulfate	mg/L	ND	0.25	11/12/21 21:09	

LABORATORY CONTROL SAMPLE: 2993479

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	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993480 2993481

Parameter	Units	50302389001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	44.8	12.5	12.5	56.7	56.6	95	94	80-120	0	15	
Fluoride	mg/L	0.59	0.5	0.5	1.0	1.0	82	83	80-120	1	15	
Sulfate	mg/L	<2.0	2.5	2.5	2.5	2.5	99	98	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 650604
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2998574 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/23/21 10:01	
Barium	ug/L	ND	10.0	11/23/21 10:01	
Boron	ug/L	ND	100	11/23/21 10:01	
Cadmium	ug/L	ND	2.0	11/23/21 10:01	
Calcium	ug/L	ND	1000	11/23/21 10:01	
Chromium	ug/L	ND	10.0	11/23/21 10:01	
Iron	ug/L	ND	100	11/23/21 10:01	
Lead	ug/L	ND	10.0	11/23/21 10:01	
Lithium	ug/L	ND	20.0	11/23/21 10:01	
Magnesium	ug/L	ND	1000	11/23/21 10:01	
Manganese	ug/L	ND	10.0	11/23/21 10:01	
Molybdenum	ug/L	ND	10.0	11/23/21 10:01	
Potassium	ug/L	ND	1000	11/23/21 10:01	
Silica	ug/L	ND	450	11/23/21 10:01	N2
Sodium	ug/L	ND	1000	11/23/21 10:01	

LABORATORY CONTROL SAMPLE: 2998575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4710	94	80-120	
Barium	ug/L	1000	976	98	80-120	
Boron	ug/L	1000	972	97	80-120	
Cadmium	ug/L	1000	954	95	80-120	
Calcium	ug/L	5000	4890	98	80-120	
Chromium	ug/L	1000	993	99	80-120	
Iron	ug/L	2500	2390	95	80-120	
Lead	ug/L	1000	928	93	80-120	
Lithium	ug/L	1000	991	99	80-120	
Magnesium	ug/L	5000	4700	94	80-120	
Manganese	ug/L	1000	943	94	80-120	
Molybdenum	ug/L	1000	984	98	80-120	
Potassium	ug/L	5000	4850	97	80-120	
Silica	ug/L	5350	5340	100	80-120	N2
Sodium	ug/L	5000	4870	97	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998576 2998577

Parameter	Units	50302399004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4940	4990	98	99	75-125	1	20	
Barium	ug/L	47.9	1000	1000	1040	1050	99	100	75-125	1	20	
Boron	ug/L	104	1000	1000	1140	1160	103	105	75-125	2	20	
Cadmium	ug/L	0.33J	1000	1000	976	968	98	97	75-125	1	20	
Calcium	ug/L	69100	5000	5000	74800	79200	113	200	75-125	6	20	P6
Chromium	ug/L	ND	1000	1000	997	988	100	99	75-125	1	20	
Iron	ug/L	211	2500	2500	2620	2980	96	111	75-125	13	20	
Lead	ug/L	ND	1000	1000	911	901	91	90	75-125	1	20	
Lithium	ug/L	39.0	1000	1000	1100	1080	106	105	75-125	1	20	
Magnesium	ug/L	41400	5000	5000	46600	48000	103	131	75-125	3	20	P6
Manganese	ug/L	23.4	1000	1000	978	989	95	97	75-125	1	20	
Molybdenum	ug/L	8.1J	1000	1000	1010	1000	100	99	75-125	1	20	
Potassium	ug/L	2350	5000	5000	7630	7890	106	111	75-125	3	20	
Silica	ug/L	14600	5350	5350	20200	21300	105	125	75-125	5	20	N2
Sodium	ug/L	56200	5000	5000	60400	64400	84	165	75-125	7	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 650083
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2996164 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/19/21 00:21	
Molybdenum, Dissolved	ug/L	ND	10.0	11/19/21 00:21	

LABORATORY CONTROL SAMPLE: 2996165

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: 2996166 2996167

Parameter	Units	50302394005 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	175	1000	1000	1140	1160	97	98	75-125	1	20	
Molybdenum, Dissolved	ug/L	<0.050 mg/L	1000	1000	1020	1030	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 649717
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2994063 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/14/21 23:50	
Arsenic	ug/L	ND	1.0	11/14/21 23:50	
Beryllium	ug/L	ND	0.20	11/14/21 23:50	
Cobalt	ug/L	ND	1.0	11/14/21 23:50	
Selenium	ug/L	ND	1.0	11/14/21 23:50	
Thallium	ug/L	ND	1.0	11/14/21 23:50	

LABORATORY CONTROL SAMPLE: 2994064

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.8	102	80-120	
Arsenic	ug/L	40	35.9	90	80-120	
Beryllium	ug/L	40	37.1	93	80-120	
Cobalt	ug/L	40	38.3	96	80-120	
Selenium	ug/L	40	37.6	94	80-120	
Thallium	ug/L	40	38.0	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994065 2994066

Parameter	Units	50302070019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.6	40.9	104	102	75-125	2	20	
Arsenic	ug/L	ND	40	40	36.2	36.2	90	90	75-125	0	20	
Beryllium	ug/L	ND	40	40	37.2	37.7	93	94	75-125	1	20	
Cobalt	ug/L	ND	40	40	38.9	38.6	97	96	75-125	1	20	
Selenium	ug/L	ND	40	40	37.0	37.1	92	93	75-125	0	20	
Thallium	ug/L	ND	40	40	38.9	38.5	97	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 650277
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2997373 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/13/21 15:11	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/13/21 15:11	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/13/21 15:11	

LABORATORY CONTROL SAMPLE: 2997374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.0	98	90-110	

SAMPLE DUPLICATE: 2997375

Parameter	Units	50302460001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	77.4	74.6	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	77.4	74.6	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2997376

Parameter	Units	50302482001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	486	490	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	486	490	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 650012
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2995840 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/12/21 08:59	

LABORATORY CONTROL SAMPLE: 2995841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	304	101	80-120	

SAMPLE DUPLICATE: 2995842

Parameter	Units	50302474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	220	232	5	10	

SAMPLE DUPLICATE: 2995843

Parameter	Units	50302474004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	83	87	5	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 650080
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302463001, 50302463002

SAMPLE DUPLICATE: 2996147

Parameter	Units	50302400001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	2	H3

SAMPLE DUPLICATE: 2996148

Parameter	Units	50302460001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 649786
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2994359 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/11/21 13:28	

LABORATORY CONTROL SAMPLE: 2994360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994361 2994362

Parameter	Units	50302392001 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	0.13	0.13	25	25	90-110	1	20	M3

MATRIX SPIKE SAMPLE: 2994363

Parameter	Units	50302399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.34J	0.5	0.69	69	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 650432
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2997972 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 15:00	H3,N2

LABORATORY CONTROL SAMPLE: 2997973

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: 2997974 2997975

Parameter	Units	50302629005 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	1.0	1.0	102	101	90-110	1	20	H3,N2

MATRIX SPIKE SAMPLE: 2997976

Parameter	Units	50302629008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	111	90-110	H3,M0,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 649596
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2993311 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/10/21 14:33	
Nitrogen, Nitrite	mg/L	ND	0.10	11/10/21 14:33	

LABORATORY CONTROL SAMPLE: 2993312

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: 2993313 2993314

Parameter	Units	50302464002 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	14.4	10	10	23.6	23.9	92	94	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	10	10	11.1	11.2	111	112	90-110	0	20	M3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 650803
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2999437 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/18/21 18:11	

LABORATORY CONTROL SAMPLE: 2999438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2999439 2999440

Parameter	Units	50302400002 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	0.32			1.8	1.7				10		

MATRIX SPIKE SAMPLE: 2999441

Parameter	Units	50302474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.6			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 651941
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 3004823 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/22/21 22:28	

LABORATORY CONTROL SAMPLE: 3004824

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3004825 3004826

Parameter	Units	50302474004 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	11.7	12.1	110	115	80-120	4	20	

MATRIX SPIKE SAMPLE: 3004827

Parameter	Units	50302472001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	11.0	104	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 652165
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 3005526 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/23/21 13:15	

LABORATORY CONTROL SAMPLE: 3005527

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: 3005528 3005529

Parameter	Units	50302463002 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	10.2	10.6	95	99	80-120	4	20	

MATRIX SPIKE SAMPLE: 3005530

Parameter	Units	50302472001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.0	10	10.7	96	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Sample: MW-22 **Lab ID: 50302463001** Collected: 11/09/21 15:35 Received: 11/10/21 10:15 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	**0.911 ± 0.638 (0.841) C:NA T:90%**	pCi/L	12/23/21 12:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.35 ± 0.542 (0.838) C:70% T:76%**	pCi/L	01/05/22 11:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.26 ± 1.18 (1.68)**	pCi/L	01/06/22 10:28	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

Sample: MW-23 **Lab ID: 50302463002** Collected: 11/09/21 13:55 Received: 11/10/21 10:15 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	**0.0607 ± 0.315 (0.653) C:NA T:97%**	pCi/L	12/23/21 12:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0912 ± 0.384 (0.872) C:69% T:81%**	pCi/L	01/05/22 11:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.152 ± 0.699 (1.53)**	pCi/L	01/06/22 10:28	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 475867
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2298537 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.441 ± 0.381 (0.769) C:78% T:76%	pCi/L	01/05/22 11:07	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

QC Batch: 475866
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302463001, 50302463002

METHOD BLANK: 2298536 Matrix: Water
Associated Lab Samples: 50302463001, 50302463002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0483 ± 0.250 (0.580) C:NA T:94%	pCi/L	12/23/21 12:03	

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QUALIFIERS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302463

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

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.
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 P4R1
Pace Project No.: 50302463

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302463001	**MW-22**	EPA 9056	649634		
50302463002	**MW-23**	EPA 9056	649634		
50302463001	**MW-22**	EPA 3010	650604	EPA 6010	652111
50302463002	**MW-23**	EPA 3010	650604	EPA 6010	652111
50302463001	**MW-22**	EPA 3010	650083	EPA 6010	651438
50302463002	**MW-23**	EPA 3010	650083	EPA 6010	651438
50302463001	**MW-22**	EPA 200.2	649717	EPA 6020	649874
50302463002	**MW-23**	EPA 200.2	649717	EPA 6020	649874
50302463001	**MW-22**	EPA 903.1	475866		
50302463002	**MW-23**	EPA 903.1	475866		
50302463001	**MW-22**	EPA 904.0	475867		
50302463002	**MW-23**	EPA 904.0	475867		
50302463001	**MW-22**	Total Radium Calculation	478669		
50302463002	**MW-23**	Total Radium Calculation	478669		
50302463001	**MW-22**	SM 2320B	650277		
50302463002	**MW-23**	SM 2320B	650277		
50302463001	**MW-22**	SM 2540C	650012		
50302463002	**MW-23**	SM 2540C	650012		
50302463001	**MW-22**	SM 4500-H+B	650080		
50302463002	**MW-23**	SM 4500-H+B	650080		
50302463001	**MW-22**	SM 4500-S2-D	649786		
50302463002	**MW-23**	SM 4500-S2-D	649786		
50302463001	**MW-22**	HACH 8146	650432		
50302463002	**MW-23**	HACH 8146	650432		
50302463001	**MW-22**	EPA 353.2	649596		
50302463002	**MW-23**	EPA 353.2	649596		
50302463001	**MW-22**	EPA 365.1	650803	EPA 365.1	651389
50302463002	**MW-23**	EPA 365.1	650803	EPA 365.1	651389
50302463001	**MW-22**	SM 5310C	651941		
50302463002	**MW-23**	SM 5310C	651941		
50302463001	**MW-22**	SM 5310C	652165		
50302463002	**MW-23**	SM 5310C	652165		

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WO# : 50302463

50302463

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	Report To:	Teague, Wil
Address:	6925 IN-57	Copy To:	
	Petersburg, IN 47567		
Email:	wil.teague@aes.com	Purchase Order #:	
Phone:	(812)354-8801 Fax:	Project Name:	CCR Sampling Profile 4 Report 1
Requested Due Date:		Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Hayden Putt
Pace Profile #:	8296/12

Regulatory Agency

State / Location: IN

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
1	MW-22	WT				11/09/21	1535		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		001
2	MW-23	WT				"	1355		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		002
3	~~MW-24~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	Colton Palmer	11/10	8:00	Jay Williams	11-10	8:00	
6020 (Be, Co, As, Se, Sb, Tl)	Jay Williams	11-10	10:15		11/10/21	1015	See SCR
** Dissolved FF 6010 (Mo, Mn)							
Alkalinity = (Total , Bicarb & Carb)							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palmer

SIGNATURE of SAMPLER: Colton Palmer — DATE Signed: 11/09/21

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

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MR 1/10/21 1145

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 (E)
4. **Cooler Temperature:** _____
   Temp should be above freezing to 6°C **(Initial/Corrected)**

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

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	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.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1230			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:		✓	

COMMENTS: 0.8/0.7 0.4/0.3 1.3/1.2 1.0/0.9 0.9/0.8

COC PAGE ____ of ____

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					SW	✓	✓	
2												1	1			2		4	1	1	1		1					SW	✓	✓	
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 10, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

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 #: 460198
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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7726 Moller Road
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(317)228-3100

SAMPLE SUMMARY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302464001	**AP-9A**	Water	11/09/21 13:30	11/10/21 10:15
50302464002	**AP-10A**	Water	11/09/21 11:10	11/10/21 10:15
50302464003	**DUP 4**	Water	11/09/21 11:20	11/10/21 10:15
50302464004	**FIELD BLANK 4**	Water	11/09/21 11:10	11/10/21 10:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302464001	**AP-9A**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302464002	**AP-10A**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302464003	**DUP 4**	EPA 9056	RID	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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
50302464004	**FIELD BLANK 4**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK, RAM	15	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	SKK	2	PASI-I
		EPA 365.1	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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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302464001	**AP-9A**					
EPA 9056	Chloride	144	mg/L	25.0	11/13/21 06:48	
EPA 9056	Sulfate	1710	mg/L	25.0	11/13/21 06:48	
EPA 6010	Barium	41.2	ug/L	10.0	11/22/21 16:22	
EPA 6010	Boron	31700	ug/L	1000	11/22/21 17:07	
EPA 6010	Calcium	741000	ug/L	10000	11/22/21 17:07	
EPA 6010	Iron	6050	ug/L	100	11/22/21 16:22	
EPA 6010	Lithium	41.0	ug/L	20.0	11/22/21 16:22	
EPA 6010	Magnesium	17200	ug/L	1000	11/22/21 16:22	
EPA 6010	Manganese	1580	ug/L	10.0	11/22/21 16:22	
EPA 6010	Molybdenum	2010	ug/L	10.0	11/22/21 16:22	
EPA 6010	Potassium	33900	ug/L	1000	11/22/21 16:22	
EPA 6010	Silica	13200	ug/L	450	11/22/21 16:22	N2
EPA 6010	Sodium	44800	ug/L	1000	11/22/21 16:22	
EPA 6010	Manganese, Dissolved	1570	ug/L	10.0	11/19/21 01:13	
EPA 6010	Molybdenum, Dissolved	2040	ug/L	10.0	11/19/21 01:13	
EPA 6020	Arsenic	1.5	ug/L	1.0	11/15/21 02:09	
EPA 903.1	Radium-226	0.331 ± 0.651 (1.15) C:NA T:91%	pCi/L		12/23/21 12:19	
EPA 904.0	Radium-228	0.668 ± 0.420 (0.778) C:71% T:77%	pCi/L		01/05/22 11:08	
Total Radium Calculation	Total Radium	0.999 ± 1.07 (1.93)	pCi/L		01/06/22 10:28	
SM 2320B	Alkalinity, Total as CaCO3	54.7	mg/L	2.0	11/13/21 15:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	54.7	mg/L	2.0	11/13/21 15:11	
SM 2540C	Total Dissolved Solids	2840	mg/L	40.0	11/12/21 09:00	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/12/21 15:45	H3
HACH 8146	Iron, Ferrous	1.7	mg/L	0.20	11/15/21 15:01	H3,N2
EPA 365.1	Phosphate as P04	0.49	mg/L	0.15	11/18/21 18:22	
SM 5310C	Total Organic Carbon	1.7	mg/L	1.0	11/22/21 23:47	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	11/23/21 15:19	
50302464002	**AP-10A**					
EPA 9056	Chloride	149	mg/L	25.0	11/13/21 07:10	
EPA 9056	Sulfate	1630	mg/L	25.0	11/13/21 07:10	
EPA 6010	Barium	30.5	ug/L	10.0	11/22/21 16:28	
EPA 6010	Boron	27400	ug/L	1000	11/22/21 17:09	
EPA 6010	Calcium	684000	ug/L	10000	11/22/21 17:09	
EPA 6010	Iron	7140	ug/L	100	11/22/21 16:28	
EPA 6010	Lithium	20.9	ug/L	20.0	11/22/21 16:28	
EPA 6010	Magnesium	8470	ug/L	1000	11/22/21 16:28	
EPA 6010	Manganese	2260	ug/L	10.0	11/22/21 16:28	
EPA 6010	Molybdenum	651	ug/L	10.0	11/22/21 16:28	
EPA 6010	Potassium	14500	ug/L	1000	11/22/21 16:28	
EPA 6010	Silica	10800	ug/L	450	11/22/21 16:28	N2

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302464002	**AP-10A**					
EPA 6010	Sodium	49800	ug/L	1000	11/22/21 16:28	
EPA 6010	Manganese, Dissolved	2300	ug/L	10.0	11/19/21 01:15	
EPA 6010	Molybdenum, Dissolved	677	ug/L	10.0	11/19/21 01:15	
EPA 6020	Arsenic	1.1	ug/L	1.0	11/15/21 02:23	
EPA 903.1	Radium-226	-0.384 ± 0.472 (1.12) C:NA T:90%	pCi/L		12/23/21 12:37	
EPA 904.0	Radium-228	0.432 ± 0.383 (0.770) C:69% T:78%	pCi/L		01/05/22 11:08	
Total Radium Calculation	Total Radium	0.432 ± 0.855 (1.89)	pCi/L		01/06/22 10:28	
SM 2320B	Alkalinity, Total as CaCO3	50.2	mg/L	2.0	11/13/21 15:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	50.2	mg/L	2.0	11/13/21 15:11	
SM 2540C	Total Dissolved Solids	2660	mg/L	40.0	11/12/21 09:01	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/12/21 15:47	H3
HACH 8146	Iron, Ferrous	1.8	mg/L	0.50	11/15/21 15:00	H3,N2
EPA 353.2	Nitrogen, Nitrate	14.4	mg/L	1.0	11/10/21 15:45	
EPA 365.1	Phosphate as P04	0.17	mg/L	0.15	11/18/21 18:23	
SM 5310C	Total Organic Carbon	2.7	mg/L	1.0	11/22/21 23:58	
SM 5310C	Dissolved Organic Carbon	3.5	mg/L	1.0	11/28/21 20:45	
50302464003	**DUP 4**					
EPA 9056	Chloride	144	mg/L	25.0	11/16/21 13:31	
EPA 9056	Sulfate	1630	mg/L	25.0	11/16/21 13:31	
EPA 6010	Barium	29.8	ug/L	10.0	11/22/21 16:31	
EPA 6010	Boron	26800	ug/L	1000	11/22/21 17:11	
EPA 6010	Calcium	670000	ug/L	10000	11/22/21 17:11	
EPA 6010	Iron	7390	ug/L	100	11/22/21 16:31	
EPA 6010	Lithium	20.5	ug/L	20.0	11/22/21 16:31	
EPA 6010	Magnesium	8780	ug/L	1000	11/22/21 16:31	
EPA 6010	Manganese	2290	ug/L	10.0	11/22/21 16:31	
EPA 6010	Molybdenum	652	ug/L	10.0	11/22/21 16:31	
EPA 6010	Potassium	14400	ug/L	1000	11/22/21 16:31	
EPA 6010	Silica	10700	ug/L	450	11/22/21 16:31	N2
EPA 6010	Sodium	49400	ug/L	1000	11/22/21 16:31	
EPA 6010	Manganese, Dissolved	2280	ug/L	10.0	11/19/21 01:17	
EPA 6010	Molybdenum, Dissolved	673	ug/L	10.0	11/19/21 01:17	
EPA 6020	Arsenic	1.2	ug/L	1.0	11/15/21 02:28	
EPA 903.1	Radium-226	0.581 ± 0.495 (0.695) C:NA T:94%	pCi/L		12/23/21 12:37	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302464003	**DUP 4**					
EPA 904.0	Radium-228	0.901 ± 0.526 (0.964) C:63% T:77%	pCi/L		01/05/22 11:08	
Total Radium Calculation	Total Radium	1.48 ± 1.02 (1.66)	pCi/L		01/06/22 10:28	
SM 2320B	Alkalinity, Total as CaCO3	51.8	mg/L	2.0	11/13/21 15:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	51.8	mg/L	2.0	11/13/21 15:11	
SM 2540C	Total Dissolved Solids	2610	mg/L	40.0	11/12/21 09:01	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/12/21 15:48	H3
HACH 8146	Iron, Ferrous	1.5	mg/L	0.50	11/15/21 15:01	H3,N2
SM 5310C	Total Organic Carbon	2.6	mg/L	1.0	11/23/21 00:10	
SM 5310C	Dissolved Organic Carbon	2.5	mg/L	1.0	11/23/21 16:11	
50302464004	**FIELD BLANK 4**					
EPA 903.1	Radium-226	-0.120 ± 0.275 (0.648) C:NA T:94%	pCi/L		12/23/21 12:37	
EPA 904.0	Radium-228	0.173 ± 0.370 (0.820) C:69% T:81%	pCi/L		01/05/22 11:08	
Total Radium Calculation	Total Radium	0.173 ± 0.645 (1.47)	pCi/L		01/06/22 10:28	
SM 2320B	Alkalinity, Total as CaCO3	3.7	mg/L	2.0	11/13/21 15:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	3.7	mg/L	2.0	11/13/21 15:11	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/12/21 15:52	H3

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: AP-9A **Lab ID: 50302464001** Collected: 11/09/21 13:30 Received: 11/10/21 10:15 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	**144**	mg/L	25.0	100		11/13/21 06:48	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/21 06:33	16984-48-8	
Sulfate	**1710**	mg/L	25.0	100		11/13/21 06:48	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/22/21 16:22	7429-90-5	
Barium	**41.2**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:22	7440-39-3	
Boron	**31700**	ug/L	1000	10	11/17/21 14:36	11/22/21 17:07	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/22/21 16:22	7440-43-9	
Calcium	**741000**	ug/L	10000	10	11/17/21 14:36	11/22/21 17:07	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:22	7440-47-3	
Iron	**6050**	ug/L	100	1	11/17/21 14:36	11/22/21 16:22	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:22	7439-92-1	
Lithium	**41.0**	ug/L	20.0	1	11/17/21 14:36	11/22/21 16:22	7439-93-2	
Magnesium	**17200**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:22	7439-95-4	
Manganese	**1580**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:22	7439-96-5	
Molybdenum	**2010**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:22	7439-98-7	
Potassium	**33900**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:22	7440-09-7	
Silica	**13200**	ug/L	450	1	11/17/21 14:36	11/22/21 16:22	7631-86-9	N2
Sodium	**44800**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:22	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1570**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:13	7439-96-5	
Molybdenum, Dissolved	**2040**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:13	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:09	7440-36-0	
Arsenic	**1.5**	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:09	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/21 07:25	11/15/21 15:05	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:09	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:09	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:09	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**54.7**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Bicarbonate (CaCO3)	**54.7**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/13/21 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2840**	mg/L	40.0	1		11/12/21 09:00		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: AP-9A **Lab ID: 50302464001** Collected: 11/09/21 13:30 Received: 11/10/21 10:15 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		11/12/21 15:45		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 15:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.7**	mg/L	0.20	1		11/15/21 15:01		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		11/10/21 14:50	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/10/21 14:50	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.49**	mg/L	0.15	1	11/17/21 10:30	11/18/21 18:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.7**	mg/L	1.0	1		11/22/21 23:47	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.5**	mg/L	1.0	1		11/23/21 15:19		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: AP-10A **Lab ID: 50302464002** Collected: 11/09/21 11:10 Received: 11/10/21 10:15 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	**149**	mg/L	25.0	100		11/13/21 07:10	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/21 06:59	16984-48-8	
Sulfate	**1630**	mg/L	25.0	100		11/13/21 07:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/22/21 16:28	7429-90-5	
Barium	**30.5**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:28	7440-39-3	
Boron	**27400**	ug/L	1000	10	11/17/21 14:36	11/22/21 17:09	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/22/21 16:28	7440-43-9	
Calcium	**684000**	ug/L	10000	10	11/17/21 14:36	11/22/21 17:09	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:28	7440-47-3	
Iron	**7140**	ug/L	100	1	11/17/21 14:36	11/22/21 16:28	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:28	7439-92-1	
Lithium	**20.9**	ug/L	20.0	1	11/17/21 14:36	11/22/21 16:28	7439-93-2	
Magnesium	**8470**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:28	7439-95-4	
Manganese	**2260**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:28	7439-96-5	
Molybdenum	**651**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:28	7439-98-7	
Potassium	**14500**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:28	7440-09-7	
Silica	**10800**	ug/L	450	1	11/17/21 14:36	11/22/21 16:28	7631-86-9	N2
Sodium	**49800**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:28	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2300**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:15	7439-96-5	
Molybdenum, Dissolved	**677**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:15	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	11/11/21 07:25	11/15/21 02:23	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:23	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/21 07:25	11/15/21 15:15	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 15:15	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:23	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:23	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**50.2**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Bicarbonate (CaCO3)	**50.2**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/13/21 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2660**	mg/L	40.0	1		11/12/21 09:01		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: AP-10A **Lab ID: 50302464002** Collected: 11/09/21 11:10 Received: 11/10/21 10:15 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		11/12/21 15:47		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 15:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.8**	mg/L	0.50	2.5		11/15/21 15:00		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**14.4**	mg/L	1.0	10		11/10/21 15:45	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	1.0	10		11/10/21 15:45	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	11/17/21 10:30	11/18/21 18:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/22/21 23:58	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.5**	mg/L	1.0	1		11/28/21 20:45		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: DUP 4 **Lab ID: 50302464003** Collected: 11/09/21 11:20 Received: 11/10/21 10:15 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	**144**	mg/L	25.0	100		11/16/21 13:31	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/21 07:22	16984-48-8	
Sulfate	**1630**	mg/L	25.0	100		11/16/21 13:31	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/22/21 16:31	7429-90-5	
Barium	**29.8**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:31	7440-39-3	
Boron	**26800**	ug/L	1000	10	11/17/21 14:36	11/22/21 17:11	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/22/21 16:31	7440-43-9	
Calcium	**670000**	ug/L	10000	10	11/17/21 14:36	11/22/21 17:11	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:31	7440-47-3	
Iron	**7390**	ug/L	100	1	11/17/21 14:36	11/22/21 16:31	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:31	7439-92-1	
Lithium	**20.5**	ug/L	20.0	1	11/17/21 14:36	11/22/21 16:31	7439-93-2	
Magnesium	**8780**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:31	7439-95-4	
Manganese	**2290**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:31	7439-96-5	
Molybdenum	**652**	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:31	7439-98-7	
Potassium	**14400**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:31	7440-09-7	
Silica	**10700**	ug/L	450	1	11/17/21 14:36	11/22/21 16:31	7631-86-9	N2
Sodium	**49400**	ug/L	1000	1	11/17/21 14:36	11/22/21 16:31	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2280**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:17	7439-96-5	
Molybdenum, Dissolved	**673**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:17	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:28	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:28	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/21 07:25	11/15/21 15:20	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 15:20	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:28	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:28	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**51.8**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Bicarbonate (CaCO3)	**51.8**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/13/21 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2610**	mg/L	40.0	1		11/12/21 09:01		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: DUP 4 **Lab ID: 50302464003** Collected: 11/09/21 11:20 Received: 11/10/21 10:15 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		11/12/21 15:48		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 15:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.5**	mg/L	0.50	2.5		11/15/21 15:01		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		11/10/21 14:48	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/10/21 14:48	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	11/17/21 10:30	11/18/21 18:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.6**	mg/L	1.0	1		11/23/21 00:10	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.5**	mg/L	1.0	1		11/23/21 16:11		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: FIELD BLANK 4 **Lab ID: 50302464004** Collected: 11/09/21 11:10 Received: 11/10/21 10:15 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	ND	mg/L	0.25	1		11/13/21 08:07	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/21 08:07	16984-48-8	
Sulfate	ND	mg/L	0.25	1		11/13/21 08:07	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/22/21 16:33	7429-90-5	
Barium	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:33	7440-39-3	
Boron	ND	ug/L	100	1	11/17/21 14:36	11/22/21 16:33	7440-42-8	CU
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/22/21 16:33	7440-43-9	
Calcium	ND	ug/L	1000	1	11/17/21 14:36	11/22/21 16:33	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:33	7440-47-3	
Iron	ND	ug/L	100	1	11/17/21 14:36	11/22/21 16:33	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:33	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/17/21 14:36	11/22/21 16:33	7439-93-2	
Magnesium	ND	ug/L	1000	1	11/17/21 14:36	11/22/21 16:33	7439-95-4	
Manganese	ND	ug/L	10.0	1	11/23/21 13:45	11/23/21 23:39	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/17/21 14:36	11/22/21 16:33	7439-98-7	
Potassium	ND	ug/L	1000	1	11/17/21 14:36	11/22/21 16:33	7440-09-7	
Silica	ND	ug/L	450	1	11/17/21 14:36	11/22/21 16:33	7631-86-9	N2
Sodium	ND	ug/L	1000	1	11/17/21 14:36	11/22/21 16:33	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	11/11/21 07:25	11/15/21 00:33	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 00:33	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/21 07:25	11/15/21 00:33	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 00:33	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 00:33	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 00:33	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**3.7**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Bicarbonate (CaCO3)	**3.7**	mg/L	2.0	1		11/13/21 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/13/21 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		11/12/21 09:01		PL
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		11/12/21 15:52		H3

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: FIELD BLANK 4 **Lab ID: 50302464004** Collected: 11/09/21 11:10 Received: 11/10/21 10:15 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		11/11/21 15:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 15:01		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		11/10/21 15:41	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/10/21 15:41	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/17/21 10:30	11/18/21 18:25		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/23/21 00:22	7440-44-0	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 649634
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2993478 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/12/21 21:09	
Fluoride	mg/L	ND	0.10	11/12/21 21:09	
Sulfate	mg/L	ND	0.25	11/12/21 21:09	

LABORATORY CONTROL SAMPLE: 2993479

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	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993480 2993481

Parameter	Units	50302389001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	44.8	12.5	12.5	56.7	56.6	95	94	80-120	0	15	
Fluoride	mg/L	0.59	0.5	0.5	1.0	1.0	82	83	80-120	1	15	
Sulfate	mg/L	<2.0	2.5	2.5	2.5	2.5	99	98	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 650603
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2998570 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/22/21 15:38	
Barium	ug/L	ND	10.0	11/22/21 15:38	
Boron	ug/L	ND	100	11/22/21 15:38	
Cadmium	ug/L	ND	2.0	11/22/21 15:38	
Calcium	ug/L	ND	1000	11/22/21 15:38	
Chromium	ug/L	ND	10.0	11/22/21 15:38	
Iron	ug/L	ND	100	11/22/21 15:38	
Lead	ug/L	ND	10.0	11/22/21 15:38	
Lithium	ug/L	ND	20.0	11/22/21 15:38	
Magnesium	ug/L	ND	1000	11/22/21 15:38	
Manganese	ug/L	ND	10.0	11/22/21 15:38	
Molybdenum	ug/L	ND	10.0	11/22/21 15:38	
Potassium	ug/L	ND	1000	11/22/21 15:38	
Silica	ug/L	ND	450	11/22/21 15:38	N2
Sodium	ug/L	ND	1000	11/22/21 15:38	

LABORATORY CONTROL SAMPLE: 2998571

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4590	92	80-120	
Barium	ug/L	1000	959	96	80-120	
Boron	ug/L	1000	969	97	80-120	
Cadmium	ug/L	1000	924	92	80-120	
Calcium	ug/L	5000	4950	99	80-120	
Chromium	ug/L	1000	973	97	80-120	
Iron	ug/L	2500	2440	98	80-120	
Lead	ug/L	1000	912	91	80-120	
Lithium	ug/L	1000	962	96	80-120	
Magnesium	ug/L	5000	4740	95	80-120	
Manganese	ug/L	1000	953	95	80-120	
Molybdenum	ug/L	1000	953	95	80-120	
Potassium	ug/L	5000	5010	100	80-120	
Silica	ug/L	5350	5250	98	80-120	N2
Sodium	ug/L	5000	4880	98	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998572 2998573

Parameter	Units	50302392001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4730	4750	92	93	75-125	0	20	
Barium	ug/L	0.17 mg/L	1000	1000	1120	1130	95	96	75-125	1	20	
Boron	ug/L	0.34 mg/L	1000	1000	1340	1360	100	102	75-125	2	20	
Cadmium	ug/L	ND	1000	1000	931	933	93	93	75-125	0	20	
Calcium	ug/L	124 mg/L	5000	5000	123000	128000	-8	100	75-125	4	20	P6
Chromium	ug/L	ND	1000	1000	957	966	96	96	75-125	1	20	
Iron	ug/L	1.1 mg/L	2500	2500	3450	3520	94	97	75-125	2	20	
Lead	ug/L	ND	1000	1000	867	866	87	87	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1000	1010	99	100	75-125	1	20	
Magnesium	ug/L	53.9 mg/L	5000	5000	56400	59200	51	108	75-125	5	20	P6
Manganese	ug/L	0.42 mg/L	1000	1000	1330	1360	92	94	75-125	2	20	
Molybdenum	ug/L	ND	1000	1000	957	957	96	96	75-125	0	20	
Potassium	ug/L	4.3 mg/L	5000	5000	9350	9630	101	106	75-125	3	20	
Silica	ug/L	24.7 mg/L	5350	5350	28800	30200	76	103	75-125	5	20	N2
Sodium	ug/L	79.2 mg/L	5000	5000	81400	86400	43	142	75-125	6	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 651706
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464004

METHOD BLANK: 3004128 Matrix: Water
Associated Lab Samples: 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	ug/L	ND	10.0	11/23/21 23:37	

LABORATORY CONTROL SAMPLE: 3004129

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	1000	947	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3004130 3004131

Parameter	Units	50302797005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	348	1000	1000	1250	1260	90	91	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 650083
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003

METHOD BLANK: 2996164 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/19/21 00:21	
Molybdenum, Dissolved	ug/L	ND	10.0	11/19/21 00:21	

LABORATORY CONTROL SAMPLE: 2996165

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: 2996166 2996167

Parameter	Units	50302394005 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	175	1000	1000	1140	1160	97	98	75-125	1	20	
Molybdenum, Dissolved	ug/L	<0.050 mg/L	1000	1000	1020	1030	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 649717
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2994063 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/14/21 23:50	
Arsenic	ug/L	ND	1.0	11/14/21 23:50	
Beryllium	ug/L	ND	0.20	11/14/21 23:50	
Cobalt	ug/L	ND	1.0	11/14/21 23:50	
Selenium	ug/L	ND	1.0	11/14/21 23:50	
Thallium	ug/L	ND	1.0	11/14/21 23:50	

LABORATORY CONTROL SAMPLE: 2994064

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.8	102	80-120	
Arsenic	ug/L	40	35.9	90	80-120	
Beryllium	ug/L	40	37.1	93	80-120	
Cobalt	ug/L	40	38.3	96	80-120	
Selenium	ug/L	40	37.6	94	80-120	
Thallium	ug/L	40	38.0	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994065 2994066

Parameter	Units	50302070019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.6	40.9	104	102	75-125	2	20	
Arsenic	ug/L	ND	40	40	36.2	36.2	90	90	75-125	0	20	
Beryllium	ug/L	ND	40	40	37.2	37.7	93	94	75-125	1	20	
Cobalt	ug/L	ND	40	40	38.9	38.6	97	96	75-125	1	20	
Selenium	ug/L	ND	40	40	37.0	37.1	92	93	75-125	0	20	
Thallium	ug/L	ND	40	40	38.9	38.5	97	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 650277 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2997373 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/13/21 15:11	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/13/21 15:11	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/13/21 15:11	

LABORATORY CONTROL SAMPLE: 2997374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.0	98	90-110	

SAMPLE DUPLICATE: 2997375

Parameter	Units	50302460001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	77.4	74.6	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	77.4	74.6	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2997376

Parameter	Units	50302482001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	486	490	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	486	490	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 650012 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2995840 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/12/21 08:59	

LABORATORY CONTROL SAMPLE: 2995841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	304	101	80-120	

SAMPLE DUPLICATE: 2995842

Parameter	Units	50302474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	220	232	5	10	

SAMPLE DUPLICATE: 2995843

Parameter	Units	50302474004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	83	87	5	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 650080
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

SAMPLE DUPLICATE: 2996147

Parameter	Units	50302400001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	2	H3

SAMPLE DUPLICATE: 2996148

Parameter	Units	50302460001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 649907
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2995016 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/11/21 15:17	

LABORATORY CONTROL SAMPLE: 2995017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.51	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2995018 2995019

Parameter	Units	50302394002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	<0.20	0.5	0.5	0.23	0.25	44	47	90-110	6	20	M3

MATRIX SPIKE SAMPLE: 2995020

Parameter	Units	50302464001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	.06J	10	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 650432 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2997972 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 15:00	H3,N2

LABORATORY CONTROL SAMPLE: 2997973

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: 2997974 2997975

Parameter	Units	50302629005 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	1.0	1.0	102	101	90-110	1	20	H3,N2

MATRIX SPIKE SAMPLE: 2997976

Parameter	Units	50302629008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	111	90-110	H3,M0,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 649596
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2993311 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/10/21 14:33	
Nitrogen, Nitrite	mg/L	ND	0.10	11/10/21 14:33	

LABORATORY CONTROL SAMPLE: 2993312

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: 2993313 2993314

Parameter	Units	50302464002 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	14.4	10	10	23.6	23.9	92	94	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	10	10	11.1	11.2	111	112	90-110	0	20	M3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 650803 | 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: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2999437 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/18/21 18:11	

LABORATORY CONTROL SAMPLE: 2999438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2999439 2999440

Parameter	Units	50302400002 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	0.32			1.8	1.7				10		

MATRIX SPIKE SAMPLE: 2999441

Parameter	Units	50302474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.6			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 651941 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 3004823 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/22/21 22:28	

LABORATORY CONTROL SAMPLE: 3004824

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3004825 3004826

Parameter	Units	50302474004 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	11.7	12.1	110	115	80-120	4	20	

MATRIX SPIKE SAMPLE: 3004827

Parameter	Units	50302472001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	11.0	104	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 652165
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464001, 50302464003

METHOD BLANK: 3005526 Matrix: Water
Associated Lab Samples: 50302464001, 50302464003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/23/21 13:15	

LABORATORY CONTROL SAMPLE: 3005527

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: 3005528 3005529

Parameter	Units	50302463002 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	10.2	10.6	95	99	80-120	4	20	

MATRIX SPIKE SAMPLE: 3005530

Parameter	Units	50302472001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.0	10	10.7	96	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 652604
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302464002

METHOD BLANK: 3007560 Matrix: Water
Associated Lab Samples: 50302464002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/28/21 20:24	

LABORATORY CONTROL SAMPLE: 3007561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.3	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3007562 3007563

Parameter	Units	50302629005 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	11.1	11.1	104	104	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3007564 3007565

Parameter	Units	50302637005 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	11.8	11.6	109	107	80-120	2	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: AP-9A **Lab ID: 50302464001** Collected: 11/09/21 13:30 Received: 11/10/21 10:15 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	**0.331 ± 0.651 (1.15) C:NA T:91%**	pCi/L	12/23/21 12:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.668 ± 0.420 (0.778) C:71% T:77%**	pCi/L	01/05/22 11:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.999 ± 1.07 (1.93)**	pCi/L	01/06/22 10:28	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: AP-10A **Lab ID: 50302464002** Collected: 11/09/21 11:10 Received: 11/10/21 10:15 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	**-0.384 ± 0.472 (1.12) C:NA T:90%**	pCi/L	12/23/21 12:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.432 ± 0.383 (0.770) C:69% T:78%**	pCi/L	01/05/22 11:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.432 ± 0.855 (1.89)**	pCi/L	01/06/22 10:28	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: DUP 4 **Lab ID: 50302464003** Collected: 11/09/21 11:20 Received: 11/10/21 10:15 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	**0.581 ± 0.495 (0.695) C:NA T:94%**	pCi/L	12/23/21 12:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.901 ± 0.526 (0.964) C:63% T:77%**	pCi/L	01/05/22 11:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.48 ± 1.02 (1.66)**	pCi/L	01/06/22 10:28	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Sample: FIELD BLANK 4 **Lab ID: 50302464004** Collected: 11/09/21 11:10 Received: 11/10/21 10:15 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	**-0.120 ± 0.275 (0.648) C:NA T:94%**	pCi/L	12/23/21 12:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.173 ± 0.370 (0.820) C:69% T:81%**	pCi/L	01/05/22 11:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.173 ± 0.645 (1.47)**	pCi/L	01/06/22 10:28	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 475867
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2298537 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.441 ± 0.381 (0.769) C:78% T:76%	pCi/L	01/05/22 11:07	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

QC Batch: 475866
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

METHOD BLANK: 2298536 Matrix: Water
Associated Lab Samples: 50302464001, 50302464002, 50302464003, 50302464004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0483 ± 0.250 (0.580) C:NA T:94%	pCi/L	12/23/21 12:03	

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QUALIFIERS

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

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

CU	The continuing calibration for this analyte is above laboratory acceptance limits. Analyte was not detected above the reporting limit in any of the associated samples.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302464001	**AP-9A**	EPA 9056	649634		
50302464002	**AP-10A**	EPA 9056	649634		
50302464003	**DUP 4**	EPA 9056	649634		
50302464004	**FIELD BLANK 4**	EPA 9056	649634		
50302464001	**AP-9A**	EPA 3010	650603	EPA 6010	652011
50302464002	**AP-10A**	EPA 3010	650603	EPA 6010	652011
50302464003	**DUP 4**	EPA 3010	650603	EPA 6010	652011
50302464004	**FIELD BLANK 4**	EPA 3010	650603	EPA 6010	652011
50302464004	**FIELD BLANK 4**	EPA 3010	651706	EPA 6010	652322
50302464001	**AP-9A**	EPA 3010	650083	EPA 6010	651438
50302464002	**AP-10A**	EPA 3010	650083	EPA 6010	651438
50302464003	**DUP 4**	EPA 3010	650083	EPA 6010	651438
50302464001	**AP-9A**	EPA 200.2	649717	EPA 6020	649874
50302464002	**AP-10A**	EPA 200.2	649717	EPA 6020	649874
50302464003	**DUP 4**	EPA 200.2	649717	EPA 6020	649874
50302464004	**FIELD BLANK 4**	EPA 200.2	649717	EPA 6020	649874
50302464001	**AP-9A**	EPA 903.1	475866		
50302464002	**AP-10A**	EPA 903.1	475866		
50302464003	**DUP 4**	EPA 903.1	475866		
50302464004	**FIELD BLANK 4**	EPA 903.1	475866		
50302464001	**AP-9A**	EPA 904.0	475867		
50302464002	**AP-10A**	EPA 904.0	475867		
50302464003	**DUP 4**	EPA 904.0	475867		
50302464004	**FIELD BLANK 4**	EPA 904.0	475867		
50302464001	**AP-9A**	Total Radium Calculation	478669		
50302464002	**AP-10A**	Total Radium Calculation	478669		
50302464003	**DUP 4**	Total Radium Calculation	478669		
50302464004	**FIELD BLANK 4**	Total Radium Calculation	478669		
50302464001	**AP-9A**	SM 2320B	650277		
50302464002	**AP-10A**	SM 2320B	650277		
50302464003	**DUP 4**	SM 2320B	650277		
50302464004	**FIELD BLANK 4**	SM 2320B	650277		
50302464001	**AP-9A**	SM 2540C	650012		
50302464002	**AP-10A**	SM 2540C	650012		
50302464003	**DUP 4**	SM 2540C	650012		
50302464004	**FIELD BLANK 4**	SM 2540C	650012		
50302464001	**AP-9A**	SM 4500-H+B	650080		
50302464002	**AP-10A**	SM 4500-H+B	650080		
50302464003	**DUP 4**	SM 4500-H+B	650080		
50302464004	**FIELD BLANK 4**	SM 4500-H+B	650080		
50302464001	**AP-9A**	SM 4500-S2-D	649907		
50302464002	**AP-10A**	SM 4500-S2-D	649907		
50302464003	**DUP 4**	SM 4500-S2-D	649907		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R5
Pace Project No.: 50302464

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302464004	**FIELD BLANK 4**	SM 4500-S2-D	649907		
50302464001	**AP-9A**	HACH 8146	650432		
50302464002	**AP-10A**	HACH 8146	650432		
50302464003	**DUP 4**	HACH 8146	650432		
50302464004	**FIELD BLANK 4**	HACH 8146	650432		
50302464001	**AP-9A**	EPA 353.2	649596		
50302464002	**AP-10A**	EPA 353.2	649596		
50302464003	**DUP 4**	EPA 353.2	649596		
50302464004	**FIELD BLANK 4**	EPA 353.2	649596		
50302464001	**AP-9A**	EPA 365.1	650803	EPA 365.1	651389
50302464002	**AP-10A**	EPA 365.1	650803	EPA 365.1	651389
50302464003	**DUP 4**	EPA 365.1	650803	EPA 365.1	651389
50302464004	**FIELD BLANK 4**	EPA 365.1	650803	EPA 365.1	651389
50302464001	**AP-9A**	SM 5310C	651941		
50302464002	**AP-10A**	SM 5310C	651941		
50302464003	**DUP 4**	SM 5310C	651941		
50302464004	**FIELD BLANK 4**	SM 5310C	651941		
50302464001	**AP-9A**	SM 5310C	652165		
50302464002	**AP-10A**	SM 5310C	652604		
50302464003	**DUP 4**	SM 5310C	652165		

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WO# : 50302464

50302464

Pace Analytical
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Submitting a sa

OF-CUSTODY / Analytical Request Document

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

ice of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

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:	

Required Project Information:

Report To:	Teague, Wil
Copy To:	
Purchase Order #:	
Project Name:	IDEM - CCR Sampling Profile 2 Report 5
Project #:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Hayden Putt
Pace Profile #:	8296/11

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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		Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS			DATE	TIME	DATE	TIME											Requested Analysis Filtered (Y/N)													
1	AP-9A	WT		11/9	1330				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			OU1
2	AP-10A	WT		11/9	1110				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			OU2
3	MW-19A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
4	MW-19I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
5	MW-19B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
6	MW-20A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
7	MW-20I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
8	MW-20B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
9	MW-21A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
10	MW-21I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
11	MW-21B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
12	MW-25A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			

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)		11.10.21	8:00		11-10	8:00	
6020 (Be, Co, As, Se, Sb, Tl)		11-10-21	10:15		11/10/21	10:15	SEE SCAN
** Dissolved FF 6010 (Mo, Mn)							
Alkalinity = (Total , Bicarb & Carb)							

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:					
SIGNATURE of SAMPLER:	DATE Signed:				

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical® WWW.PACELABS.COM

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:	Section C Invoice Information:	
Company: AES/IPL Petersburg		Report To: Teague, Wil	Attention:	
Address: 6925 IN-57		Copy To:	Company Name:	
Petersburg, IN 47567			Address:	Regulatory Agency
Email: wil.teague@aes.com		Purchase Order #:	Pace Quote:	
Phone: (812)354-8801	Fax:	Project Name: IDEM - CCR Sampling Profile 2 Report 5	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date:		Project #:	Pace Profile #: 8296/11	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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		Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS			DATE	TIME	DATE	TIME											Requested Analysis Filtered (Y/N)													
25	DUP 4	WT		11/9	1120				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			003
26	FIELD BLANK 4	WT		11/9	1110				9	3	2	3		1					X	X	X		X	X	X	X		X	X			004
27																															
28																															
29																															
30																															
31																															
32																															
33																															
34																															
35																															
36																															

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)		11.10.21	8:00		11-10	8:00	
6020 (Be, Co, As, Se, Sb, Tl)	Jay Williams	11-10-21	10:15		11/10/21	1015	SEE SEAL
** Dissolved FF 6010 (Mo, Mn)							
Alkalinity = (Total , Bicarb & Carb)							

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:					
SIGNATURE of SAMPLER:	DATE Signed:				

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MR 1/10/21 1145

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:** _____
   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.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: N=3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1230			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
				Present	Absent	No VOA Vials Sent
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details			✓
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: 0.8/0.7 0.4/0.3 1.3/1.2 1.0/0.9 0.9/0.8

COC PAGE __1__ of __2__

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	1	2	1	1	1		1					SL	✓	✓	
2												1	1			2	1	2	1	1	1		1					SL	✓	✓	
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
GN	General	AG3C	250mL NaOH amber glass

Plastic / Misc.

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

COC PAGE 2 **of** 2

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	1	2	1	1	1		1					SL	✓	✓	
2												1				2	1	2	1		1		1					SL	✓	✓	
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

February 16, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 10, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Mr. Mark Breting, ATC Group Services
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

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 #: 460198
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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302472001	**MW-24**	Water	11/10/21 08:35	11/10/21 12:17

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302472001	**MW-24**	EPA 9056	RID	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	ZM	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302472001	**MW-24**					
EPA 9056	Chloride	53.9	mg/L	2.5	11/13/21 08:30	
EPA 9056	Sulfate	788	mg/L	25.0	11/13/21 08:41	
EPA 6010	Barium	39.2	ug/L	10.0	11/23/21 10:59	
EPA 6010	Boron	895	ug/L	100	11/23/21 10:59	
EPA 6010	Calcium	247000	ug/L	2000	11/23/21 11:22	
EPA 6010	Lithium	1470	ug/L	20.0	11/23/21 10:59	
EPA 6010	Magnesium	26500	ug/L	1000	11/23/21 10:59	
EPA 6010	Manganese	760	ug/L	10.0	11/23/21 10:59	
EPA 6010	Molybdenum	379	ug/L	10.0	11/23/21 10:59	
EPA 6010	Potassium	154000	ug/L	2000	11/23/21 11:22	
EPA 6010	Silica	18300	ug/L	450	11/23/21 10:59	N2
EPA 6010	Sodium	74600	ug/L	1000	11/23/21 10:59	
EPA 6010	Manganese, Dissolved	774	ug/L	10.0	11/19/21 01:19	
EPA 6010	Molybdenum, Dissolved	361	ug/L	10.0	11/19/21 01:19	
EPA 6020	Cobalt	1.4	ug/L	1.0	11/15/21 13:53	
EPA 903.1	Radium-226	0.394 ± 0.484 (0.789) C:NA T:92%	pCi/L		12/13/21 13:18	
EPA 904.0	Radium-228	-0.0330 ± 0.366 (0.854) C:75% T:92%	pCi/L		12/20/21 14:52	
Total Radium Calculation	Total Radium	0.394 ± 0.850 (1.64)	pCi/L		12/21/21 09:26	
SM 2320B	Alkalinity, Total as CaCO3	177	mg/L	2.0	11/16/21 19:53	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	177	mg/L	2.0	11/16/21 19:53	
SM 2540C	Total Dissolved Solids	1490	mg/L	20.0	11/12/21 09:13	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/12/21 15:55	H3
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	11/23/21 16:36	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

Sample: MW-24 **Lab ID: 50302472001** Collected: 11/10/21 08:35 Received: 11/10/21 12:17 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	**53.9**	mg/L	2.5	10		11/13/21 08:30	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/13/21 08:18	16984-48-8	
Sulfate	**788**	mg/L	25.0	100		11/13/21 08:41	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/17/21 14:36	11/23/21 10:59	7429-90-5	
Barium	**39.2**	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:59	7440-39-3	
Boron	**895**	ug/L	100	1	11/17/21 14:36	11/23/21 10:59	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/17/21 14:36	11/23/21 10:59	7440-43-9	
Calcium	**247000**	ug/L	2000	2	11/17/21 14:36	11/23/21 11:22	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:59	7440-47-3	
Iron	ND	ug/L	100	1	11/17/21 14:36	11/23/21 10:59	7439-89-6	
Lead	ND	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:59	7439-92-1	
Lithium	**1470**	ug/L	20.0	1	11/17/21 14:36	11/23/21 10:59	7439-93-2	
Magnesium	**26500**	ug/L	1000	1	11/17/21 14:36	11/23/21 10:59	7439-95-4	
Manganese	**760**	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:59	7439-96-5	
Molybdenum	**379**	ug/L	10.0	1	11/17/21 14:36	11/23/21 10:59	7439-98-7	
Potassium	**154000**	ug/L	2000	2	11/17/21 14:36	11/23/21 11:22	7440-09-7	
Silica	**18300**	ug/L	450	1	11/17/21 14:36	11/23/21 10:59	7631-86-9	N2
Sodium	**74600**	ug/L	1000	1	11/17/21 14:36	11/23/21 10:59	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**774**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:19	7439-96-5	
Molybdenum, Dissolved	**361**	ug/L	10.0	1	11/17/21 06:44	11/19/21 01:19	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:33	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:33	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/11/21 07:25	11/15/21 13:53	7440-41-7	
Cobalt	**1.4**	ug/L	1.0	1	11/11/21 07:25	11/15/21 13:53	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:33	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/11/21 07:25	11/15/21 02:33	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**177**	mg/L	2.0	1		11/16/21 19:53		
Alkalinity,Bicarbonate (CaCO3)	**177**	mg/L	2.0	1		11/16/21 19:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/16/21 19:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1490**	mg/L	20.0	1		11/12/21 09:13		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

Sample: MW-24 **Lab ID: 50302472001** Collected: 11/10/21 08:35 Received: 11/10/21 12:17 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		11/12/21 15:55		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/11/21 16:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 15:03		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		11/10/21 15:10	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/10/21 15:10	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/17/21 10:30	11/18/21 18:27		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/23/21 00:32	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.0**	mg/L	1.0	1		11/23/21 16:36		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 649634
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302472001

METHOD BLANK: 2993478 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/12/21 21:09	
Fluoride	mg/L	ND	0.10	11/12/21 21:09	
Sulfate	mg/L	ND	0.25	11/12/21 21:09	

LABORATORY CONTROL SAMPLE: 2993479

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	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993480 2993481

Parameter	Units	50302389001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	44.8	12.5	12.5	56.7	56.6	95	94	80-120	0	15	
Fluoride	mg/L	0.59	0.5	0.5	1.0	1.0	82	83	80-120	1	15	
Sulfate	mg/L	<2.0	2.5	2.5	2.5	2.5	99	98	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 650604
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 2998574 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/23/21 10:01	
Barium	ug/L	ND	10.0	11/23/21 10:01	
Boron	ug/L	ND	100	11/23/21 10:01	
Cadmium	ug/L	ND	2.0	11/23/21 10:01	
Calcium	ug/L	ND	1000	11/23/21 10:01	
Chromium	ug/L	ND	10.0	11/23/21 10:01	
Iron	ug/L	ND	100	11/23/21 10:01	
Lead	ug/L	ND	10.0	11/23/21 10:01	
Lithium	ug/L	ND	20.0	11/23/21 10:01	
Magnesium	ug/L	ND	1000	11/23/21 10:01	
Manganese	ug/L	ND	10.0	11/23/21 10:01	
Molybdenum	ug/L	ND	10.0	11/23/21 10:01	
Potassium	ug/L	ND	1000	11/23/21 10:01	
Silica	ug/L	ND	450	11/23/21 10:01	N2
Sodium	ug/L	ND	1000	11/23/21 10:01	

LABORATORY CONTROL SAMPLE: 2998575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4710	94	80-120	
Barium	ug/L	1000	976	98	80-120	
Boron	ug/L	1000	972	97	80-120	
Cadmium	ug/L	1000	954	95	80-120	
Calcium	ug/L	5000	4890	98	80-120	
Chromium	ug/L	1000	993	99	80-120	
Iron	ug/L	2500	2390	95	80-120	
Lead	ug/L	1000	928	93	80-120	
Lithium	ug/L	1000	991	99	80-120	
Magnesium	ug/L	5000	4700	94	80-120	
Manganese	ug/L	1000	943	94	80-120	
Molybdenum	ug/L	1000	984	98	80-120	
Potassium	ug/L	5000	4850	97	80-120	
Silica	ug/L	5350	5340	100	80-120	N2
Sodium	ug/L	5000	4870	97	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2998576 2998577

Parameter	Units	50302399004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4940	4990	98	99	75-125	1	20	
Barium	ug/L	47.9	1000	1000	1040	1050	99	100	75-125	1	20	
Boron	ug/L	104	1000	1000	1140	1160	103	105	75-125	2	20	
Cadmium	ug/L	0.33J	1000	1000	976	968	98	97	75-125	1	20	
Calcium	ug/L	69100	5000	5000	74800	79200	113	200	75-125	6	20	P6
Chromium	ug/L	ND	1000	1000	997	988	100	99	75-125	1	20	
Iron	ug/L	211	2500	2500	2620	2980	96	111	75-125	13	20	
Lead	ug/L	ND	1000	1000	911	901	91	90	75-125	1	20	
Lithium	ug/L	39.0	1000	1000	1100	1080	106	105	75-125	1	20	
Magnesium	ug/L	41400	5000	5000	46600	48000	103	131	75-125	3	20	P6
Manganese	ug/L	23.4	1000	1000	978	989	95	97	75-125	1	20	
Molybdenum	ug/L	8.1J	1000	1000	1010	1000	100	99	75-125	1	20	
Potassium	ug/L	2350	5000	5000	7630	7890	106	111	75-125	3	20	
Silica	ug/L	14600	5350	5350	20200	21300	105	125	75-125	5	20	N2
Sodium	ug/L	56200	5000	5000	60400	64400	84	165	75-125	7	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 650083
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 2996164 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/19/21 00:21	
Molybdenum, Dissolved	ug/L	ND	10.0	11/19/21 00:21	

LABORATORY CONTROL SAMPLE: 2996165

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: 2996166 2996167

Parameter	Units	50302394005 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	175	1000	1000	1140	1160	97	98	75-125	1	20	
Molybdenum, Dissolved	ug/L	<0.050 mg/L	1000	1000	1020	1030	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 649717
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 2994063 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/14/21 23:50	
Arsenic	ug/L	ND	1.0	11/14/21 23:50	
Beryllium	ug/L	ND	0.20	11/14/21 23:50	
Cobalt	ug/L	ND	1.0	11/14/21 23:50	
Selenium	ug/L	ND	1.0	11/14/21 23:50	
Thallium	ug/L	ND	1.0	11/14/21 23:50	

LABORATORY CONTROL SAMPLE: 2994064

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.8	102	80-120	
Arsenic	ug/L	40	35.9	90	80-120	
Beryllium	ug/L	40	37.1	93	80-120	
Cobalt	ug/L	40	38.3	96	80-120	
Selenium	ug/L	40	37.6	94	80-120	
Thallium	ug/L	40	38.0	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994065 2994066

Parameter	Units	50302070019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.6	40.9	104	102	75-125	2	20	
Arsenic	ug/L	ND	40	40	36.2	36.2	90	90	75-125	0	20	
Beryllium	ug/L	ND	40	40	37.2	37.7	93	94	75-125	1	20	
Cobalt	ug/L	ND	40	40	38.9	38.6	97	96	75-125	1	20	
Selenium	ug/L	ND	40	40	37.0	37.1	92	93	75-125	0	20	
Thallium	ug/L	ND	40	40	38.9	38.5	97	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 650766
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 2999243 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/16/21 19:53	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/16/21 19:53	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/16/21 19:53	

LABORATORY CONTROL SAMPLE: 2999244

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.0	98	90-110	

SAMPLE DUPLICATE: 2999245

Parameter	Units	50302949001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	682	701	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	550	569	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	132	132	0	20	

SAMPLE DUPLICATE: 2999246

Parameter	Units	50302501001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	194	197	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	194	197	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 650013
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 2995844 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/12/21 09:09	

LABORATORY CONTROL SAMPLE: 2995845

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	284	95	80-120	

SAMPLE DUPLICATE: 2995846

Parameter	Units	50302482005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	726	760	5	10	

SAMPLE DUPLICATE: 2995847

Parameter	Units	50302494006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	286	302	5	10	

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 650080
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302472001

SAMPLE DUPLICATE: 2996147

Parameter	Units	50302400001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	2	H3

SAMPLE DUPLICATE: 2996148

Parameter	Units	50302460001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 649912
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 2995045 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/11/21 16:57	

LABORATORY CONTROL SAMPLE: 2995046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2995047 2995048

Parameter	Units	50302538003 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	0.18	0.22	35	44	90-110	23	20	M3,R1

MATRIX SPIKE SAMPLE: 2995049

Parameter	Units	50302542001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.31	61	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 650432
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50302472001

METHOD BLANK: 2997972 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	11/15/21 15:00	H3,N2

LABORATORY CONTROL SAMPLE: 2997973

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: 2997974 2997975

Parameter	Units	50302629005 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	1.0	1.0	102	101	90-110	1	20	H3,N2

MATRIX SPIKE SAMPLE: 2997976

Parameter	Units	50302629008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	111	90-110	H3,M0,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 649596
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 2993311 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/10/21 14:33	
Nitrogen, Nitrite	mg/L	ND	0.10	11/10/21 14:33	

LABORATORY CONTROL SAMPLE: 2993312

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: 2993313 2993314

Parameter	Units	50302464002 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	14.4	10	10	23.6	23.9	92	94	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	10	10	11.1	11.2	111	112	90-110	0	20	M3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 650803
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 2999437 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/18/21 18:11	

LABORATORY CONTROL SAMPLE: 2999438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2999439 2999440

Parameter	Units	50302400002 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	0.32			1.8	1.7				10		

MATRIX SPIKE SAMPLE: 2999441

Parameter	Units	50302474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.6			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 651941
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 3004823 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/22/21 22:28	

LABORATORY CONTROL SAMPLE: 3004824

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3004825 3004826

Parameter	Units	50302474004 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	11.7	12.1	110	115	80-120	4	20	

MATRIX SPIKE SAMPLE: 3004827

Parameter	Units	50302472001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	11.0	104	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 652165
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302472001

METHOD BLANK: 3005526 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/23/21 13:15	

LABORATORY CONTROL SAMPLE: 3005527

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: 3005528 3005529

Parameter	Units	50302463002 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	10.2	10.6	95	99	80-120	4	20	

MATRIX SPIKE SAMPLE: 3005530

Parameter	Units	50302472001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.0	10	10.7	96	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

Sample: MW-24 **Lab ID: 50302472001** Collected: 11/10/21 08:35 Received: 11/10/21 12:17 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	**0.394 ± 0.484 (0.789) C:NA T:92%**	pCi/L	12/13/21 13:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0330 ± 0.366 (0.854) C:75% T:92%**	pCi/L	12/20/21 14:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.394 ± 0.850 (1.64)**	pCi/L	12/21/21 09:26	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 473900
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302472001

METHOD BLANK: 2289294 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.101 ± 0.244 (0.608) C:NA T:90%	pCi/L	12/13/21 12:55	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

QC Batch: 473902
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50302472001

METHOD BLANK: 2289309 Matrix: Water
Associated Lab Samples: 50302472001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.237 ± 0.332 (0.712) C:73% T:87%	pCi/L	12/20/21 11:43	

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QUALIFIERS

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P4R1
Pace Project No.: 50302472

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302472001	**MW-24**	EPA 9056	649634		
50302472001	**MW-24**	EPA 3010	650604	EPA 6010	652111
50302472001	**MW-24**	EPA 3010	650083	EPA 6010	651438
50302472001	**MW-24**	EPA 200.2	649717	EPA 6020	649874
50302472001	**MW-24**	EPA 903.1	473900		
50302472001	**MW-24**	EPA 904.0	473902		
50302472001	**MW-24**	Total Radium Calculation	476970		
50302472001	**MW-24**	SM 2320B	650766		
50302472001	**MW-24**	SM 2540C	650013		
50302472001	**MW-24**	SM 4500-H+B	650080		
50302472001	**MW-24**	SM 4500-S2-D	649912		
50302472001	**MW-24**	HACH 8146	650432		
50302472001	**MW-24**	EPA 353.2	649596		
50302472001	**MW-24**	EPA 365.1	650803	EPA 365.1	651389
50302472001	**MW-24**	SM 5310C	651941		
50302472001	**MW-24**	SM 5310C	652165		

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WO# : 50302472

50302472

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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.

Page : 1 Of 1

Section A
Required Client Informati

Company: AES/IPL Petersburg	Report To: Teague, Wil	Attention:	
Address: 6925 IN-57	Copy To:	Company Name:	
Petersburg, IN 47567		Address:	Regulatory Agency
Email: wil.teague@aes.com	Purchase Order #:	Pace Quote:	
Phone: (812)354-8801 Fax	Project Name: CCR Sampling Profile 4 Report 1	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date:	Project #:	Pace Profile #: 8296/12	IN

Section C
Invoice Information:

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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		Residual Chlorine (Y/N)	
1	~~MW-22~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~			
2	~~MW-23~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~			
3	MW-24	WT				11/10/21	835		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			001
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
* Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	[signature]	11/10/21	1217	[signature]	11/10/21	1217	1.0	4	4	4
6020 (Be, Co, As, Se, Sb, Tl)										
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palmer

SIGNATURE of SAMPLER: [signature] DATE Signed: 11/10/21

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BC 1252 11/10/21

1. **Courier:** ☐ FED EX ☐ UPS ☒ CLIENT ☐ PACE ☐ USPS ☐ OTHER _____

2. **Custody Seal on Cooler/Box Present:** ☒ Yes ☐ No

(If yes)Seals Intact: ☒ Yes ☐ No **(leave blank if no seals were present)**

3. **Thermometer:** 1 2 3 4 5 6 A (B) C D E F

4. **Cooler Temperature:** 1.0 / 1.0
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)		✓	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.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO2, NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1312			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 **of** 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	SBS / DI / MeOH (only) / BK / Kit: 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																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 31, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on December 09, 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
Kelly Chatterton, Haley & Aldrich, Inc.
Mr. Rob Duncan, ATC Group Services, LLC
Mr. Erwin Leidolf, AES
Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

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 #: 460198
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 P2R4
Pace Project No.: 50304777

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50304777001	**AP-8**	Water	12/09/21 09:25	12/09/21 15:32

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50304777001	**AP-8**	EPA 9056	RMR	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	RAM	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	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	OAS	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	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: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50304777001	**AP-8**					
EPA 9056	Chloride	10.3	mg/L	0.25	12/15/21 15:46	
EPA 9056	Fluoride	0.41	mg/L	0.10	12/15/21 15:46	
EPA 9056	Sulfate	719	mg/L	25.0	12/15/21 16:39	
EPA 6010	Aluminum	910	ug/L	200	12/20/21 12:03	
EPA 6010	Barium	19.2	ug/L	10.0	12/20/21 12:03	
EPA 6010	Boron	788	ug/L	100	12/20/21 12:03	
EPA 6010	Cadmium	4.2	ug/L	2.0	12/20/21 12:03	
EPA 6010	Calcium	147000	ug/L	1000	12/20/21 12:03	
EPA 6010	Iron	114000	ug/L	100	12/20/21 12:03	
EPA 6010	Lithium	45.7	ug/L	20.0	12/20/21 12:03	
EPA 6010	Magnesium	41500	ug/L	1000	12/20/21 12:03	
EPA 6010	Manganese	8620	ug/L	10.0	12/20/21 12:03	
EPA 6010	Potassium	4050	ug/L	1000	12/20/21 12:03	
EPA 6010	Silica	39500	ug/L	450	12/20/21 12:03	N2
EPA 6010	Sodium	10900	ug/L	1000	12/20/21 12:03	
EPA 6010	Manganese, Dissolved	8050	ug/L	10.0	12/15/21 12:55	
EPA 6020	Arsenic	7.2	ug/L	1.0	12/13/21 06:54	
EPA 6020	Beryllium	1.8	ug/L	0.20	12/13/21 06:54	
EPA 6020	Cobalt	319	ug/L	2.0	12/14/21 05:39	
EPA 6020	Selenium	1.9	ug/L	1.0	12/13/21 06:54	
EPA 903.1	Radium-226	0.104 ± 0.336 (0.647) C:NA T:99%	pCi/L		01/22/22 13:26	
EPA 904.0	Radium-228	0.889 ± 0.617 (1.19) C:67% T:87%	pCi/L		01/19/22 17:44	
Total Radium Calculation	Total Radium	0.993 ± 0.953 (1.84)	pCi/L		01/24/22 11:12	
SM 2320B	Alkalinity, Total as CaCO3	40.5	mg/L	2.0	12/16/21 10:52	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	40.5	mg/L	2.0	12/16/21 10:52	
SM 2540C	Total Dissolved Solids	1100	mg/L	20.0	12/11/21 10:29	
SM 4500-H+B	pH at 25 Degrees C	5.5	Std. Units	0.10	12/10/21 12:25	H3
HACH 8146	Iron, Ferrous	116	mg/L	25.0	12/15/21 11:04	H3,N2
SM 5310C	Total Organic Carbon	3.9	mg/L	1.0	12/15/21 19:19	
SM 5310C	Dissolved Organic Carbon	4.1	mg/L	1.0	12/17/21 00:06	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

Sample: AP-8 **Lab ID: 50304777001** Collected: 12/09/21 09:25 Received: 12/09/21 15:32 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	**10.3**	mg/L	0.25	1		12/15/21 15:46	16887-00-6	
Fluoride	**0.41**	mg/L	0.10	1		12/15/21 15:46	16984-48-8	
Sulfate	**719**	mg/L	25.0	100		12/15/21 16:39	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**910**	ug/L	200	1	12/17/21 16:00	12/20/21 12:03	7429-90-5	
Barium	**19.2**	ug/L	10.0	1	12/17/21 16:00	12/20/21 12:03	7440-39-3	
Boron	**788**	ug/L	100	1	12/17/21 16:00	12/20/21 12:03	7440-42-8	
Cadmium	**4.2**	ug/L	2.0	1	12/17/21 16:00	12/20/21 12:03	7440-43-9	
Calcium	**147000**	ug/L	1000	1	12/17/21 16:00	12/20/21 12:03	7440-70-2	
Chromium	ND	ug/L	10.0	1	12/17/21 16:00	12/20/21 12:03	7440-47-3	
Iron	**114000**	ug/L	100	1	12/17/21 16:00	12/20/21 12:03	7439-89-6	
Lead	ND	ug/L	10.0	1	12/17/21 16:00	12/20/21 12:03	7439-92-1	
Lithium	**45.7**	ug/L	20.0	1	12/17/21 16:00	12/20/21 12:03	7439-93-2	
Magnesium	**41500**	ug/L	1000	1	12/17/21 16:00	12/20/21 12:03	7439-95-4	
Manganese	**8620**	ug/L	10.0	1	12/17/21 16:00	12/20/21 12:03	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	12/17/21 16:00	12/20/21 12:03	7439-98-7	
Potassium	**4050**	ug/L	1000	1	12/17/21 16:00	12/20/21 12:03	7440-09-7	
Silica	**39500**	ug/L	450	1	12/17/21 16:00	12/20/21 12:03	7631-86-9	N2
Sodium	**10900**	ug/L	1000	1	12/17/21 16:00	12/20/21 12:03	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**8050**	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:55	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:55	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	12/12/21 19:35	12/13/21 06:54	7440-36-0	
Arsenic	**7.2**	ug/L	1.0	1	12/12/21 19:35	12/13/21 06:54	7440-38-2	
Beryllium	**1.8**	ug/L	0.20	1	12/12/21 19:35	12/13/21 06:54	7440-41-7	
Cobalt	**319**	ug/L	2.0	2	12/12/21 19:35	12/14/21 05:39	7440-48-4	
Selenium	**1.9**	ug/L	1.0	1	12/12/21 19:35	12/13/21 06:54	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/12/21 19:35	12/13/21 06:54	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**40.5**	mg/L	2.0	1		12/16/21 10:52		
Alkalinity,Bicarbonate (CaCO3)	**40.5**	mg/L	2.0	1		12/16/21 10:52		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		12/16/21 10:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1100**	mg/L	20.0	1		12/11/21 10:29		

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

Sample: AP-8 **Lab ID: 50304777001** Collected: 12/09/21 09:25 Received: 12/09/21 15:32 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		12/10/21 12:25		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		12/13/21 15:18	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**116**	mg/L	25.0	125		12/15/21 11:04		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		12/09/21 19:04	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		12/09/21 19:04	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	12/15/21 09:30	12/15/21 12:42		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**3.9**	mg/L	1.0	1		12/15/21 19:19	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**4.1**	mg/L	1.0	1		12/17/21 00:06		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 655078
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3019595 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	12/15/21 14:29	
Fluoride	mg/L	ND	0.10	12/15/21 14:29	
Sulfate	mg/L	ND	0.25	12/15/21 14:29	

LABORATORY CONTROL SAMPLE: 3019596

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	0.47	94	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3019597 3019598

Parameter	Units	50304777001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	10.3	1.2	1.2	11.5	11.6	94	98	80-120	0	15	
Fluoride	mg/L	0.41	0.5	0.5	0.79	0.79	75	74	80-120	1	15	M0
Sulfate	mg/L	719	250	250	965	961	98	97	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 655383
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3021481 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	12/20/21 11:57	
Barium	ug/L	ND	10.0	12/20/21 11:57	
Boron	ug/L	ND	100	12/20/21 11:57	
Cadmium	ug/L	ND	2.0	12/20/21 11:57	
Calcium	ug/L	ND	1000	12/20/21 11:57	
Chromium	ug/L	ND	10.0	12/20/21 11:57	
Iron	ug/L	ND	100	12/20/21 11:57	
Lead	ug/L	ND	10.0	12/20/21 11:57	
Lithium	ug/L	ND	20.0	12/20/21 11:57	
Magnesium	ug/L	ND	1000	12/20/21 11:57	
Manganese	ug/L	ND	10.0	12/20/21 11:57	
Molybdenum	ug/L	ND	10.0	12/20/21 11:57	
Potassium	ug/L	ND	1000	12/20/21 11:57	
Silica	ug/L	ND	450	12/20/21 11:57	N2
Sodium	ug/L	ND	1000	12/20/21 11:57	

LABORATORY CONTROL SAMPLE: 3021482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9140	91	80-120	
Barium	ug/L	1000	961	96	80-120	
Boron	ug/L	1000	950	95	80-120	
Cadmium	ug/L	1000	944	94	80-120	
Calcium	ug/L	10000	9960	100	80-120	
Chromium	ug/L	1000	956	96	80-120	
Iron	ug/L	10000	9950	99	80-120	
Lead	ug/L	1000	934	93	80-120	
Lithium	ug/L	1000	969	97	80-120	
Magnesium	ug/L	10000	9760	98	80-120	
Manganese	ug/L	1000	966	97	80-120	
Molybdenum	ug/L	1000	1020	102	80-120	
Potassium	ug/L	10000	9630	96	80-120	
Silica	ug/L	10700	10300	97		N2
Sodium	ug/L	10000	9550	96	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 Sampling P2R4
Pace Project No.: 50304777

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3021483 3021484

Parameter	Units	50304772002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	760000	10000	10000	624000	682000	-1350	-770	75-125	9	20	P6
Barium	ug/L	3750	1000	1000	4280	4510	52	76	75-125	5	20	M0
Boron	ug/L	236	1000	1000	818	829	58	59	75-125	1	20	M3
Cadmium	ug/L	6.3	1000	1000	778	781	77	77	75-125	0	20	
Calcium	ug/L	638000	10000	10000	596000	620000	-420	-175	75-125	4	20	P6
Chromium	ug/L	955	1000	1000	1540	1600	59	65	75-125	4	20	M3
Iron	ug/L	960000	10000	10000	834000	878000	-1270	-825	75-125	5	20	P6
Lead	ug/L	332	1000	1000	936	946	60	61	75-125	1	20	M3
Lithium	ug/L	549	1000	1000	1280	1330	73	78	75-125	3	20	M0
Magnesium	ug/L	262000	10000	10000	245000	259000	-165	-23	75-125	6	20	P6
Manganese	ug/L	8120	1000	1000	8270	8700	15	58	75-125	5	20	M3
Molybdenum	ug/L	65.4	1000	1000	612	624	55	56	75-125	2	20	M3
Potassium	ug/L	49400	10000	10000	40900	46900	-85	-25	75-125	14	20	P6
Silica	ug/L	57500	10700	10700	381000	405000	3030	3250		6		N2
Sodium	ug/L	5230	10000	10000	12800	13300	76	81	75-125	4	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 654323
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3016801 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	12/15/21 12:11	
Molybdenum, Dissolved	ug/L	ND	10.0	12/15/21 12:11	

LABORATORY CONTROL SAMPLE: 3016802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	952	95	80-120	
Molybdenum, Dissolved	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3016803 3016804

Parameter	Units	50304177017 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	539	1000	1000	1520	1480	98	94	75-125	2	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	992	988	99	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 654218
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3015910 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	12/13/21 05:43	
Arsenic	ug/L	ND	1.0	12/13/21 05:43	
Beryllium	ug/L	ND	0.20	12/13/21 05:43	
Cobalt	ug/L	ND	1.0	12/13/21 05:43	
Selenium	ug/L	ND	1.0	12/13/21 05:43	
Thallium	ug/L	ND	1.0	12/13/21 05:43	

LABORATORY CONTROL SAMPLE: 3015911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.4	103	80-120	
Arsenic	ug/L	40	39.4	98	80-120	
Beryllium	ug/L	40	39.8	100	80-120	
Cobalt	ug/L	40	41.4	104	80-120	
Selenium	ug/L	40	40.2	101	80-120	
Thallium	ug/L	40	40.8	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3015912 3015913

Parameter	Units	50304396002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.5	41.9	106	104	75-125	1	20	
Arsenic	ug/L	ND	40	40	38.9	38.9	97	97	75-125	0	20	
Beryllium	ug/L	ND	40	40	38.7	37.8	97	95	75-125	2	20	
Cobalt	ug/L	ND	40	40	38.6	39.0	96	97	75-125	1	20	
Selenium	ug/L	ND	40	40	41.8	40.8	104	102	75-125	2	20	
Thallium	ug/L	ND	40	40	41.4	41.2	103	103	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 655175
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3020271 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	12/16/21 10:52	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	12/16/21 10:52	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	12/16/21 10:52	

LABORATORY CONTROL SAMPLE: 3020272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	45.6	91	90-110	

SAMPLE DUPLICATE: 3020286

Parameter	Units	50304777001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40.5	40.9	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	40.5	40.9	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3020287

Parameter	Units	50304806003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	120	119	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	5.8	6.8	16	20	
Alkalinity,Carbonate (CaCO3)	mg/L	114	113	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 654343
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3016945 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	12/11/21 10:26	

LABORATORY CONTROL SAMPLE: 3016946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	307	102	80-120	

SAMPLE DUPLICATE: 3016947

Parameter	Units	50304928001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2680	2620	2	10	

SAMPLE DUPLICATE: 3016948

Parameter	Units	50304928002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4250	4170	2	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 654199
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50304777001

SAMPLE DUPLICATE: 3015775

Parameter	Units	50304379001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

SAMPLE DUPLICATE: 3015776

Parameter	Units	50304603001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	8.0	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 654586
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3017706 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	12/13/21 15:18	

LABORATORY CONTROL SAMPLE: 3017707

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017708 3017709

Parameter	Units	50304442001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.39	0.5	0.5	0.89	0.89	100	100	90-110	0	20	

MATRIX SPIKE SAMPLE: 3017710

Parameter	Units	50304706005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.39	79	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 654971
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50304777001

METHOD BLANK: 3019210 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	12/15/21 10:49	H3,N2

LABORATORY CONTROL SAMPLE: 3019211

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: 3019212 3019213

Parameter	Units	50304194002 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	1.0	1.0	100	102	90-110	2	20	H3,N2

MATRIX SPIKE SAMPLE: 3019222

Parameter	Units	50304073001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.0	104	90-110	H3,N2

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 654003
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3014790 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	12/09/21 18:49	
Nitrogen, Nitrite	mg/L	ND	0.10	12/09/21 18:49	

LABORATORY CONTROL SAMPLE: 3014791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.1	105	90-110	
Nitrogen, Nitrite	mg/L	1	0.96	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3014792 3014793

Parameter	Units	50304775003 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	0.10	1	1	1.1	1.1	100	100	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.93	0.93	93	93	90-110	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 654952
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3019138 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	12/15/21 12:31	

LABORATORY CONTROL SAMPLE: 3019139

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3019140 3019141

Parameter	Units	50303774001 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	64.6			69.2	74.2				7		

MATRIX SPIKE SAMPLE: 3019142

Parameter	Units	50304987002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	48.6		51.7			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 654862
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3018732 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	12/15/21 13:19	

LABORATORY CONTROL SAMPLE: 3018733

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: 3018734 3018735

Parameter	Units	50304159028 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	2.0	40	40	41.0	41.0	98	98	80-120	0	20	

MATRIX SPIKE SAMPLE: 3018736

Parameter	Units	50304073004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	20	19.8	97	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 655357
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304777001

METHOD BLANK: 3021175 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	12/16/21 23:44	

LABORATORY CONTROL SAMPLE: 3021176

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: 3021177 3021178

Parameter	Units	50304777001 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	4.1	10	10	14.1	14.2	100	101	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

Sample: AP-8 **Lab ID: 50304777001** Collected: 12/09/21 09:25 Received: 12/09/21 15:32 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	**0.104 ± 0.336 (0.647) C:NA T:99%**	pCi/L	01/22/22 13:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.889 ± 0.617 (1.19) C:67% T:87%**	pCi/L	01/19/22 17:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.993 ± 0.953 (1.84)**	pCi/L	01/24/22 11:12	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 478385
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50304777001

METHOD BLANK: 2312053 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.240 ± 0.282 (0.587) C:65% T:87%	pCi/L	01/19/22 11:27	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

QC Batch: 478384
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50304777001

METHOD BLANK: 2312052 Matrix: Water
Associated Lab Samples: 50304777001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.221 ± 0.347 (0.581) C:NA T:98%	pCi/L	01/22/22 12:52	

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QUALIFIERS

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P2R4
Pace Project No.: 50304777

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50304777001	**AP-8**	EPA 9056	655078		
50304777001	**AP-8**	EPA 3010	655383	EPA 6010	655778
50304777001	**AP-8**	EPA 3010	654323	EPA 6010	655048
50304777001	**AP-8**	EPA 200.2	654218	EPA 6020	654433
50304777001	**AP-8**	EPA 903.1	478384		
50304777001	**AP-8**	EPA 904.0	478385		
50304777001	**AP-8**	Total Radium Calculation	480450		
50304777001	**AP-8**	SM 2320B	655175		
50304777001	**AP-8**	SM 2540C	654343		
50304777001	**AP-8**	SM 4500-H+B	654199		
50304777001	**AP-8**	SM 4500-S2-D	654586		
50304777001	**AP-8**	HACH 8146	654971		
50304777001	**AP-8**	EPA 353.2	654003		
50304777001	**AP-8**	EPA 365.1	654952	EPA 365.1	655052
50304777001	**AP-8**	SM 5310C	654862		
50304777001	**AP-8**	SM 5310C	655357		

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WO# : 50304777

50304777

.IN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A
Required Client Information:

Company: AES/IPL Petersburg	Report To: Teague, Wil	Attention:	
Address: 6925 IN-57	Copy To:	Company Name:	Regulatory Agency
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 4	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date: 5 day TAT	Project #:	Pace Profile #: 8296/11	IN

Section C
Invoice Information:

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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		Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Y				Y								Requested Analysis Filtered (Y/N)	
13	AP-8	WT	G			12/9/21	925		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			OU1
14																															
15																															
16																															
17																															
18																															
19																															
20																															
21																															
22																															
23																															
24																															

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)	Colton Palmer	12/9/21	1532	R. Clemons	12921	15:32	0.5	y	y	y
6020 (Be, Co, As, Se, Sb, Tl)							0.0			
** Dissolved FF 6010 (Mo, Mn) 5 day TAT										
Alkalinity = (Total , Bicarb & Carb)										

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:	Colton Palmer					
SIGNATURE of SAMPLER:	Colton Palmer	DATE Signed: 12/9/21				

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: RC 12-9-21 15:47

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 0.0/0.0
   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)		✓	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.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: NO_3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 17:00	✓	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

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	1	2	1	1	1		1					WT	✓	✓	
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

MAY 2022

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 10, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 03, 2022. 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. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

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 #: 460198
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: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50315334001	**MW-25A**	Water	05/02/22 12:35	05/03/22 10:30
50315334002	**MW-25I**	Water	05/02/22 14:45	05/03/22 10:30
50315334003	**MW-25B**	Water	05/02/22 16:10	05/03/22 10:30
50315334004	**MW-29A**	Water	05/02/22 13:14	05/03/22 10:30
50315334005	**MW-29I**	Water	05/02/22 14:22	05/03/22 10:30
50315334006	**MW-29B**	Water	05/02/22 15:42	05/03/22 10:30
50315334007	**DUP 4**	Water	05/02/22 08:00	05/03/22 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50315334001	**MW-25A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	WZE	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315334002	**MW-25I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	WZE	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315334003	**MW-25B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	WZE	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315334004	**MW-29A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	WZE	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315334005	**MW-29I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	WZE	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

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	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315334006	**MW-29B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	WZE	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315334007	**DUP 4**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SWJ	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	WZE	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

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

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

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315334001	**MW-25A**					
EPA 9056	Chloride	48.4	mg/L	2.5	05/04/22 18:52	
EPA 9056	Sulfate	1550	mg/L	25.0	05/04/22 19:09	
EPA 6010	Barium	28.5	ug/L	10.0	05/14/22 15:24	
EPA 6010	Boron	11200	ug/L	100	05/14/22 15:24	
EPA 6010	Calcium	560000	ug/L	5000	05/14/22 17:14	
EPA 6010	Iron	15300	ug/L	100	05/14/22 15:24	
EPA 6010	Magnesium	64500	ug/L	1000	05/14/22 15:24	
EPA 6010	Manganese	1580	ug/L	10.0	05/14/22 15:24	
EPA 6010	Molybdenum	11.1	ug/L	10.0	05/14/22 15:24	
EPA 6010	Potassium	2470	ug/L	1000	05/14/22 15:24	
EPA 6010	Silica	14800	ug/L	450	05/14/22 15:24	N2
EPA 6010	Sodium	21400	ug/L	1000	05/14/22 15:24	
EPA 6010	Manganese, Dissolved	1550	ug/L	10.0	05/13/22 22:04	
EPA 6010	Molybdenum, Dissolved	11.1	ug/L	10.0	05/13/22 22:04	
EPA 6020	Cobalt	1.3	ug/L	1.0	05/09/22 10:54	
EPA 903.1	Radium-226	0.353 ± 0.280 (0.380) C:NA T:91%	pCi/L		06/02/22 16:22	
EPA 904.0	Radium-228	0.373 ± 0.349 (0.711) C:72% T:91%	pCi/L		05/23/22 13:44	
Total Radium Calculation	Total Radium	0.726 ± 0.629 (1.09)	pCi/L		06/09/22 16:02	
SM 2320B	Alkalinity, Total as CaCO3	180	mg/L	2.0	05/06/22 14:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	180	mg/L	2.0	05/06/22 14:35	
SM 2540C	Total Dissolved Solids	2350	mg/L	40.0	05/05/22 11:46	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/05/22 14:59	H3
EPA 365.1	Phosphate as P04	0.62	mg/L	0.15	05/08/22 18:03	
SM 5310C	Total Organic Carbon	1.9	mg/L	1.0	05/09/22 19:15	
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	05/12/22 15:58	
50315334002	**MW-25I**					
EPA 9056	Chloride	42.3	mg/L	2.5	05/04/22 19:41	
EPA 9056	Sulfate	1440	mg/L	25.0	05/04/22 19:57	
EPA 6010	Barium	26.1	ug/L	10.0	05/14/22 15:32	
EPA 6010	Boron	14300	ug/L	100	05/14/22 15:32	
EPA 6010	Calcium	554000	ug/L	5000	05/14/22 17:16	
EPA 6010	Iron	11100	ug/L	100	05/14/22 15:32	
EPA 6010	Magnesium	50400	ug/L	1000	05/14/22 15:32	
EPA 6010	Manganese	1390	ug/L	10.0	05/14/22 15:32	
EPA 6010	Molybdenum	17.7	ug/L	10.0	05/14/22 15:32	
EPA 6010	Potassium	2970	ug/L	1000	05/14/22 15:32	
EPA 6010	Silica	11900	ug/L	450	05/14/22 15:32	N2
EPA 6010	Sodium	24300	ug/L	1000	05/14/22 15:32	
EPA 6010	Manganese, Dissolved	1380	ug/L	10.0	05/13/22 22:20	
EPA 6010	Molybdenum, Dissolved	17.4	ug/L	10.0	05/13/22 22:20	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315334002	**MW-25I**					
EPA 903.1	Radium-226	0.212 ± 0.242 (0.381) C:NA T:91%	pCi/L		06/02/22 16:22	
EPA 904.0	Radium-228	0.442 ± 0.313 (0.599) C:77% T:91%	pCi/L		05/23/22 13:44	
Total Radium Calculation	Total Radium	0.654 ± 0.555 (0.980)	pCi/L		06/09/22 16:02	
SM 2320B	Alkalinity, Total as CaCO3	155	mg/L	2.0	05/06/22 14:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	155	mg/L	2.0	05/06/22 14:35	
SM 2540C	Total Dissolved Solids	2220	mg/L	40.0	05/05/22 11:46	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/05/22 15:08	H3
EPA 365.1	Phosphate as P04	0.18	mg/L	0.15	05/08/22 18:04	
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	05/09/22 19:34	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	05/12/22 16:09	
50315334003	**MW-25B**					
EPA 9056	Chloride	13.9	mg/L	2.5	05/04/22 20:30	
EPA 9056	Sulfate	225	mg/L	2.5	05/04/22 20:30	
EPA 6010	Barium	39.6	ug/L	10.0	05/14/22 15:34	
EPA 6010	Boron	2680	ug/L	100	05/14/22 15:34	
EPA 6010	Calcium	173000	ug/L	1000	05/14/22 15:34	
EPA 6010	Iron	213	ug/L	100	05/14/22 15:34	
EPA 6010	Magnesium	37300	ug/L	1000	05/14/22 15:34	
EPA 6010	Manganese	290	ug/L	10.0	05/14/22 15:34	
EPA 6010	Silica	14000	ug/L	450	05/14/22 15:34	N2
EPA 6010	Sodium	7360	ug/L	1000	05/14/22 15:34	
EPA 6010	Manganese, Dissolved	259	ug/L	10.0	05/13/22 22:22	
EPA 6020	Selenium	1.2	ug/L	1.0	05/09/22 11:02	
EPA 903.1	Radium-226	0.162 ± 0.191 (0.301) C:NA T:88%	pCi/L		06/02/22 16:22	
EPA 904.0	Radium-228	0.212 ± 0.278 (0.591) C:76% T:88%	pCi/L		05/23/22 13:44	
Total Radium Calculation	Total Radium	0.374 ± 0.469 (0.892)	pCi/L		06/09/22 16:02	
SM 2320B	Alkalinity, Total as CaCO3	339	mg/L	2.0	05/06/22 14:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	339	mg/L	2.0	05/06/22 14:35	
SM 2540C	Total Dissolved Solids	735	mg/L	10.0	05/05/22 11:46	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/05/22 15:19	H3
EPA 353.2	Nitrogen, Nitrate	3.2	mg/L	0.10	05/03/22 15:54	
SM 5310C	Dissolved Organic Carbon	1.8	mg/L	1.0	05/12/22 16:20	

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315334004	**MW-29A**					
EPA 9056	Chloride	37.3	mg/L	2.5	05/04/22 21:53	
EPA 9056	Sulfate	540	mg/L	25.0	05/04/22 22:09	
EPA 6010	Aluminum	228	ug/L	200	05/14/22 15:37	
EPA 6010	Barium	33.5	ug/L	10.0	05/14/22 15:37	
EPA 6010	Boron	7220	ug/L	100	05/14/22 15:37	
EPA 6010	Calcium	255000	ug/L	2000	05/14/22 17:18	
EPA 6010	Iron	6280	ug/L	100	05/14/22 15:37	
EPA 6010	Magnesium	38600	ug/L	1000	05/14/22 15:37	
EPA 6010	Manganese	1240	ug/L	10.0	05/14/22 15:37	
EPA 6010	Molybdenum	82.9	ug/L	10.0	05/14/22 15:37	
EPA 6010	Potassium	2450	ug/L	1000	05/14/22 15:37	
EPA 6010	Silica	12100	ug/L	450	05/14/22 15:37	N2
EPA 6010	Sodium	18900	ug/L	1000	05/14/22 15:37	
EPA 6010	Manganese, Dissolved	1250	ug/L	10.0	05/13/22 22:24	
EPA 6010	Molybdenum, Dissolved	85.3	ug/L	10.0	05/13/22 22:24	
EPA 903.1	Radium-226	0.000 ± 0.227 (0.481) C:NA T:88%	pCi/L		06/02/22 16:22	
EPA 904.0	Radium-228	0.607 ± 0.379 (0.704) C:71% T:88%	pCi/L		05/23/22 13:44	
Total Radium Calculation	Total Radium	0.607 ± 0.606 (1.19)	pCi/L		06/09/22 16:02	
SM 2320B	Alkalinity, Total as CaCO3	228	mg/L	2.0	05/06/22 14:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	228	mg/L	2.0	05/06/22 14:35	
SM 2540C	Total Dissolved Solids	1100	mg/L	20.0	05/05/22 11:46	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/05/22 15:03	H3
EPA 365.1	Phosphate as P04	0.33	mg/L	0.15	05/08/22 18:08	
SM 5310C	Dissolved Organic Carbon	1.8	mg/L	1.0	05/12/22 16:32	
50315334005	**MW-29I**					
EPA 9056	Chloride	13.0	mg/L	2.5	05/04/22 22:42	
EPA 9056	Sulfate	104	mg/L	2.5	05/04/22 22:42	
EPA 6010	Barium	67.0	ug/L	10.0	05/14/22 15:47	
EPA 6010	Boron	656	ug/L	100	05/14/22 15:47	
EPA 6010	Calcium	121000	ug/L	1000	05/14/22 15:47	
EPA 6010	Iron	2830	ug/L	100	05/14/22 15:47	
EPA 6010	Magnesium	25300	ug/L	1000	05/14/22 15:47	
EPA 6010	Manganese	2140	ug/L	10.0	05/14/22 15:47	
EPA 6010	Silica	10400	ug/L	450	05/14/22 15:47	N2
EPA 6010	Sodium	5960	ug/L	1000	05/14/22 15:47	
EPA 6010	Manganese, Dissolved	2220	ug/L	10.0	05/13/22 22:26	
EPA 903.1	Radium-226	0.231 ± 0.235 (0.356) C:NA T:93%	pCi/L		06/02/22 16:37	

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315334005	**MW-29I**					
EPA 904.0	Radium-228	0.225 ± 0.312 (0.669) C:75% T:93%	pCi/L		05/23/22 13:44	
Total Radium Calculation	Total Radium	0.456 ± 0.547 (1.03)	pCi/L		06/13/22 16:55	
SM 2320B	Alkalinity, Total as CaCO3	305	mg/L	2.0	05/06/22 14:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	305	mg/L	2.0	05/06/22 14:35	
SM 2540C	Total Dissolved Solids	493	mg/L	10.0	05/05/22 11:47	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/05/22 15:04	H3
EPA 365.1	Phosphate as P04	0.32	mg/L	0.15	05/08/22 18:08	
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	05/12/22 16:43	
50315334006	**MW-29B**					
EPA 9056	Chloride	11.5	mg/L	0.25	05/04/22 23:15	
EPA 9056	Sulfate	35.1	mg/L	2.5	05/04/22 23:31	
EPA 6010	Barium	152	ug/L	10.0	05/14/22 15:49	
EPA 6010	Boron	108	ug/L	100	05/14/22 15:49	
EPA 6010	Calcium	168000	ug/L	1000	05/14/22 15:49	
EPA 6010	Magnesium	28300	ug/L	1000	05/14/22 15:49	
EPA 6010	Manganese	2280	ug/L	10.0	05/14/22 15:49	
EPA 6010	Silica	12800	ug/L	450	05/14/22 15:49	N2
EPA 6010	Sodium	7130	ug/L	1000	05/14/22 15:49	
EPA 6010	Manganese, Dissolved	1980	ug/L	10.0	05/13/22 22:42	
EPA 6020	Cobalt	1.4	ug/L	1.0	05/09/22 11:23	
EPA 903.1	Radium-226	0.306 ± 0.203 (0.0921) C:NA T:99%	pCi/L		06/02/22 16:37	
EPA 904.0	Radium-228	0.314 ± 0.287 (0.577) C:68% T:99%	pCi/L		05/23/22 13:44	
Total Radium Calculation	Total Radium	0.620 ± 0.490 (0.669)	pCi/L		06/13/22 16:55	
SM 2320B	Alkalinity, Total as CaCO3	516	mg/L	2.0	05/06/22 14:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	516	mg/L	2.0	05/06/22 14:35	
SM 2540C	Total Dissolved Solids	592	mg/L	10.0	05/05/22 11:47	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/05/22 15:15	H3
EPA 353.2	Nitrogen, Nitrate	0.18	mg/L	0.10	05/03/22 15:46	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	05/09/22 21:36	
SM 5310C	Dissolved Organic Carbon	1.9	mg/L	1.0	05/12/22 17:16	
50315334007	**DUP 4**					
EPA 9056	Chloride	41.7	mg/L	2.5	05/05/22 00:54	
EPA 9056	Sulfate	1430	mg/L	25.0	05/05/22 01:10	
EPA 6010	Barium	23.8	ug/L	10.0	05/14/22 15:55	

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315334007	**DUP 4**					
EPA 6010	Boron	13500	ug/L	100	05/14/22 15:55	
EPA 6010	Calcium	564000	ug/L	5000	05/14/22 17:24	
EPA 6010	Iron	10300	ug/L	100	05/14/22 15:55	
EPA 6010	Magnesium	46700	ug/L	1000	05/14/22 15:55	
EPA 6010	Manganese	1280	ug/L	10.0	05/14/22 15:55	
EPA 6010	Molybdenum	15.8	ug/L	10.0	05/14/22 15:55	
EPA 6010	Potassium	2850	ug/L	1000	05/14/22 15:55	
EPA 6010	Silica	10700	ug/L	450	05/14/22 15:55	N2
EPA 6010	Sodium	22600	ug/L	1000	05/14/22 15:55	
EPA 6010	Manganese, Dissolved	1400	ug/L	10.0	05/13/22 22:44	
EPA 6010	Molybdenum, Dissolved	17.2	ug/L	10.0	05/13/22 22:44	
EPA 903.1	Radium-226	-0.0986 ± 0.266 (0.572) C:NA T:94%	pCi/L		06/02/22 16:37	
EPA 904.0	Radium-228	0.0943 ± 0.320 (0.722) C:69% T:94%	pCi/L		05/23/22 13:44	
Total Radium Calculation	Total Radium	0.0943 ± 0.586 (1.29)	pCi/L		06/13/22 16:55	
SM 2320B	Alkalinity, Total as CaCO3	157	mg/L	2.0	05/06/22 14:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	157	mg/L	2.0	05/06/22 14:35	
SM 2540C	Total Dissolved Solids	2300	mg/L	40.0	05/05/22 11:47	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/05/22 14:54	H3
EPA 365.1	Phosphate as P04	0.29	mg/L	0.15	05/08/22 18:12	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	05/09/22 21:56	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	05/12/22 17:26	

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-25A **Lab ID: 50315334001** Collected: 05/02/22 12:35 Received: 05/03/22 10:30 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	**48.4**	mg/L	2.5	10		05/04/22 18:52	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/04/22 18:36	16984-48-8	
Sulfate	**1550**	mg/L	25.0	100		05/04/22 19:09	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 08:22	05/14/22 15:24	7429-90-5	
Barium	**28.5**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:24	7440-39-3	
Boron	**11200**	ug/L	100	1	05/11/22 08:22	05/14/22 15:24	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:22	05/14/22 15:24	7440-43-9	
Calcium	**560000**	ug/L	5000	5	05/11/22 08:22	05/14/22 17:14	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:24	7440-47-3	
Iron	**15300**	ug/L	100	1	05/11/22 08:22	05/14/22 15:24	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:24	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 08:22	05/14/22 15:24	7439-93-2	
Magnesium	**64500**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:24	7439-95-4	
Manganese	**1580**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:24	7439-96-5	
Molybdenum	**11.1**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:24	7439-98-7	
Potassium	**2470**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:24	7440-09-7	
Silica	**14800**	ug/L	450	1	05/11/22 08:22	05/14/22 15:24	7631-86-9	N2
Sodium	**21400**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:24	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1550**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:04	7439-96-5	
Molybdenum, Dissolved	**11.1**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:04	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	05/05/22 13:05	05/09/22 10:54	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 10:54	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/05/22 13:05	05/09/22 10:54	7440-41-7	
Cobalt	**1.3**	ug/L	1.0	1	05/05/22 13:05	05/09/22 10:54	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 10:54	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 10:54	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**180**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Bicarbonate (CaCO3)	**180**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/06/22 14:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2350**	mg/L	40.0	1		05/05/22 11:46		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-25A **Lab ID: 50315334001** Collected: 05/02/22 12:35 Received: 05/03/22 10:30 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		05/05/22 14:59		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 14:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 10:15	15438-31-0	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		05/03/22 15:35	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/03/22 15:35	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.62**	mg/L	0.15	1	05/05/22 11:00	05/08/22 18:03		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.9**	mg/L	1.0	1		05/09/22 19:15	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		05/12/22 15:58		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-25I **Lab ID: 50315334002** Collected: 05/02/22 14:45 Received: 05/03/22 10:30 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	**42.3**	mg/L	2.5	10		05/04/22 19:41	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/04/22 19:24	16984-48-8	
Sulfate	**1440**	mg/L	25.0	100		05/04/22 19:57	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 08:22	05/14/22 15:32	7429-90-5	
Barium	**26.1**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:32	7440-39-3	
Boron	**14300**	ug/L	100	1	05/11/22 08:22	05/14/22 15:32	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:22	05/14/22 15:32	7440-43-9	
Calcium	**554000**	ug/L	5000	5	05/11/22 08:22	05/14/22 17:16	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:32	7440-47-3	
Iron	**11100**	ug/L	100	1	05/11/22 08:22	05/14/22 15:32	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:32	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 08:22	05/14/22 15:32	7439-93-2	
Magnesium	**50400**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:32	7439-95-4	
Manganese	**1390**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:32	7439-96-5	
Molybdenum	**17.7**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:32	7439-98-7	
Potassium	**2970**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:32	7440-09-7	
Silica	**11900**	ug/L	450	1	05/11/22 08:22	05/14/22 15:32	7631-86-9	N2
Sodium	**24300**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:32	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1380**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:20	7439-96-5	
Molybdenum, Dissolved	**17.4**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:20	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 10:58	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 10:58	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/05/22 13:05	05/09/22 10:58	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 10:58	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 10:58	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 10:58	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**155**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Bicarbonate (CaCO3)	**155**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/06/22 14:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2220**	mg/L	40.0	1		05/05/22 11:46		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-25I **Lab ID: 50315334002** Collected: 05/02/22 14:45 Received: 05/03/22 10:30 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		05/05/22 15:08		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 14:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 10:15	15438-31-0	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		05/03/22 15:43	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/03/22 15:43	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	05/05/22 11:00	05/08/22 18:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.0**	mg/L	1.0	1		05/09/22 19:34	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.0**	mg/L	1.0	1		05/12/22 16:09		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-25B **Lab ID: 50315334003** Collected: 05/02/22 16:10 Received: 05/03/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**13.9**	mg/L	2.5	10		05/04/22 20:30	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/04/22 20:14	16984-48-8	
Sulfate	**225**	mg/L	2.5	10		05/04/22 20:30	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 08:22	05/14/22 15:34	7429-90-5	
Barium	**39.6**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:34	7440-39-3	
Boron	**2680**	ug/L	100	1	05/11/22 08:22	05/14/22 15:34	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:22	05/14/22 15:34	7440-43-9	
Calcium	**173000**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:34	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:34	7440-47-3	
Iron	**213**	ug/L	100	1	05/11/22 08:22	05/14/22 15:34	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:34	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 08:22	05/14/22 15:34	7439-93-2	
Magnesium	**37300**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:34	7439-95-4	
Manganese	**290**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:34	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:34	7439-98-7	
Potassium	ND	ug/L	1000	1	05/11/22 08:22	05/14/22 15:34	7440-09-7	
Silica	**14000**	ug/L	450	1	05/11/22 08:22	05/14/22 15:34	7631-86-9	N2
Sodium	**7360**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:34	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**259**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:22	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:22	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:02	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:02	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/05/22 13:05	05/09/22 11:02	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:02	7440-48-4	
Selenium	**1.2**	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:02	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:02	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**339**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Bicarbonate (CaCO3)	**339**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/06/22 14:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**735**	mg/L	10.0	1		05/05/22 11:46		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-25B **Lab ID: 50315334003** Collected: 05/02/22 16:10 Received: 05/03/22 10:30 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		05/05/22 15:19		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 14:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 10:15	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**3.2**	mg/L	0.10	1		05/03/22 15:54	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/03/22 15:54	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/05/22 11:00	05/08/22 18:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/09/22 19:54	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.8**	mg/L	1.0	1		05/12/22 16:20		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-29A **Lab ID: 50315334004** Collected: 05/02/22 13:14 Received: 05/03/22 10:30 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	**37.3**	mg/L	2.5	10		05/04/22 21:53	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/04/22 21:36	16984-48-8	
Sulfate	**540**	mg/L	25.0	100		05/04/22 22:09	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**228**	ug/L	200	1	05/11/22 08:22	05/14/22 15:37	7429-90-5	
Barium	**33.5**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:37	7440-39-3	
Boron	**7220**	ug/L	100	1	05/11/22 08:22	05/14/22 15:37	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:22	05/14/22 15:37	7440-43-9	
Calcium	**255000**	ug/L	2000	2	05/11/22 08:22	05/14/22 17:18	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:37	7440-47-3	
Iron	**6280**	ug/L	100	1	05/11/22 08:22	05/14/22 15:37	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:37	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 08:22	05/14/22 15:37	7439-93-2	
Magnesium	**38600**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:37	7439-95-4	
Manganese	**1240**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:37	7439-96-5	
Molybdenum	**82.9**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:37	7439-98-7	
Potassium	**2450**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:37	7440-09-7	
Silica	**12100**	ug/L	450	1	05/11/22 08:22	05/14/22 15:37	7631-86-9	N2
Sodium	**18900**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:37	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1250**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:24	7439-96-5	
Molybdenum, Dissolved	**85.3**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:24	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:06	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:06	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/05/22 13:05	05/09/22 11:06	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:06	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:06	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:06	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**228**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Bicarbonate (CaCO3)	**228**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/06/22 14:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1100**	mg/L	20.0	1		05/05/22 11:46		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-29A **Lab ID: 50315334004** Collected: 05/02/22 13:14 Received: 05/03/22 10:30 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		05/05/22 15:03		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 14:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 10:16	15438-31-0	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		05/03/22 15:39	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/03/22 15:39	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.33**	mg/L	0.15	1	05/05/22 11:00	05/08/22 18:08		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/09/22 20:13	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.8**	mg/L	1.0	1		05/12/22 16:32		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-29I **Lab ID: 50315334005** Collected: 05/02/22 14:22 Received: 05/03/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**13.0**	mg/L	2.5	10		05/04/22 22:42	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/04/22 22:25	16984-48-8	
Sulfate	**104**	mg/L	2.5	10		05/04/22 22:42	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 08:22	05/14/22 15:47	7429-90-5	
Barium	**67.0**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:47	7440-39-3	
Boron	**656**	ug/L	100	1	05/11/22 08:22	05/14/22 15:47	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:22	05/14/22 15:47	7440-43-9	
Calcium	**121000**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:47	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:47	7440-47-3	
Iron	**2830**	ug/L	100	1	05/11/22 08:22	05/14/22 15:47	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:47	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 08:22	05/14/22 15:47	7439-93-2	
Magnesium	**25300**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:47	7439-95-4	
Manganese	**2140**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:47	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:47	7439-98-7	
Potassium	ND	ug/L	1000	1	05/11/22 08:22	05/14/22 15:47	7440-09-7	
Silica	**10400**	ug/L	450	1	05/11/22 08:22	05/14/22 15:47	7631-86-9	N2
Sodium	**5960**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:47	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2220**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:26	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:26	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	05/05/22 13:05	05/09/22 11:19	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:19	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/05/22 13:05	05/09/22 11:19	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:19	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:19	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:19	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**305**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Bicarbonate (CaCO3)	**305**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/06/22 14:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**493**	mg/L	10.0	1		05/05/22 11:47		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-29I **Lab ID: 50315334005** Collected: 05/02/22 14:22 Received: 05/03/22 10:30 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		05/05/22 15:04		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 14:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 10:16	15438-31-0	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		05/03/22 15:41	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/03/22 15:41	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.32**	mg/L	0.15	1	05/05/22 11:00	05/08/22 18:08		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/09/22 21:11	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		05/12/22 16:43		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-29B **Lab ID: 50315334006** Collected: 05/02/22 15:42 Received: 05/03/22 10:30 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	0.25	1		05/04/22 23:15	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/04/22 23:15	16984-48-8	
Sulfate	**35.1**	mg/L	2.5	10		05/04/22 23:31	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 08:22	05/14/22 15:49	7429-90-5	
Barium	**152**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:49	7440-39-3	
Boron	**108**	ug/L	100	1	05/11/22 08:22	05/14/22 15:49	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:22	05/14/22 15:49	7440-43-9	
Calcium	**168000**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:49	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:49	7440-47-3	
Iron	ND	ug/L	100	1	05/11/22 08:22	05/14/22 15:49	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:49	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 08:22	05/14/22 15:49	7439-93-2	
Magnesium	**28300**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:49	7439-95-4	
Manganese	**2280**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:49	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:49	7439-98-7	
Potassium	ND	ug/L	1000	1	05/11/22 08:22	05/14/22 15:49	7440-09-7	
Silica	**12800**	ug/L	450	1	05/11/22 08:22	05/14/22 15:49	7631-86-9	N2
Sodium	**7130**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:49	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1980**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:42	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:42	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	05/05/22 13:05	05/09/22 11:23	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:23	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/05/22 13:05	05/09/22 11:23	7440-41-7	
Cobalt	**1.4**	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:23	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:23	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:23	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**516**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Bicarbonate (CaCO3)	**516**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/06/22 14:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**592**	mg/L	10.0	1		05/05/22 11:47		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-29B **Lab ID: 50315334006** Collected: 05/02/22 15:42 Received: 05/03/22 10:30 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		05/05/22 15:15		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 14:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 10:16	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.18**	mg/L	0.10	1		05/03/22 15:46	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/03/22 15:46	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	05/05/22 11:00	05/08/22 18:11		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.2**	mg/L	1.0	1		05/09/22 21:36	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.9**	mg/L	1.0	1		05/12/22 17:16		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: DUP 4 **Lab ID: 50315334007** Collected: 05/02/22 08:00 Received: 05/03/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**41.7**	mg/L	2.5	10		05/05/22 00:54	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/05/22 00:37	16984-48-8	
Sulfate	**1430**	mg/L	25.0	100		05/05/22 01:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 08:22	05/14/22 15:55	7429-90-5	
Barium	**23.8**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:55	7440-39-3	
Boron	**13500**	ug/L	100	1	05/11/22 08:22	05/14/22 15:55	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:22	05/14/22 15:55	7440-43-9	
Calcium	**564000**	ug/L	5000	5	05/11/22 08:22	05/14/22 17:24	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:55	7440-47-3	
Iron	**10300**	ug/L	100	1	05/11/22 08:22	05/14/22 15:55	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:55	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 08:22	05/14/22 15:55	7439-93-2	
Magnesium	**46700**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:55	7439-95-4	
Manganese	**1280**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:55	7439-96-5	
Molybdenum	**15.8**	ug/L	10.0	1	05/11/22 08:22	05/14/22 15:55	7439-98-7	
Potassium	**2850**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:55	7440-09-7	
Silica	**10700**	ug/L	450	1	05/11/22 08:22	05/14/22 15:55	7631-86-9	N2
Sodium	**22600**	ug/L	1000	1	05/11/22 08:22	05/14/22 15:55	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1400**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:44	7439-96-5	
Molybdenum, Dissolved	**17.2**	ug/L	10.0	1	05/10/22 14:17	05/13/22 22:44	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	05/05/22 13:05	05/09/22 11:27	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:27	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/05/22 13:05	05/09/22 11:27	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:27	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:27	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/05/22 13:05	05/09/22 11:27	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**157**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Bicarbonate (CaCO3)	**157**	mg/L	2.0	1		05/06/22 14:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/06/22 14:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2300**	mg/L	40.0	1		05/05/22 11:47		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: DUP 4 **Lab ID: 50315334007** Collected: 05/02/22 08:00 Received: 05/03/22 10:30 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	**6.9**	Std. Units	0.10	1		05/05/22 14:54		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 14:17	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 10:16	15438-31-0	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		05/03/22 15:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/03/22 15:13	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.29**	mg/L	0.15	1	05/05/22 11:00	05/08/22 18:12		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.1**	mg/L	1.0	1		05/09/22 21:56	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.0**	mg/L	1.0	1		05/12/22 17:26		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674225 | Analysis Method: EPA 9056
QC Batch Method: EPA 9056 | Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3104195 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/07/22 15:28	
Fluoride	mg/L	ND	0.10	05/07/22 15:28	
Sulfate	mg/L	ND	0.25	05/07/22 15:28	

LABORATORY CONTROL SAMPLE: 3104196

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	0.53	106	80-120	
Sulfate	mg/L	2.5	2.5	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3104197 3104198

Parameter	Units	50315337012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.5	1.2	1.2	3.7	3.7	90	90	80-120	0	15	
Fluoride	mg/L	<0.10	0.5	0.5	0.53	0.53	99	98	80-120	0	15	
Sulfate	mg/L	<1.0	2.5	2.5	2.8	2.8	89	89	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674496 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3105368 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/14/22 19:44	
Barium	ug/L	ND	10.0	05/14/22 19:44	
Boron	ug/L	ND	100	05/14/22 19:44	
Cadmium	ug/L	ND	2.0	05/14/22 19:44	
Calcium	ug/L	ND	1000	05/14/22 19:44	
Chromium	ug/L	ND	10.0	05/14/22 19:44	
Iron	ug/L	ND	100	05/14/22 19:44	
Lead	ug/L	ND	10.0	05/14/22 19:44	
Lithium	ug/L	ND	20.0	05/14/22 19:44	
Magnesium	ug/L	ND	1000	05/14/22 19:44	
Manganese	ug/L	ND	10.0	05/14/22 19:44	
Molybdenum	ug/L	ND	10.0	05/14/22 19:44	
Potassium	ug/L	ND	1000	05/14/22 19:44	
Silica	ug/L	ND	450	05/14/22 19:44	N2
Sodium	ug/L	ND	1000	05/14/22 19:44	

LABORATORY CONTROL SAMPLE: 3105369

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9960	100	80-120	
Barium	ug/L	1000	1010	101	80-120	
Boron	ug/L	1000	998	100	80-120	
Cadmium	ug/L	1000	950	95	80-120	
Calcium	ug/L	10000	10100	101	80-120	
Chromium	ug/L	1000	992	99	80-120	
Iron	ug/L	10000	9940	99	80-120	
Lead	ug/L	1000	938	94	80-120	
Lithium	ug/L	1000	994	99	80-120	
Magnesium	ug/L	10000	9780	98	80-120	
Manganese	ug/L	1000	975	97	80-120	
Molybdenum	ug/L	1000	998	100	80-120	
Potassium	ug/L	10000	9920	99	80-120	
Silica	ug/L	10700	10300	97	80-120	N2
Sodium	ug/L	10000	9820	98	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3105370 3105371

Parameter	Units	50315334004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	228	10000	10000	10400	10300	101	100	75-125	1	20	
Barium	ug/L	33.5	1000	1000	1040	1020	101	99	75-125	2	20	
Boron	ug/L	7220	1000	1000	8470	8700	124	147	75-125	3	20	P6
Cadmium	ug/L	ND	1000	1000	997	984	100	98	75-125	1	20	
Calcium	ug/L	255000	10000	10000	263000	270000	78	150	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	999	988	100	99	75-125	1	20	
Iron	ug/L	6280	10000	10000	16200	16300	99	100	75-125	1	20	
Lead	ug/L	ND	1000	1000	920	916	92	92	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1050	1030	104	102	75-125	2	20	
Magnesium	ug/L	38600	10000	10000	48900	50100	103	115	75-125	2	20	
Manganese	ug/L	1240	1000	1000	2240	2260	100	102	75-125	1	20	
Molybdenum	ug/L	82.9	1000	1000	1110	1110	103	103	75-125	0	20	
Potassium	ug/L	2450	10000	10000	12700	12600	103	102	75-125	1	20	
Silica	ug/L	12100	10700	10700	23200	23500	103	107	75-125	1	20	N2
Sodium	ug/L	18900	10000	10000	29300	29500	103	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674473 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3105246 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/13/22 21:26	
Molybdenum, Dissolved	ug/L	ND	10.0	05/13/22 21:26	

LABORATORY CONTROL SAMPLE: 3105247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	1020	102	80-120	
Molybdenum, Dissolved	ug/L	1000	1060	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3105248 3105249

Parameter	Units	50315241007 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	21.1	1000	1000	1020	996	99	98	75-125	2	20	
Molybdenum, Dissolved	ug/L	11.5	1000	1000	1050	1030	103	102	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674508
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3105529 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/09/22 00:45	
Arsenic	ug/L	ND	1.0	05/09/22 00:45	
Beryllium	ug/L	ND	0.20	05/09/22 00:45	
Cobalt	ug/L	ND	1.0	05/09/22 00:45	
Selenium	ug/L	ND	1.0	05/09/22 00:45	
Thallium	ug/L	ND	1.0	05/09/22 00:45	

LABORATORY CONTROL SAMPLE: 3105530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	43.2	108	80-120	
Arsenic	ug/L	40	40.7	102	80-120	
Beryllium	ug/L	40	41.2	103	80-120	
Cobalt	ug/L	40	41.7	104	80-120	
Selenium	ug/L	40	40.6	102	80-120	
Thallium	ug/L	40	40.8	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3105531 3105532

Parameter	Units	50315350004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	4.9	40	40	49.3	48.9	111	110	75-125	1	20	
Arsenic	ug/L	1.3	40	40	42.5	42.9	103	104	75-125	1	20	
Beryllium	ug/L	ND	40	40	38.3	38.1	96	95	75-125	0	20	
Cobalt	ug/L	ND	40	40	37.0	37.2	92	93	75-125	1	20	
Selenium	ug/L	26.4	40	40	66.7	65.4	101	97	75-125	2	20	
Thallium	ug/L	ND	40	40	40.7	40.9	102	102	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674817 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3107263 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/06/22 14:35	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/06/22 14:35	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/06/22 14:35	

LABORATORY CONTROL SAMPLE: 3107264

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

SAMPLE DUPLICATE: 3107265

Parameter	Units	50315334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	180	181	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	180	181	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3107266

Parameter	Units	50315337012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	33.0	32.8	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	26.4	28.6	8	20	
Alkalinity,Carbonate (CaCO3)	mg/L	6.6	4.2	44	20	R1

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674548 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3105783 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/05/22 11:40	

LABORATORY CONTROL SAMPLE: 3105784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	285	95	80-120	

SAMPLE DUPLICATE: 3105785

Parameter	Units	50315471002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	253	261	3	10	

SAMPLE DUPLICATE: 3105786

Parameter	Units	50315315003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1800	1770	2	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674603
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

SAMPLE DUPLICATE: 3105973

Parameter	Units	50315334007 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.0	2	2	H3

SAMPLE DUPLICATE: 3105974

Parameter	Units	50315334001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.0	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674775 | 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: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3106974 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/06/22 14:17	

LABORATORY CONTROL SAMPLE: 3106975

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: 3106976 3106977

Parameter	Units	50315326001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.026J	0.5	0.5	0.46	0.46	86	87	90-110	1	20	M3

MATRIX SPIKE SAMPLE: 3106978

Parameter	Units	50315350004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.53	107	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 675306 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3109467 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/10/22 10:07	H3,N2

LABORATORY CONTROL SAMPLE: 3109468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.99	99	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109469 3109470

Parameter	Units	50315247002 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	59.8	100	100	156	157	96	97	90-110	0	20	H3,N2

MATRIX SPIKE SAMPLE: 3109471

Parameter	Units	50315334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.0	99	90-110	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674199
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3104091 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/03/22 15:09	
Nitrogen, Nitrite	mg/L	ND	0.10	05/03/22 15:09	

LABORATORY CONTROL SAMPLE: 3104092

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.94	94	90-110	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674552 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: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005

METHOD BLANK: 3105799 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/08/22 17:50	

LABORATORY CONTROL SAMPLE: 3105800

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

MATRIX SPIKE SAMPLE: 3105801

Parameter	Units	50315216003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.44		1.9			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3105802 3105803

Parameter	Units	50315334003 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	1.7				9		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674554
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334006, 50315334007

METHOD BLANK: 3105810 Matrix: Water
Associated Lab Samples: 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/08/22 18:10	

LABORATORY CONTROL SAMPLE: 3105811

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3105812 3105813

Parameter	Units	50315337004 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	<0.15			1.5	1.5				3		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674969 — Analysis Method: SM 5310C
QC Batch Method: SM 5310C — Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004

METHOD BLANK: 3108200 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/09/22 10:15	

LABORATORY CONTROL SAMPLE: 3108201

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: 3108202 3108203

Parameter	Units	50315081003 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	1.1	10	10	10.8	10.7	97	97	80-120	1	20	

MATRIX SPIKE SAMPLE: 3108204

Parameter	Units	50315603001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	6.4	10	16.1	97	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 674970 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334005, 50315334006, 50315334007

METHOD BLANK: 3108205 Matrix: Water
Associated Lab Samples: 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/09/22 20:32	

LABORATORY CONTROL SAMPLE: 3108206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108207 3108208

Parameter	Units	50315385003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	0.74J	10	10	10.6	10.5	99	98	80-120	1	20	

MATRIX SPIKE SAMPLE: 3108209

Parameter	Units	50315390001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.1	10	10.8	96	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 675891 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 3112045 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/12/22 15:05	

LABORATORY CONTROL SAMPLE: 3112046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112047 3112048

Parameter	Units	50315476002 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	1.8	10	10	11.0	11.9	92	101	80-120	8	20	

MATRIX SPIKE SAMPLE: 3112049

Parameter	Units	50315308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	0.34J	10	9.9	95	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-25A **Lab ID: 50315334001** Collected: 05/02/22 12:35 Received: 05/03/22 10:30 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	**0.353 ± 0.280 (0.380) C:NA T:91%**	pCi/L	06/02/22 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.373 ± 0.349 (0.711) C:72% T:91%**	pCi/L	05/23/22 13:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.726 ± 0.629 (1.09)**	pCi/L	06/09/22 16:02	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-25I **Lab ID: 50315334002** Collected: 05/02/22 14:45 Received: 05/03/22 10:30 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	**0.212 ± 0.242 (0.381) C:NA T:91%**	pCi/L	06/02/22 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.442 ± 0.313 (0.599) C:77% T:91%**	pCi/L	05/23/22 13:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.654 ± 0.555 (0.980)**	pCi/L	06/09/22 16:02	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-25B **Lab ID: 50315334003** Collected: 05/02/22 16:10 Received: 05/03/22 10:30 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	**0.162 ± 0.191 (0.301) C:NA T:88%**	pCi/L	06/02/22 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.212 ± 0.278 (0.591) C:76% T:88%**	pCi/L	05/23/22 13:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.374 ± 0.469 (0.892)**	pCi/L	06/09/22 16:02	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-29A **Lab ID: 50315334004** Collected: 05/02/22 13:14 Received: 05/03/22 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.227 (0.481) C:NA T:88%**	pCi/L	06/02/22 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.607 ± 0.379 (0.704) C:71% T:88%**	pCi/L	05/23/22 13:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.607 ± 0.606 (1.19)**	pCi/L	06/09/22 16:02	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-29I **Lab ID: 50315334005** Collected: 05/02/22 14:22 Received: 05/03/22 10:30 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	**0.231 ± 0.235 (0.356) C:NA T:93%**	pCi/L	06/02/22 16:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.225 ± 0.312 (0.669) C:75% T:93%**	pCi/L	05/23/22 13:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.456 ± 0.547 (1.03)**	pCi/L	06/13/22 16:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: MW-29B **Lab ID: 50315334006** Collected: 05/02/22 15:42 Received: 05/03/22 10:30 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	**0.306 ± 0.203 (0.0921) C:NA T:99%**	pCi/L	06/02/22 16:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.314 ± 0.287 (0.577) C:68% T:99%**	pCi/L	05/23/22 13:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.620 ± 0.490 (0.669)**	pCi/L	06/13/22 16:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Sample: DUP 4 **Lab ID: 50315334007** Collected: 05/02/22 08:00 Received: 05/03/22 10:30 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	**-0.0986 ± 0.266 (0.572) C:NA T:94%**	pCi/L	06/02/22 16:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0943 ± 0.320 (0.722) C:69% T:94%**	pCi/L	05/23/22 13:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0943 ± 0.586 (1.29)**	pCi/L	06/13/22 16:55	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 503379 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: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 2437427 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.103 ± 0.178 (0.318) C:NA T:88%	pCi/L	06/02/22 15:57	

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: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

QC Batch: 503380 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: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

METHOD BLANK: 2437428 Matrix: Water
Associated Lab Samples: 50315334001, 50315334002, 50315334003, 50315334004, 50315334005, 50315334006, 50315334007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.359 ± 0.334 (0.678) C:72% T:88%	pCi/L	05/23/22 13:43	

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: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

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.
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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315334001	**MW-25A**	EPA 9056	674225		
50315334002	**MW-25I**	EPA 9056	674225		
50315334003	**MW-25B**	EPA 9056	674225		
50315334004	**MW-29A**	EPA 9056	674225		
50315334005	**MW-29I**	EPA 9056	674225		
50315334006	**MW-29B**	EPA 9056	674225		
50315334007	**DUP 4**	EPA 9056	674225		
50315334001	**MW-25A**	EPA 3010	674496	EPA 6010	676288
50315334002	**MW-25I**	EPA 3010	674496	EPA 6010	676288
50315334003	**MW-25B**	EPA 3010	674496	EPA 6010	676288
50315334004	**MW-29A**	EPA 3010	674496	EPA 6010	676288
50315334005	**MW-29I**	EPA 3010	674496	EPA 6010	676288
50315334006	**MW-29B**	EPA 3010	674496	EPA 6010	676288
50315334007	**DUP 4**	EPA 3010	674496	EPA 6010	676288
50315334001	**MW-25A**	EPA 3010	674473	EPA 6010	676227
50315334002	**MW-25I**	EPA 3010	674473	EPA 6010	676227
50315334003	**MW-25B**	EPA 3010	674473	EPA 6010	676227
50315334004	**MW-29A**	EPA 3010	674473	EPA 6010	676227
50315334005	**MW-29I**	EPA 3010	674473	EPA 6010	676227
50315334006	**MW-29B**	EPA 3010	674473	EPA 6010	676227
50315334007	**DUP 4**	EPA 3010	674473	EPA 6010	676227
50315334001	**MW-25A**	EPA 200.2	674508	EPA 6020	674742
50315334002	**MW-25I**	EPA 200.2	674508	EPA 6020	674742
50315334003	**MW-25B**	EPA 200.2	674508	EPA 6020	674742
50315334004	**MW-29A**	EPA 200.2	674508	EPA 6020	674742
50315334005	**MW-29I**	EPA 200.2	674508	EPA 6020	674742
50315334006	**MW-29B**	EPA 200.2	674508	EPA 6020	674742
50315334007	**DUP 4**	EPA 200.2	674508	EPA 6020	674742
50315334001	**MW-25A**	EPA 903.1	503379		
50315334002	**MW-25I**	EPA 903.1	503379		
50315334003	**MW-25B**	EPA 903.1	503379		
50315334004	**MW-29A**	EPA 903.1	503379		
50315334005	**MW-29I**	EPA 903.1	503379		
50315334006	**MW-29B**	EPA 903.1	503379		
50315334007	**DUP 4**	EPA 903.1	503379		
50315334001	**MW-25A**	EPA 904.0	503380		
50315334002	**MW-25I**	EPA 904.0	503380		
50315334003	**MW-25B**	EPA 904.0	503380		
50315334004	**MW-29A**	EPA 904.0	503380		
50315334005	**MW-29I**	EPA 904.0	503380		
50315334006	**MW-29B**	EPA 904.0	503380		
50315334007	**DUP 4**	EPA 904.0	503380		
50315334001	**MW-25A**	Total Radium Calculation	510623		
50315334002	**MW-25I**	Total Radium Calculation	510623		
50315334003	**MW-25B**	Total Radium Calculation	510623		
50315334004	**MW-29A**	Total Radium Calculation	510623		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315334005	**MW-29I**	Total Radium Calculation	511365		
50315334006	**MW-29B**	Total Radium Calculation	511365		
50315334007	**DUP 4**	Total Radium Calculation	511365		
50315334001	**MW-25A**	SM 2320B	674817		
50315334002	**MW-25I**	SM 2320B	674817		
50315334003	**MW-25B**	SM 2320B	674817		
50315334004	**MW-29A**	SM 2320B	674817		
50315334005	**MW-29I**	SM 2320B	674817		
50315334006	**MW-29B**	SM 2320B	674817		
50315334007	**DUP 4**	SM 2320B	674817		
50315334001	**MW-25A**	SM 2540C	674548		
50315334002	**MW-25I**	SM 2540C	674548		
50315334003	**MW-25B**	SM 2540C	674548		
50315334004	**MW-29A**	SM 2540C	674548		
50315334005	**MW-29I**	SM 2540C	674548		
50315334006	**MW-29B**	SM 2540C	674548		
50315334007	**DUP 4**	SM 2540C	674548		
50315334001	**MW-25A**	SM 4500-H+B	674603		
50315334002	**MW-25I**	SM 4500-H+B	674603		
50315334003	**MW-25B**	SM 4500-H+B	674603		
50315334004	**MW-29A**	SM 4500-H+B	674603		
50315334005	**MW-29I**	SM 4500-H+B	674603		
50315334006	**MW-29B**	SM 4500-H+B	674603		
50315334007	**DUP 4**	SM 4500-H+B	674603		
50315334001	**MW-25A**	SM 4500-S2-D	674775		
50315334002	**MW-25I**	SM 4500-S2-D	674775		
50315334003	**MW-25B**	SM 4500-S2-D	674775		
50315334004	**MW-29A**	SM 4500-S2-D	674775		
50315334005	**MW-29I**	SM 4500-S2-D	674775		
50315334006	**MW-29B**	SM 4500-S2-D	674775		
50315334007	**DUP 4**	SM 4500-S2-D	674775		
50315334001	**MW-25A**	HACH 8146	675306		
50315334002	**MW-25I**	HACH 8146	675306		
50315334003	**MW-25B**	HACH 8146	675306		
50315334004	**MW-29A**	HACH 8146	675306		
50315334005	**MW-29I**	HACH 8146	675306		
50315334006	**MW-29B**	HACH 8146	675306		
50315334007	**DUP 4**	HACH 8146	675306		
50315334001	**MW-25A**	EPA 353.2	674199		
50315334002	**MW-25I**	EPA 353.2	674199		
50315334003	**MW-25B**	EPA 353.2	674199		
50315334004	**MW-29A**	EPA 353.2	674199		
50315334005	**MW-29I**	EPA 353.2	674199		
50315334006	**MW-29B**	EPA 353.2	674199		
50315334007	**DUP 4**	EPA 353.2	674199		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315334

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315334001	**MW-25A**	EPA 365.1	674552	EPA 365.1	675163
50315334002	**MW-25I**	EPA 365.1	674552	EPA 365.1	675163
50315334003	**MW-25B**	EPA 365.1	674552	EPA 365.1	675163
50315334004	**MW-29A**	EPA 365.1	674552	EPA 365.1	675163
50315334005	**MW-29I**	EPA 365.1	674552	EPA 365.1	675163
50315334006	**MW-29B**	EPA 365.1	674554	EPA 365.1	675164
50315334007	**DUP 4**	EPA 365.1	674554	EPA 365.1	675164
50315334001	**MW-25A**	SM 5310C	674969		
50315334002	**MW-25I**	SM 5310C	674969		
50315334003	**MW-25B**	SM 5310C	674969		
50315334004	**MW-29A**	SM 5310C	674969		
50315334005	**MW-29I**	SM 5310C	674970		
50315334006	**MW-29B**	SM 5310C	674970		
50315334007	**DUP 4**	SM 5310C	674970		
50315334001	**MW-25A**	SM 5310C	675891		
50315334002	**MW-25I**	SM 5310C	675891		
50315334003	**MW-25B**	SM 5310C	675891		
50315334004	**MW-29A**	SM 5310C	675891		
50315334005	**MW-29I**	SM 5310C	675891		
50315334006	**MW-29B**	SM 5310C	675891		
50315334007	**DUP 4**	SM 5310C	675891		

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WO# : 50315334

50315334

CHAIN-OF-CUSTODY / Analytical Request Document

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Section B Required Project Information:		Section C Invoice Information:		
Company: Atlas Indianapolis	Report To: Mark Breting	Attention: Accounts Payable - Paula Sedam		
Address: 7988 Centerpoint Drive Suite 100	Copy To:	Company Name: Atlas Indianapolis		Regulatory Agency
Indianapolis, IN 46256		Address:		
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:		
Phone: (317)579-4082 Fax:	Project Name: Petersburg Profile 2 Report 5	Pace Project Manager: Hayden Putt		State / Location
Requested Due Date:	Project #:	Pace Profile #: 10498/10		IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	*	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Requested Analysis Filtered (Y/N)													
1	AP-9A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
2	AP-10A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
3	MW-19A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
4	MW-19I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
5	MW-19B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
6	MW-20A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
7	MW-20I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
8	MW-20B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
9	MW-21A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
10	MW-21I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
11	MW-21B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
12	MW-25A	WT				5-2-22	17:35		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			001

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)	Andy Jakowiak	5-2-22	17:10		5-3-22	8:15am				
6020 (Be, Co, As, Se, Sb, Tl)	Client	5/3/22	1030		5/3/22	1030	See SCUR	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Andy Jakowiak	Colton Palmer	
SIGNATURE of SAMPLER:		DATE Signed:	5-2-22

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

CHAIN-OF-CUSTODY / Analytical Request Document

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 2 Report 5	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/10

Regulatory Agency	
State / Location	IN

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Fe 2+	Residual Chlorine (Y/N)	
13	MW-25I	WT				5-2-22	14:45		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			002
14	MW-25B	WT				5-2-22	16:10		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			003
15	MW-26A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
16	MW-26I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
17	MW-26B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
18	MW-27B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
19	MW-28A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
20	MW-28I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
21	MW-28B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
22	MW-29A	WT				5-2-22	13:14		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		004
23	MW-29I	WT				5-2-22	14:22		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		005
24	MW-29B	WT				5-2-22	15:42		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		006

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)	Andy Joshonish	5-2-22	17:10							
6020 (Be, Co, As, Se, Sb, Tl)	Colton Palmer	5-2-22	17:10							
** Dissolved FF 6010 (Mo, Mn)	Clients	5/3/22	1030		5/3/22	1030	See Sample	4	4	4
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Andy Joshonish	Colton Palmer	
SIGNATURE of SAMPLER:		DATE Signed:	5-2-22

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

Pace Analytical®
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Document

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 2 Report 5	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/10

Regulatory Agency
State / Location
IN

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

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Fe 2+	Residual Chlorine (Y/N)	
25	DUP 4	WT				5-2-22	—		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	X		cuy
26	FIELD BLANK 4	WT							9	3	2	3		1					X	X	X		X	X	X	X		X	X			
27																																
28																																
29																																
30																																
31																																
32																																
33																																
34																																
35																																
36																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
* Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	Andy Joskowiak	5-2-22	1710	[signature]	5-3-22	8:15am				
6020 (Be, Co, As, Se, Sb, Tl)	Cliens	5/3/22	1030	[signature]	5/3/22	1030	See SCUS	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andy Joskowiak Colton Palmer

SIGNATURE of SAMPLER: [signature] DATE Signed: 5-2-22

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 5/3/22 1228

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(s):** 3.5|3.5 | 2.7|2.7 | 1.2|1.2 | (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1245			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 **of** 3

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																															
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12												1	1			2	1	2	1	1	1		1					SW	✓	✓	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

COC PAGE 2 **of** 3

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	1	2	1	1	1		1					WT	✓	✓	
2												1	1			2	1	2	1	1	1		1					WT	✓	✓	
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10												1	1			2	1	2	1	1	1		1					WT	✓	✓	
11												↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	↓	↓	
12												↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	↓	↓	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
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WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

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R	Terracore kit
SP5T	120mL Coliform Na Thiosulfate
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ZPLC	Ziploc Bag

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

COC PAGE 3 **of** 3

Sample Container Count

SBS
DI
MeOH (only)
BK
Kit

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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	1	2	1	1	1		1					SW	✓	✓	
2																															
3																															
4																															
5																															
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7																															
8																															
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Container Codes

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DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

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SP5T	120mL Coliform Na Thiosulfate
U	Summa Can
ZPLC	Ziploc Bag

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 10, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 04, 2022. 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. Robert Miller, Haley & Aldrich

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

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 #: 460198
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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50315469001	**MW-24**	Water	05/03/22 11:20	05/04/22 12:44

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50315469001	**MW-24**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	MTM	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I

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

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Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315469001	**MW-24**					
EPA 9056	Chloride	65.5	mg/L	2.5	05/12/22 22:12	
EPA 9056	Sulfate	923	mg/L	25.0	05/12/22 22:29	
EPA 6010	Barium	38.0	ug/L	10.0	05/12/22 12:29	
EPA 6010	Boron	688	ug/L	100	05/12/22 12:29	
EPA 6010	Calcium	214000	ug/L	2000	05/12/22 13:42	
EPA 6010	Lithium	1150	ug/L	20.0	05/12/22 12:29	
EPA 6010	Magnesium	25200	ug/L	1000	05/12/22 12:29	
EPA 6010	Manganese	724	ug/L	10.0	05/12/22 12:29	
EPA 6010	Molybdenum	348	ug/L	10.0	05/12/22 12:29	
EPA 6010	Potassium	150000	ug/L	2000	05/12/22 13:42	
EPA 6010	Silica	16900	ug/L	450	05/12/22 12:29	N2
EPA 6010	Sodium	62700	ug/L	1000	05/12/22 12:29	
EPA 6010	Manganese, Dissolved	796	ug/L	10.0	05/14/22 14:57	
EPA 6010	Molybdenum, Dissolved	363	ug/L	10.0	05/14/22 14:57	
EPA 6020	Cobalt	1.4	ug/L	1.0	05/11/22 08:52	
EPA 903.1	Radium-226	-0.0934 ± 0.366 (0.778) C:NA T:108%	pCi/L		06/07/22 12:29	
EPA 904.0	Radium-228	1.27 ± 0.430 (0.553) C:82% T:89%	pCi/L		05/31/22 11:57	
Total Radium Calculation	Total Radium	1.27 ± 0.796 (1.33)	pCi/L		06/13/22 17:05	
SM 2320B	Alkalinity, Total as CaCO3	192	mg/L	2.0	05/10/22 10:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	192	mg/L	2.0	05/10/22 10:20	
SM 2540C	Total Dissolved Solids	750	mg/L	10.0	05/09/22 10:50	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/13/22 11:19	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

Sample: MW-24 **Lab ID: 50315469001** Collected: 05/03/22 11:20 Received: 05/04/22 12:44 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	**65.5**	mg/L	2.5	10		05/12/22 22:12	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/12/22 21:55	16984-48-8	
Sulfate	**923**	mg/L	25.0	100		05/12/22 22:29	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 08:14	05/12/22 12:29	7429-90-5	
Barium	**38.0**	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:29	7440-39-3	
Boron	**688**	ug/L	100	1	05/11/22 08:14	05/12/22 12:29	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:14	05/12/22 12:29	7440-43-9	
Calcium	**214000**	ug/L	2000	2	05/11/22 08:14	05/12/22 13:42	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:29	7440-47-3	
Iron	ND	ug/L	100	1	05/11/22 08:14	05/12/22 12:29	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:29	7439-92-1	
Lithium	**1150**	ug/L	20.0	1	05/11/22 08:14	05/12/22 12:29	7439-93-2	
Magnesium	**25200**	ug/L	1000	1	05/11/22 08:14	05/12/22 12:29	7439-95-4	
Manganese	**724**	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:29	7439-96-5	
Molybdenum	**348**	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:29	7439-98-7	
Potassium	**150000**	ug/L	2000	2	05/11/22 08:14	05/12/22 13:42	7440-09-7	
Silica	**16900**	ug/L	450	1	05/11/22 08:14	05/12/22 12:29	7631-86-9	N2
Sodium	**62700**	ug/L	1000	1	05/11/22 08:14	05/12/22 12:29	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**796**	ug/L	10.0	1	05/10/22 14:09	05/14/22 14:57	7439-96-5	
Molybdenum, Dissolved	**363**	ug/L	10.0	1	05/10/22 14:09	05/14/22 14:57	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	05/10/22 08:55	05/11/22 08:52	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 08:52	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/11/22 08:52	7440-41-7	
Cobalt	**1.4**	ug/L	1.0	1	05/10/22 08:55	05/11/22 08:52	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 08:52	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 08:52	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**192**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Bicarbonate (CaCO3)	**192**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/10/22 10:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**750**	mg/L	10.0	1		05/09/22 10:50		

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ANALYTICAL RESULTS

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

Sample: MW-24 **Lab ID: 50315469001** Collected: 05/03/22 11:20 Received: 05/04/22 12:44 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		05/13/22 11:19		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 10:17	15438-31-0	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		05/04/22 17:23	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/04/22 17:23	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	05/06/22 10:30	05/09/22 11:18		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/10/22 20:51	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/12/22 19:00		

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 675614
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3110749 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/12/22 14:33	
Fluoride	mg/L	ND	0.10	05/12/22 14:33	
Sulfate	mg/L	ND	0.25	05/12/22 14:33	

LABORATORY CONTROL SAMPLE: 3110750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	92	80-120	
Fluoride	mg/L	0.5	0.48	96	80-120	
Sulfate	mg/L	2.5	2.7	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110751 3110752

Parameter	Units	50315476002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	68.4	12.5	12.5	80.6	78.3	98	80	80-120	3	15	
Fluoride	mg/L	0.14	0.5	0.5	0.61	0.63	93	97	80-120	3	15	
Sulfate	mg/L	402	250	250	632	639	92	95	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 675167
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3108967 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/12/22 11:55	
Barium	ug/L	ND	10.0	05/12/22 11:55	
Boron	ug/L	ND	100	05/12/22 11:55	
Cadmium	ug/L	ND	2.0	05/12/22 11:55	
Calcium	ug/L	ND	1000	05/12/22 11:55	
Chromium	ug/L	ND	10.0	05/12/22 11:55	
Iron	ug/L	ND	100	05/12/22 11:55	
Lead	ug/L	ND	10.0	05/12/22 11:55	
Lithium	ug/L	ND	20.0	05/12/22 11:55	
Magnesium	ug/L	ND	1000	05/12/22 11:55	
Manganese	ug/L	ND	10.0	05/12/22 11:55	
Molybdenum	ug/L	ND	10.0	05/12/22 11:55	
Potassium	ug/L	ND	1000	05/12/22 11:55	
Silica	ug/L	ND	450	05/12/22 11:55	N2
Sodium	ug/L	ND	1000	05/12/22 11:55	

LABORATORY CONTROL SAMPLE: 3108968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9590	96	80-120	
Barium	ug/L	1000	1020	102	80-120	
Boron	ug/L	1000	990	99	80-120	
Cadmium	ug/L	1000	968	97	80-120	
Calcium	ug/L	10000	9620	96	80-120	
Chromium	ug/L	1000	966	97	80-120	
Iron	ug/L	10000	9570	96	80-120	
Lead	ug/L	1000	938	94	80-120	
Lithium	ug/L	1000	993	99	80-120	
Magnesium	ug/L	10000	9420	94	80-120	
Manganese	ug/L	1000	944	94	80-120	
Molybdenum	ug/L	1000	1020	102	80-120	
Potassium	ug/L	10000	10300	103	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	9620	96	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108969 3108970

Parameter	Units	50315476002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	9580	9530	95	94	75-125	0	20	
Barium	ug/L	43.4	1000	1000	1100	1080	106	104	75-125	2	20	
Boron	ug/L	2640	1000	1000	3640	3570	100	93	75-125	2	20	
Cadmium	ug/L	ND	1000	1000	1010	995	101	99	75-125	2	20	
Calcium	ug/L	232000	10000	10000	248000	234000	158	18	75-125	6	20	P6
Chromium	ug/L	ND	1000	1000	995	952	99	95	75-125	4	20	
Iron	ug/L	5360	10000	10000	14600	14600	93	92	75-125	0	20	
Lead	ug/L	ND	1000	1000	930	911	93	91	75-125	2	20	
Lithium	ug/L	ND	1000	1000	1070	1050	105	103	75-125	2	20	
Magnesium	ug/L	33700	10000	10000	42900	42700	92	90	75-125	1	20	
Manganese	ug/L	1200	1000	1000	2140	2120	95	92	75-125	1	20	
Molybdenum	ug/L	112	1000	1000	1170	1140	106	103	75-125	2	20	
Potassium	ug/L	8650	10000	10000	19600	19300	110	106	75-125	2	20	
Silica	ug/L	14100	10700	10700	24800	24300	99	95	75-125	2	20	N2
Sodium	ug/L	35800	10000	10000	46300	45000	105	92	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 674474
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3105256 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/14/22 14:17	
Molybdenum, Dissolved	ug/L	ND	10.0	05/14/22 14:17	

LABORATORY CONTROL SAMPLE: 3105257

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: 3105258 3105259

Parameter	Units	50315394002 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	1.0J	1000	1000	976	995	97	99	75-125	2	20	
Molybdenum, Dissolved	ug/L	1.2J	1000	1000	1040	1050	103	105	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 675232
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3109283 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/11/22 07:16	
Arsenic	ug/L	ND	1.0	05/11/22 07:16	
Beryllium	ug/L	ND	0.20	05/11/22 07:16	
Cobalt	ug/L	ND	1.0	05/11/22 07:16	
Selenium	ug/L	ND	1.0	05/11/22 07:16	
Thallium	ug/L	ND	1.0	05/11/22 07:16	

LABORATORY CONTROL SAMPLE: 3109284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.3	106	80-120	
Arsenic	ug/L	40	40.0	100	80-120	
Beryllium	ug/L	40	40.0	100	80-120	
Cobalt	ug/L	40	40.7	102	80-120	
Selenium	ug/L	40	39.2	98	80-120	
Thallium	ug/L	40	40.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109285 3109286

Parameter	Units	50315475007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<1.0	40	40	42.1	42.0	105	105	75-125	0	20	
Arsenic	ug/L	2.8	40	40	42.6	42.9	99	100	75-125	1	20	
Beryllium	ug/L	<1.0	40	40	40.4	40.5	101	101	75-125	0	20	
Cobalt	ug/L	<1.0	40	40	39.2	39.1	97	97	75-125	0	20	
Selenium	ug/L	<1.0	40	40	38.2	39.0	95	97	75-125	2	20	
Thallium	ug/L	<1.0	40	40	40.3	39.9	101	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 675303
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3109463 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/10/22 10:20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/10/22 10:20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/10/22 10:20	

LABORATORY CONTROL SAMPLE: 3109464

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	54.6	109	90-110	

SAMPLE DUPLICATE: 3109465

Parameter	Units	50315476002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	361	367	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	361	367	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3109466

Parameter	Units	50315475007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	71.9	74.7	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	71.9	74.7	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 675091
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3108710 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/09/22 10:09	

LABORATORY CONTROL SAMPLE: 3108711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	298	99	80-120	

SAMPLE DUPLICATE: 3108712

Parameter	Units	50315446013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1080	1090	1	10	

SAMPLE DUPLICATE: 3108713

Parameter	Units	50315449001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1480	1460	1	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 676103
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50315469001

SAMPLE DUPLICATE: 3113141

Parameter	Units	50315476002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

SAMPLE DUPLICATE: 3113142

Parameter	Units	50315520001 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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REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 674837
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3107402 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/06/22 15:46	

LABORATORY CONTROL SAMPLE: 3107403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.48	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3107404 3107405

Parameter	Units	50315476002 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	0.28	0.28	55	55	90-110	1	20	M3

MATRIX SPIKE SAMPLE: 3107406

Parameter	Units	50315479001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.53	106	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 675306
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3109467 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/10/22 10:07	H3,N2

LABORATORY CONTROL SAMPLE: 3109468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.99	99	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109469 3109470

Parameter	Units	50315247002 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	59.8	100	100	156	157	96	97	90-110	0	20	H3,N2

MATRIX SPIKE SAMPLE: 3109471

Parameter	Units	50315334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.0	99	90-110	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 674432
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3105043 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/04/22 17:08	
Nitrogen, Nitrite	mg/L	ND	0.10	05/04/22 17:08	

LABORATORY CONTROL SAMPLE: 3105044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.92	92	90-110	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3105045 3105046

Parameter	Units	50315446007 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	0.92	0.92	91	91	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.98	0.98	97	97	90-110	0	20	

MATRIX SPIKE SAMPLE: 3105047

Parameter	Units	50315449009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.93	92	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.99	99	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 674759
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3106932 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/09/22 11:04	

LABORATORY CONTROL SAMPLE: 3106933

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

MATRIX SPIKE SAMPLE: 3106934

Parameter	Units	50315392004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3106935 3106936

Parameter	Units	50315475003 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	<0.15			1.5	1.5				0		

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 675014
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3108502 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/10/22 14:22	

LABORATORY CONTROL SAMPLE: 3108503

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108504 3108505

Parameter	Units	50315476002 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	1.9	10	10	11.5	11.4	96	95	80-120	0	20	

MATRIX SPIKE SAMPLE: 3108506

Parameter	Units	50315476005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.2	10	12.0	98	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 675891
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315469001

METHOD BLANK: 3112045 Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/12/22 15:05	

LABORATORY CONTROL SAMPLE: 3112046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112047 3112048

Parameter	Units	50315476002 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	1.8	10	10	11.0	11.9	92	101	80-120	8	20	

MATRIX SPIKE SAMPLE: 3112049

Parameter	Units	50315308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	0.34J	10	9.9	95	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

Sample: MW-24 **Lab ID: 50315469001** Collected: 05/03/22 11:20 Received: 05/04/22 12:44 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	**-0.0934 ± 0.366 (0.778) C:NA T:108%**	pCi/L	06/07/22 12:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.27 ± 0.430 (0.553) C:82% T:89%**	pCi/L	05/31/22 11:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.27 ± 0.796 (1.33)**	pCi/L	06/13/22 17:05	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 504689
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50315469001

METHOD BLANK: 2444427
Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0656 ± 0.203 (0.394) C:NA T:105%	pCi/L	06/07/22 12:29	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

QC Batch: 504691
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50315469001

METHOD BLANK: 2444430
Matrix: Water
Associated Lab Samples: 50315469001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.221 ± 0.244 (0.510) C:85% T:101%	pCi/L	05/31/22 11:57	

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QUALIFIERS

Project: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

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.
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: Petersburg Profile 4 Report 1
Pace Project No.: 50315469

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315469001	**MW-24**	EPA 9056	675614		
50315469001	**MW-24**	EPA 3010	675167	EPA 6010	675840
50315469001	**MW-24**	EPA 3010	674474	EPA 6010	676283
50315469001	**MW-24**	EPA 200.2	675232	EPA 6020	675434
50315469001	**MW-24**	EPA 903.1	504689		
50315469001	**MW-24**	EPA 904.0	504691		
50315469001	**MW-24**	Total Radium Calculation	511383		
50315469001	**MW-24**	SM 2320B	675303		
50315469001	**MW-24**	SM 2540C	675091		
50315469001	**MW-24**	SM 4500-H+B	676103		
50315469001	**MW-24**	SM 4500-S2-D	674837		
50315469001	**MW-24**	HACH 8146	675306		
50315469001	**MW-24**	EPA 353.2	674432		
50315469001	**MW-24**	EPA 365.1	674759	EPA 365.1	675317
50315469001	**MW-24**	SM 5310C	675014		
50315469001	**MW-24**	SM 5310C	675891		

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CHAIN-OF-CUSTODY / Ana

The Chain-of-Custody is a LEGAL DOCUM

WO# : 50315469

50315469

Page 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 4 Report 1	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/10

Regulatory Agency	
State / Location	IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)
1	~~MW-23~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
2	~~MW-29~~	~~WT~~							~~11~~	~~3~~	~~3~~	~~4~~		~~1~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
3	MW-24	WT				5-3-22	1120		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)		5-3-22	1530		5-4-22	08:22				
6020 (Be, Co, As, Se, Sb, Tl)	Brian H.	5-4-22	12:44P		5/4/22	1244	0.6	Y	N	Y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

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:	Colton Palmer					
SIGNATURE of SAMPLER:		DATE Signed: 5-3-22				

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MR 5/4/22 1440

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(s):** 0.8/0.4 | | | |
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** ~~HNO3 (<2)~~ ~~H2SO4 (<2)~~ NaOH (>10) ~~NaOH/ZnAc~~ (>9) Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:		✓	

COMMENTS:

COC PAGE ____ of ____

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																															
2																															
3												1	1			2		3	1	1	1		1					WT	✓	✓	
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 10, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 04, 2022. 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. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

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 #: 460198
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: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50315476001	**MW-21A**	Water	05/03/22 12:05	05/04/22 12:44
50315476002	**MW-21I**	Water	05/03/22 14:40	05/04/22 12:44
50315476003	**MW-21I MS**	Water	05/03/22 14:40	05/04/22 12:44
50315476004	**MW-21I MSD**	Water	05/03/22 14:40	05/04/22 12:44
50315476005	**MW-21B**	Water	05/03/22 14:40	05/04/22 12:44
50315476006	**FIELD BLANK 4**	Water	05/03/22 15:00	05/04/22 12:44

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50315476001	**MW-21A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315476002	**MW-21I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315476003	**MW-21I MS**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50315476004	**MW-21I MSD**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50315476005	**MW-21B**	EPA 9056	RMR	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315476006	**FIELD BLANK 4**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	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: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315476001	**MW-21A**					
EPA 9056	Chloride	102	mg/L	2.5	05/12/22 23:03	
EPA 9056	Fluoride	0.18	mg/L	0.10	05/12/22 22:46	
EPA 9056	Sulfate	1750	mg/L	25.0	05/12/22 23:20	
EPA 6010	Barium	32.8	ug/L	10.0	05/12/22 12:33	
EPA 6010	Boron	10700	ug/L	100	05/12/22 12:33	
EPA 6010	Calcium	525000	ug/L	5000	05/12/22 13:45	
EPA 6010	Iron	6240	ug/L	100	05/12/22 12:33	
EPA 6010	Lithium	77.8	ug/L	20.0	05/12/22 12:33	
EPA 6010	Magnesium	37200	ug/L	1000	05/12/22 12:33	
EPA 6010	Manganese	843	ug/L	10.0	05/12/22 12:33	
EPA 6010	Molybdenum	199	ug/L	10.0	05/12/22 12:33	
EPA 6010	Potassium	19400	ug/L	1000	05/12/22 12:33	
EPA 6010	Silica	13000	ug/L	450	05/12/22 12:33	N2
EPA 6010	Sodium	63800	ug/L	1000	05/12/22 12:33	
EPA 6010	Manganese, Dissolved	885	ug/L	10.0	05/14/22 04:24	
EPA 6010	Molybdenum, Dissolved	204	ug/L	10.0	05/14/22 04:24	
EPA 6020	Arsenic	1.7	ug/L	1.0	05/10/22 23:32	
EPA 903.1	Radium-226	0.252 ± 0.310 (0.505) C:NA T:105%	pCi/L		06/07/22 12:29	
EPA 904.0	Radium-228	1.02 ± 0.379 (0.550) C:81% T:96%	pCi/L		05/31/22 11:58	
Total Radium Calculation	Total Radium	1.27 ± 0.689 (1.06)	pCi/L		06/13/22 17:09	
SM 2320B	Alkalinity, Total as CaCO3	82.4	mg/L	2.0	05/10/22 10:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	82.4	mg/L	2.0	05/10/22 10:20	
SM 2540C	Total Dissolved Solids	2320	mg/L	40.0	05/09/22 14:59	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/13/22 11:20	H3
EPA 365.1	Phosphate as P04	0.85	mg/L	0.15	05/09/22 11:24	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	05/10/22 21:10	
SM 5310C	Dissolved Organic Carbon	2.0	mg/L	1.0	05/12/22 19:39	
50315476002	**MW-21I**					
EPA 9056	Chloride	68.4	mg/L	2.5	05/12/22 23:53	
EPA 9056	Fluoride	0.14	mg/L	0.10	05/12/22 23:36	
EPA 9056	Sulfate	402	mg/L	25.0	05/13/22 00:44	
EPA 6010	Barium	43.4	ug/L	10.0	05/12/22 12:35	
EPA 6010	Boron	2640	ug/L	100	05/12/22 12:35	
EPA 6010	Calcium	232000	ug/L	2000	05/12/22 13:47	
EPA 6010	Iron	5360	ug/L	100	05/12/22 12:35	
EPA 6010	Magnesium	33700	ug/L	1000	05/12/22 12:35	
EPA 6010	Manganese	1200	ug/L	10.0	05/12/22 12:35	
EPA 6010	Molybdenum	112	ug/L	10.0	05/12/22 12:35	
EPA 6010	Potassium	8650	ug/L	1000	05/12/22 12:35	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315476002	**MW-21I**					
EPA 6010	Silica	14100	ug/L	450	05/12/22 12:35	N2
EPA 6010	Sodium	35800	ug/L	1000	05/12/22 12:35	
EPA 6010	Manganese, Dissolved	1280	ug/L	10.0	05/14/22 04:27	
EPA 6010	Molybdenum, Dissolved	116	ug/L	10.0	05/14/22 04:27	
EPA 903.1	Radium-226	0.0650 ± 0.180 (0.350) C:NA T:104%	pCi/L		06/07/22 12:29	
EPA 904.0	Radium-228	0.293 ± 0.292 (0.599) C:80% T:90%	pCi/L		05/31/22 11:58	
Total Radium Calculation	Total Radium	0.358 ± 0.472 (0.949)	pCi/L		06/13/22 17:09	
SM 2320B	Alkalinity, Total as CaCO3	361	mg/L	2.0	05/10/22 10:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	361	mg/L	2.0	05/10/22 10:20	
SM 2540C	Total Dissolved Solids	1120	mg/L	20.0	05/09/22 14:59	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/13/22 11:21	H3
HACH 8146	Iron, Ferrous	0.59	mg/L	0.20	05/10/22 12:19	H3,N2
EPA 365.1	Phosphate as P04	1.1	mg/L	0.15	05/09/22 11:25	
SM 5310C	Total Organic Carbon	1.9	mg/L	1.0	05/10/22 21:36	
SM 5310C	Dissolved Organic Carbon	1.8	mg/L	1.0	05/12/22 19:50	
50315476003	**MW-21I MS**					
EPA 903.1	Radium-226	83.45 %REC ± NA (NA) C:NA T:NA%	pCi/L		06/07/22 12:29	
EPA 904.0	Radium-228	96.70 %REC ± NA (NA) C:NA T:NA	pCi/L		05/31/22 11:58	
50315476004	**MW-21I MSD**					
EPA 903.1	Radium-226	94.24 %REC 12.14 RPD ± NA (NA) C:NA T:NA%	pCi/L		06/07/22 12:56	
EPA 904.0	Radium-228	85.77 %REC 11.99 RPD ± NA (NA) C:NA T:NA	pCi/L		05/31/22 11:58	
50315476005	**MW-21B**					
EPA 9056	Chloride	50.0	mg/L	2.5	05/13/22 03:00	
EPA 9056	Sulfate	661	mg/L	25.0	05/13/22 03:17	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315476005	**MW-21B**					
EPA 6010	Barium	65.6	ug/L	10.0	05/14/22 18:10	
EPA 6010	Boron	622	ug/L	100	05/14/22 18:10	
EPA 6010	Calcium	299000	ug/L	2000	05/14/22 18:52	
EPA 6010	Iron	648	ug/L	100	05/14/22 18:10	
EPA 6010	Magnesium	72600	ug/L	1000	05/14/22 18:10	
EPA 6010	Manganese	7310	ug/L	10.0	05/14/22 18:10	
EPA 6010	Potassium	2440	ug/L	1000	05/14/22 18:10	
EPA 6010	Silica	16700	ug/L	450	05/14/22 18:10	N2
EPA 6010	Sodium	30500	ug/L	1000	05/14/22 18:10	
EPA 6010	Manganese, Dissolved	7040	ug/L	10.0	05/14/22 04:37	
EPA 6020	Cobalt	6.4	ug/L	1.0	05/10/22 23:36	
EPA 903.1	Radium-226	0.261 ± 0.297 (0.468) C:NA T:102%	pCi/L		06/07/22 12:56	
EPA 904.0	Radium-228	0.555 ± 0.332 (0.610) C:76% T:95%	pCi/L		05/31/22 11:58	
Total Radium Calculation	Total Radium	0.816 ± 0.629 (1.08)	pCi/L		06/13/22 17:09	
SM 2320B	Alkalinity, Total as CaCO3	429	mg/L	2.0	05/10/22 10:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	429	mg/L	2.0	05/10/22 10:20	
SM 2540C	Total Dissolved Solids	1390	mg/L	20.0	05/09/22 15:01	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/13/22 11:24	H3
SM 5310C	Total Organic Carbon	2.2	mg/L	1.0	05/11/22 12:42	
SM 5310C	Dissolved Organic Carbon	2.2	mg/L	1.0	05/12/22 20:23	
50315476006	**FIELD BLANK 4**					
EPA 903.1	Radium-226	-0.0476 ± 0.217 (0.512) C:NA T:105%	pCi/L		06/07/22 12:56	
EPA 904.0	Radium-228	0.0983 ± 0.272 (0.609) C:81% T:96%	pCi/L		05/31/22 11:59	
Total Radium Calculation	Total Radium	0.0983 ± 0.489 (1.12)	pCi/L		06/13/22 17:09	
SM 2320B	Alkalinity, Total as CaCO3	6.5	mg/L	2.0	05/12/22 11:36	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	6.5	mg/L	2.0	05/12/22 11:36	
SM 4500-H+B	pH at 25 Degrees C	6.0	Std. Units	0.10	05/13/22 11:30	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21A **Lab ID: 50315476001** Collected: 05/03/22 12:05 Received: 05/04/22 12:44 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**102**	mg/L	2.5	10		05/12/22 23:03	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	1		05/12/22 22:46	16984-48-8	
Sulfate	**1750**	mg/L	25.0	100		05/12/22 23:20	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 08:14	05/12/22 12:33	7429-90-5	
Barium	**32.8**	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:33	7440-39-3	
Boron	**10700**	ug/L	100	1	05/11/22 08:14	05/12/22 12:33	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:14	05/12/22 12:33	7440-43-9	
Calcium	**525000**	ug/L	5000	5	05/11/22 08:14	05/12/22 13:45	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:33	7440-47-3	
Iron	**6240**	ug/L	100	1	05/11/22 08:14	05/12/22 12:33	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:33	7439-92-1	
Lithium	**77.8**	ug/L	20.0	1	05/11/22 08:14	05/12/22 12:33	7439-93-2	
Magnesium	**37200**	ug/L	1000	1	05/11/22 08:14	05/12/22 12:33	7439-95-4	
Manganese	**843**	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:33	7439-96-5	
Molybdenum	**199**	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:33	7439-98-7	
Potassium	**19400**	ug/L	1000	1	05/11/22 08:14	05/12/22 12:33	7440-09-7	
Silica	**13000**	ug/L	450	1	05/11/22 08:14	05/12/22 12:33	7631-86-9	N2
Sodium	**63800**	ug/L	1000	1	05/11/22 08:14	05/12/22 12:33	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**885**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:24	7439-96-5	
Molybdenum, Dissolved	**204**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:24	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:32	7440-36-0	
Arsenic	**1.7**	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:32	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/10/22 23:32	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:32	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:32	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:32	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**82.4**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Bicarbonate (CaCO3)	**82.4**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/10/22 10:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2320**	mg/L	40.0	1		05/09/22 14:59		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21A **Lab ID: 50315476001** Collected: 05/03/22 12:05 Received: 05/04/22 12:44 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		05/13/22 11:20		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:19	15438-31-0	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		05/05/22 08:47	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 08:47	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.85**	mg/L	0.15	1	05/06/22 10:30	05/09/22 11:24		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.8**	mg/L	1.0	1		05/10/22 21:10	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.0**	mg/L	1.0	1		05/12/22 19:39		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21I **Lab ID: 50315476002** Collected: 05/03/22 14:40 Received: 05/04/22 12:44 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	**68.4**	mg/L	2.5	10		05/12/22 23:53	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	1		05/12/22 23:36	16984-48-8	
Sulfate	**402**	mg/L	25.0	100		05/13/22 00:44	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 08:14	05/12/22 12:35	7429-90-5	
Barium	**43.4**	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:35	7440-39-3	
Boron	**2640**	ug/L	100	1	05/11/22 08:14	05/12/22 12:35	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 08:14	05/12/22 12:35	7440-43-9	
Calcium	**232000**	ug/L	2000	2	05/11/22 08:14	05/12/22 13:47	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:35	7440-47-3	
Iron	**5360**	ug/L	100	1	05/11/22 08:14	05/12/22 12:35	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:35	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 08:14	05/12/22 12:35	7439-93-2	
Magnesium	**33700**	ug/L	1000	1	05/11/22 08:14	05/12/22 12:35	7439-95-4	
Manganese	**1200**	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:35	7439-96-5	
Molybdenum	**112**	ug/L	10.0	1	05/11/22 08:14	05/12/22 12:35	7439-98-7	
Potassium	**8650**	ug/L	1000	1	05/11/22 08:14	05/12/22 12:35	7440-09-7	
Silica	**14100**	ug/L	450	1	05/11/22 08:14	05/12/22 12:35	7631-86-9	N2
Sodium	**35800**	ug/L	1000	1	05/11/22 08:14	05/12/22 12:35	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1280**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:27	7439-96-5	
Molybdenum, Dissolved	**116**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:27	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 22:58	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 22:58	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/10/22 22:58	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 22:58	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 22:58	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 22:58	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**361**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Bicarbonate (CaCO3)	**361**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/10/22 10:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1120**	mg/L	20.0	1		05/09/22 14:59		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21I **Lab ID: 50315476002** Collected: 05/03/22 14:40 Received: 05/04/22 12:44 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		05/13/22 11:21		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.59**	mg/L	0.20	1		05/10/22 12:19	15438-31-0	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		05/05/22 09:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 09:06	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.1**	mg/L	0.15	1	05/06/22 10:30	05/09/22 11:25		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.9**	mg/L	1.0	1		05/10/22 21:36	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.8**	mg/L	1.0	1		05/12/22 19:50		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21B **Lab ID: 50315476005** Collected: 05/03/22 14:40 Received: 05/04/22 12:44 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	**50.0**	mg/L	2.5	10		05/13/22 03:00	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/13/22 02:43	16984-48-8	
Sulfate	**661**	mg/L	25.0	100		05/13/22 03:17	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 14:47	05/14/22 18:10	7429-90-5	
Barium	**65.6**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:10	7440-39-3	
Boron	**622**	ug/L	100	1	05/11/22 14:47	05/14/22 18:10	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 14:47	05/14/22 18:10	7440-43-9	
Calcium	**299000**	ug/L	2000	2	05/11/22 14:47	05/14/22 18:52	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:10	7440-47-3	
Iron	**648**	ug/L	100	1	05/11/22 14:47	05/14/22 18:10	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:10	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 14:47	05/14/22 18:10	7439-93-2	
Magnesium	**72600**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:10	7439-95-4	
Manganese	**7310**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:10	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:10	7439-98-7	
Potassium	**2440**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:10	7440-09-7	
Silica	**16700**	ug/L	450	1	05/11/22 14:47	05/14/22 18:10	7631-86-9	N2
Sodium	**30500**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:10	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**7040**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:37	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:37	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	05/10/22 08:55	05/10/22 23:36	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:36	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/10/22 23:36	7440-41-7	
Cobalt	**6.4**	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:36	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:36	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:36	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**429**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Bicarbonate (CaCO3)	**429**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/10/22 10:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1390**	mg/L	20.0	1		05/09/22 15:01		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21B **Lab ID: 50315476005** Collected: 05/03/22 14:40 Received: 05/04/22 12:44 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	**6.8**	Std. Units	0.10	1		05/13/22 11:24		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:20	15438-31-0	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		05/05/22 09:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 09:11	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/06/22 10:30	05/09/22 11:29		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.2**	mg/L	1.0	1		05/11/22 12:42	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		05/12/22 20:23		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: FIELD BLANK 4 **Lab ID: 50315476006** Collected: 05/03/22 15:00 Received: 05/04/22 12:44 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		05/13/22 04:08	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/13/22 04:08	16984-48-8	
Sulfate	ND	mg/L	0.25	1		05/13/22 04:08	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 14:47	05/14/22 18:26	7429-90-5	
Barium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:26	7440-39-3	
Boron	ND	ug/L	100	1	05/11/22 14:47	05/14/22 18:26	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 14:47	05/14/22 18:26	7440-43-9	
Calcium	ND	ug/L	1000	1	05/11/22 14:47	05/14/22 18:26	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:26	7440-47-3	
Iron	ND	ug/L	100	1	05/11/22 14:47	05/14/22 18:26	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:26	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 14:47	05/14/22 18:26	7439-93-2	
Magnesium	ND	ug/L	1000	1	05/11/22 14:47	05/14/22 18:26	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:26	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:26	7439-98-7	
Potassium	ND	ug/L	1000	1	05/11/22 14:47	05/14/22 18:26	7440-09-7	
Silica	ND	ug/L	450	1	05/11/22 14:47	05/14/22 18:26	7631-86-9	N2
Sodium	ND	ug/L	1000	1	05/11/22 14:47	05/14/22 18:26	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	05/10/22 08:55	05/10/22 23:41	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:41	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/10/22 23:41	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:41	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:41	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:41	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**6.5**	mg/L	2.0	1		05/12/22 11:36		
Alkalinity,Bicarbonate (CaCO3)	**6.5**	mg/L	2.0	1		05/12/22 11:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/22 11:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		05/09/22 15:02		
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		05/13/22 11:30		H3

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: FIELD BLANK 4 **Lab ID: 50315476006** Collected: 05/03/22 15:00 Received: 05/04/22 12:44 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		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:20	15438-31-0	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		05/05/22 09:19	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 09:19	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/06/22 10:30	05/09/22 11:32		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/11/22 13:21	7440-44-0	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675614
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

METHOD BLANK: 3110749 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/12/22 14:33	
Fluoride	mg/L	ND	0.10	05/12/22 14:33	
Sulfate	mg/L	ND	0.25	05/12/22 14:33	

LABORATORY CONTROL SAMPLE: 3110750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	92	80-120	
Fluoride	mg/L	0.5	0.48	96	80-120	
Sulfate	mg/L	2.5	2.7	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110751 3110752

Parameter	Units	50315476002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	68.4	12.5	12.5	80.6	78.3	98	80	80-120	3	15	
Fluoride	mg/L	0.14	0.5	0.5	0.61	0.63	93	97	80-120	3	15	
Sulfate	mg/L	402	250	250	632	639	92	95	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675167
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002

METHOD BLANK: 3108967 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/12/22 11:55	
Barium	ug/L	ND	10.0	05/12/22 11:55	
Boron	ug/L	ND	100	05/12/22 11:55	
Cadmium	ug/L	ND	2.0	05/12/22 11:55	
Calcium	ug/L	ND	1000	05/12/22 11:55	
Chromium	ug/L	ND	10.0	05/12/22 11:55	
Iron	ug/L	ND	100	05/12/22 11:55	
Lead	ug/L	ND	10.0	05/12/22 11:55	
Lithium	ug/L	ND	20.0	05/12/22 11:55	
Magnesium	ug/L	ND	1000	05/12/22 11:55	
Manganese	ug/L	ND	10.0	05/12/22 11:55	
Molybdenum	ug/L	ND	10.0	05/12/22 11:55	
Potassium	ug/L	ND	1000	05/12/22 11:55	
Silica	ug/L	ND	450	05/12/22 11:55	N2
Sodium	ug/L	ND	1000	05/12/22 11:55	

LABORATORY CONTROL SAMPLE: 3108968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9590	96	80-120	
Barium	ug/L	1000	1020	102	80-120	
Boron	ug/L	1000	990	99	80-120	
Cadmium	ug/L	1000	968	97	80-120	
Calcium	ug/L	10000	9620	96	80-120	
Chromium	ug/L	1000	966	97	80-120	
Iron	ug/L	10000	9570	96	80-120	
Lead	ug/L	1000	938	94	80-120	
Lithium	ug/L	1000	993	99	80-120	
Magnesium	ug/L	10000	9420	94	80-120	
Manganese	ug/L	1000	944	94	80-120	
Molybdenum	ug/L	1000	1020	102	80-120	
Potassium	ug/L	10000	10300	103	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	9620	96	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108969 3108970

Parameter	Units	50315476002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	9580	9530	95	94	75-125	0	20	
Barium	ug/L	43.4	1000	1000	1100	1080	106	104	75-125	2	20	
Boron	ug/L	2640	1000	1000	3640	3570	100	93	75-125	2	20	
Cadmium	ug/L	ND	1000	1000	1010	995	101	99	75-125	2	20	
Calcium	ug/L	232000	10000	10000	248000	234000	158	18	75-125	6	20	P6
Chromium	ug/L	ND	1000	1000	995	952	99	95	75-125	4	20	
Iron	ug/L	5360	10000	10000	14600	14600	93	92	75-125	0	20	
Lead	ug/L	ND	1000	1000	930	911	93	91	75-125	2	20	
Lithium	ug/L	ND	1000	1000	1070	1050	105	103	75-125	2	20	
Magnesium	ug/L	33700	10000	10000	42900	42700	92	90	75-125	1	20	
Manganese	ug/L	1200	1000	1000	2140	2120	95	92	75-125	1	20	
Molybdenum	ug/L	112	1000	1000	1170	1140	106	103	75-125	2	20	
Potassium	ug/L	8650	10000	10000	19600	19300	110	106	75-125	2	20	
Silica	ug/L	14100	10700	10700	24800	24300	99	95	75-125	2	20	N2
Sodium	ug/L	35800	10000	10000	46300	45000	105	92	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675169
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476005, 50315476006

METHOD BLANK: 3108975 Matrix: Water
Associated Lab Samples: 50315476005, 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/14/22 17:29	
Barium	ug/L	ND	10.0	05/14/22 17:29	
Boron	ug/L	ND	100	05/14/22 17:29	
Cadmium	ug/L	ND	2.0	05/14/22 17:29	
Calcium	ug/L	ND	1000	05/14/22 17:29	
Chromium	ug/L	ND	10.0	05/14/22 17:29	
Iron	ug/L	ND	100	05/14/22 17:29	
Lead	ug/L	ND	10.0	05/14/22 17:29	
Lithium	ug/L	ND	20.0	05/14/22 17:29	
Magnesium	ug/L	ND	1000	05/14/22 17:29	
Manganese	ug/L	ND	10.0	05/14/22 17:29	
Molybdenum	ug/L	ND	10.0	05/14/22 17:29	
Potassium	ug/L	ND	1000	05/14/22 17:29	
Silica	ug/L	ND	450	05/14/22 17:29	N2
Sodium	ug/L	ND	1000	05/14/22 17:29	

LABORATORY CONTROL SAMPLE: 3108976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	80-120	
Barium	ug/L	1000	1030	103	80-120	
Boron	ug/L	1000	1030	103	80-120	
Cadmium	ug/L	1000	994	99	80-120	
Calcium	ug/L	10000	10300	103	80-120	
Chromium	ug/L	1000	1030	103	80-120	
Iron	ug/L	10000	10100	101	80-120	
Lead	ug/L	1000	970	97	80-120	
Lithium	ug/L	1000	1030	103	80-120	
Magnesium	ug/L	10000	9940	99	80-120	
Manganese	ug/L	1000	996	100	80-120	
Molybdenum	ug/L	1000	1050	105	80-120	
Potassium	ug/L	10000	10300	103	80-120	
Silica	ug/L	10700	10700	101	80-120	N2
Sodium	ug/L	10000	10100	101	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108977 3108978

Parameter	Units	50315475007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	<0.20 mg/L	10000	10000	9810	10200	98	101	75-125	3	20	
Barium	ug/L	0.010 mg/L	1000	1000	1010	1040	100	103	75-125	3	20	
Boron	ug/L	<0.10 mg/L	1000	1000	1010	1040	99	102	75-125	3	20	
Cadmium	ug/L	<0.0020 mg/L	1000	1000	950	973	95	97	75-125	2	20	
Calcium	ug/L	20.3 mg/L	10000	10000	29000	29400	87	91	75-125	1	20	
Chromium	ug/L	<0.010 mg/L	1000	1000	996	1020	99	102	75-125	2	20	
Iron	ug/L	<50.0	10000	10000	9820	10100	98	100	75-125	2	20	
Lead	ug/L	<0.010 mg/L	1000	1000	924	946	92	95	75-125	2	20	
Lithium	ug/L	<8.0	1000	1000	1000	1030	100	103	75-125	3	20	
Magnesium	ug/L	4.2 mg/L	10000	10000	13400	13700	92	95	75-125	2	20	
Manganese	ug/L	<0.010 mg/L	1000	1000	961	986	96	98	75-125	3	20	
Molybdenum	ug/L	<0.010 mg/L	1000	1000	1010	1030	101	102	75-125	2	20	
Potassium	ug/L	1.1 mg/L	10000	10000	10900	11300	98	102	75-125	3	20	
Silica	ug/L	8.8 mg/L	10700	10700	18700	19100	92	97	75-125	2	20	N2
Sodium	ug/L	1.5 mg/L	10000	10000	11200	11500	97	100	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675129
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002, 50315476005

METHOD BLANK: 3108852 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/14/22 04:18	
Molybdenum, Dissolved	ug/L	ND	10.0	05/14/22 04:18	

LABORATORY CONTROL SAMPLE: 3108853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	996	100	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108854 3108855

Parameter	Units	50315476002 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	1280	1000	1000	2230	2190	95	91	75-125	2	20	
Molybdenum, Dissolved	ug/L	116	1000	1000	1160	1160	105	104	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675233
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

METHOD BLANK: 3109287 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/10/22 22:49	
Arsenic	ug/L	ND	1.0	05/10/22 22:49	
Beryllium	ug/L	ND	0.20	05/10/22 22:49	
Cobalt	ug/L	ND	1.0	05/10/22 22:49	
Selenium	ug/L	ND	1.0	05/10/22 22:49	
Thallium	ug/L	ND	1.0	05/10/22 22:49	

LABORATORY CONTROL SAMPLE: 3109288

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.8	102	80-120	
Arsenic	ug/L	40	38.5	96	80-120	
Beryllium	ug/L	40	39.0	97	80-120	
Cobalt	ug/L	40	40.0	100	80-120	
Selenium	ug/L	40	39.4	98	80-120	
Thallium	ug/L	40	39.7	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109289 3109290

Parameter	Units	50315476002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	40.8	41.1	102	102	75-125	1	20	
Arsenic	ug/L	ND	40	40	40.1	38.2	98	94	75-125	5	20	
Beryllium	ug/L	ND	40	40	38.4	38.3	96	96	75-125	0	20	
Cobalt	ug/L	ND	40	40	37.9	37.6	94	93	75-125	1	20	
Selenium	ug/L	ND	40	40	38.6	36.9	96	92	75-125	4	20	
Thallium	ug/L	ND	40	40	40.1	39.9	100	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675303 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002, 50315476005

METHOD BLANK: 3109463 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/10/22 10:20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/10/22 10:20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/10/22 10:20	

LABORATORY CONTROL SAMPLE: 3109464

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	54.6	109	90-110	

SAMPLE DUPLICATE: 3109465

Parameter	Units	50315476002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	361	367	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	361	367	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3109466

Parameter	Units	50315475007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	71.9	74.7	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	71.9	74.7	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675646
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476006

METHOD BLANK: 3110933 Matrix: Water
Associated Lab Samples: 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/12/22 11:36	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/12/22 11:36	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/12/22 11:36	

LABORATORY CONTROL SAMPLE: 3110934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.9	100	90-110	

SAMPLE DUPLICATE: 3110935

Parameter	Units	50315875002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	730	740	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	730	740	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3110936

Parameter	Units	50315520002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	574	584	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	574	584	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675093 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

METHOD BLANK: 3108718 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/09/22 14:58	

LABORATORY CONTROL SAMPLE: 3108719

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	296	99	80-120	

SAMPLE DUPLICATE: 3108720

Parameter	Units	50315476002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1120	1080	4	10	

SAMPLE DUPLICATE: 3108721

Parameter	Units	50315563012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	131	135	3	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 676103
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

SAMPLE DUPLICATE: 3113141

Parameter	Units	50315476002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

SAMPLE DUPLICATE: 3113142

Parameter	Units	50315520001 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: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 674837 — 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: 50315476001, 50315476002, 50315476005, 50315476006

METHOD BLANK: 3107402 — Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/06/22 15:46	

LABORATORY CONTROL SAMPLE: 3107403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.48	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3107404 3107405

Parameter	Units	50315476002 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	0.28	0.28	55	55	90-110	1	20	M3

MATRIX SPIKE SAMPLE: 3107406

Parameter	Units	50315479001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.53	106	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675307 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

METHOD BLANK: 3109472 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/10/22 12:19	H3,N2

LABORATORY CONTROL SAMPLE: 3109473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.96	96	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109474 3109475

Parameter	Units	50315476002 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	0.59	1	1	1.6	1.5	101	96	90-110	4	20	H3,N2

MATRIX SPIKE SAMPLE: 3109476

Parameter	Units	50315596001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	0.93	93	90-110	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 674541 | 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: 50315476001, 50315476002, 50315476005, 50315476006

METHOD BLANK: 3105747 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/05/22 08:43	
Nitrogen, Nitrite	mg/L	ND	0.10	05/05/22 08:43	

LABORATORY CONTROL SAMPLE: 3105748

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.94	94	90-110	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3105749 3105750

Parameter	Units	50315476002 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	0.82	0.83	81	81	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.91	0.91	90	90	90-110	0	20	

MATRIX SPIKE SAMPLE: 3105751

Parameter	Units	50315479004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1	2.6	94	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.97	97	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 674760 | 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: 50315476001, 50315476002, 50315476005, 50315476006

METHOD BLANK: 3106937 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/09/22 11:23	

LABORATORY CONTROL SAMPLE: 3106938

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3106939 3106940

Parameter	Units	50315476002 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	1.1			2.6	2.6				1		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3106941 3106942

Parameter	Units	50315475007 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	<0.15			1.5	1.5				3		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675014 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

METHOD BLANK: 3108502 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005, 50315476006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/10/22 14:22	

LABORATORY CONTROL SAMPLE: 3108503

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108504 3108505

Parameter	Units	50315476002 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	1.9	10	10	11.5	11.4	96	95	80-120	0	20	

MATRIX SPIKE SAMPLE: 3108506

Parameter	Units	50315476005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.2	10	12.0	98	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 675891 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315476001, 50315476002, 50315476005

METHOD BLANK: 3112045 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/12/22 15:05	

LABORATORY CONTROL SAMPLE: 3112046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112047 3112048

Parameter	Units	50315476002 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	1.8	10	10	11.0	11.9	92	101	80-120	8	20	

MATRIX SPIKE SAMPLE: 3112049

Parameter	Units	50315308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	0.34J	10	9.9	95	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21A **Lab ID: 50315476001** Collected: 05/03/22 12:05 Received: 05/04/22 12:44 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 ± 0.310 (0.505) C:NA T:105%**	pCi/L	06/07/22 12:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.02 ± 0.379 (0.550) C:81% T:96%**	pCi/L	05/31/22 11:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.27 ± 0.689 (1.06)**	pCi/L	06/13/22 17:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21I **Lab ID: 50315476002** Collected: 05/03/22 14:40 Received: 05/04/22 12:44 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	**0.0650 ± 0.180 (0.350) C:NA T:104%**	pCi/L	06/07/22 12:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.293 ± 0.292 (0.599) C:80% T:90%**	pCi/L	05/31/22 11:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.358 ± 0.472 (0.949)**	pCi/L	06/13/22 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21I MS **Lab ID: 50315476003** Collected: 05/03/22 14:40 Received: 05/04/22 12:44 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	**83.45 %REC ± NA (NA) C:NA T:NA%**	pCi/L	06/07/22 12:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**96.70 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/31/22 11:58	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21I MSD **Lab ID: 50315476004** Collected: 05/03/22 14:40 Received: 05/04/22 12:44 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	**94.24 %REC 12.14 RPD ± NA (NA) C:NA T:NA%**	pCi/L	06/07/22 12:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**85.77 %REC 11.99 RPD ± NA (NA) C:NA T:NA**	pCi/L	05/31/22 11:58	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: MW-21B **Lab ID: 50315476005** Collected: 05/03/22 14:40 Received: 05/04/22 12:44 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	**0.261 ± 0.297 (0.468) C:NA T:102%**	pCi/L	06/07/22 12:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.555 ± 0.332 (0.610) C:76% T:95%**	pCi/L	05/31/22 11:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.816 ± 0.629 (1.08)**	pCi/L	06/13/22 17:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Sample: FIELD BLANK 4 **Lab ID: 50315476006** Collected: 05/03/22 15:00 Received: 05/04/22 12:44 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	**-0.0476 ± 0.217 (0.512) C:NA T:105%**	pCi/L	06/07/22 12:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0983 ± 0.272 (0.609) C:81% T:96%**	pCi/L	05/31/22 11:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0983 ± 0.489 (1.12)**	pCi/L	06/13/22 17:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 504689 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: 50315476001, 50315476002, 50315476003, 50315476004, 50315476005, 50315476006

METHOD BLANK: 2444427 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476003, 50315476004, 50315476005, 50315476006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0656 ± 0.203 (0.394) C:NA T:105%	pCi/L	06/07/22 12:29	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

QC Batch: 504691 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: 50315476001, 50315476002, 50315476003, 50315476004, 50315476005, 50315476006

METHOD BLANK: 2444430 Matrix: Water
Associated Lab Samples: 50315476001, 50315476002, 50315476003, 50315476004, 50315476005, 50315476006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.221 ± 0.244 (0.510) C:85% T:101%	pCi/L	05/31/22 11:57	

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QUALIFIERS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

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.
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: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315476001	**MW-21A**	EPA 9056	675614		
50315476002	**MW-21I**	EPA 9056	675614		
50315476005	**MW-21B**	EPA 9056	675614		
50315476006	**FIELD BLANK 4**	EPA 9056	675614		
50315476001	**MW-21A**	EPA 3010	675167	EPA 6010	675840
50315476002	**MW-21I**	EPA 3010	675167	EPA 6010	675840
50315476005	**MW-21B**	EPA 3010	675169	EPA 6010	676295
50315476006	**FIELD BLANK 4**	EPA 3010	675169	EPA 6010	676295
50315476001	**MW-21A**	EPA 3010	675129	EPA 6010	676239
50315476002	**MW-21I**	EPA 3010	675129	EPA 6010	676239
50315476005	**MW-21B**	EPA 3010	675129	EPA 6010	676239
50315476001	**MW-21A**	EPA 200.2	675233	EPA 6020	675435
50315476002	**MW-21I**	EPA 200.2	675233	EPA 6020	675435
50315476005	**MW-21B**	EPA 200.2	675233	EPA 6020	675435
50315476006	**FIELD BLANK 4**	EPA 200.2	675233	EPA 6020	675435
50315476001	**MW-21A**	EPA 903.1	504689		
50315476002	**MW-21I**	EPA 903.1	504689		
50315476003	**MW-21I MS**	EPA 903.1	504689		
50315476004	**MW-21I MSD**	EPA 903.1	504689		
50315476005	**MW-21B**	EPA 903.1	504689		
50315476006	**FIELD BLANK 4**	EPA 903.1	504689		
50315476001	**MW-21A**	EPA 904.0	504691		
50315476002	**MW-21I**	EPA 904.0	504691		
50315476003	**MW-21I MS**	EPA 904.0	504691		
50315476004	**MW-21I MSD**	EPA 904.0	504691		
50315476005	**MW-21B**	EPA 904.0	504691		
50315476006	**FIELD BLANK 4**	EPA 904.0	504691		
50315476001	**MW-21A**	Total Radium Calculation	511384		
50315476002	**MW-21I**	Total Radium Calculation	511384		
50315476005	**MW-21B**	Total Radium Calculation	511384		
50315476006	**FIELD BLANK 4**	Total Radium Calculation	511384		
50315476001	**MW-21A**	SM 2320B	675303		
50315476002	**MW-21I**	SM 2320B	675303		
50315476005	**MW-21B**	SM 2320B	675303		
50315476006	**FIELD BLANK 4**	SM 2320B	675646		
50315476001	**MW-21A**	SM 2540C	675093		
50315476002	**MW-21I**	SM 2540C	675093		
50315476005	**MW-21B**	SM 2540C	675093		
50315476006	**FIELD BLANK 4**	SM 2540C	675093		
50315476001	**MW-21A**	SM 4500-H+B	676103		
50315476002	**MW-21I**	SM 4500-H+B	676103		
50315476005	**MW-21B**	SM 4500-H+B	676103		
50315476006	**FIELD BLANK 4**	SM 4500-H+B	676103		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315476

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315476001	**MW-21A**	SM 4500-S2-D	674837		
50315476002	**MW-21I**	SM 4500-S2-D	674837		
50315476005	**MW-21B**	SM 4500-S2-D	674837		
50315476006	**FIELD BLANK 4**	SM 4500-S2-D	674837		
50315476001	**MW-21A**	HACH 8146	675307		
50315476002	**MW-21I**	HACH 8146	675307		
50315476005	**MW-21B**	HACH 8146	675307		
50315476006	**FIELD BLANK 4**	HACH 8146	675307		
50315476001	**MW-21A**	EPA 353.2	674541		
50315476002	**MW-21I**	EPA 353.2	674541		
50315476005	**MW-21B**	EPA 353.2	674541		
50315476006	**FIELD BLANK 4**	EPA 353.2	674541		
50315476001	**MW-21A**	EPA 365.1	674760	EPA 365.1	675318
50315476002	**MW-21I**	EPA 365.1	674760	EPA 365.1	675318
50315476005	**MW-21B**	EPA 365.1	674760	EPA 365.1	675318
50315476006	**FIELD BLANK 4**	EPA 365.1	674760	EPA 365.1	675318
50315476001	**MW-21A**	SM 5310C	675014		
50315476002	**MW-21I**	SM 5310C	675014		
50315476005	**MW-21B**	SM 5310C	675014		
50315476006	**FIELD BLANK 4**	SM 5310C	675014		
50315476001	**MW-21A**	SM 5310C	675891		
50315476002	**MW-21I**	SM 5310C	675891		
50315476005	**MW-21B**	SM 5310C	675891		

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WO# : 50315476

50315476

Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Re

The Chain-of-Custody is a LEGAL DOCUMENT. All releva

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at htt

3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 2 Report 5	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/10

Regulatory Agency
State / Location
IN

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

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Fe 2+	Residual Chlorine (Y/N)	
1	AP-9A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
2	AP-10A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
3	MW-19A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
4	MW-19I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
5	MW-19B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
6	MW-20A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
7	MW-20I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
8	MW-20B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
9	MW-21A	WT				5-3-22	12:05		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			001
10	MW-21I MS/MSD	WT				5-3-22	1440		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			00210031004
11	MW-21B	WT				5-3-22	1440		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X	X		005
12	MW-25A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			

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)	Andy Jashowiak	5-3-22	15:30	Brian H. Wo	5-4-22	8:24A				
6020 (Be, Co, As, Se, Sb, Tl)	Brian H. Wo	5-4-22	12:44P	[signature]	5/4/22	1244	1.0	y	N	y
** Dissolved FF 6010 (Mo, Mn)							0.3			
Alkalinity = (Total , Bicarb & Carb)							0.3			

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Andy Jashowiak Colton Palmer		
SIGNATURE of SAMPLER:	[signature] Colton	DATE Signed:	5-3-22

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

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical® WWW.PACELABS.COM

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 2 Report 5	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/10

Regulatory Agency	
State / Location	IN

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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		Residual Chlorine (Y/N)	
25	DUP 4	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
26	FIELD BLANK 4	WT				5-2-22	1500		9	3	2	3		1					X	X	X		X	X	X	X		X	X			006
27																															
28																															
29																															
30																															
31																															
32																															
33																															
34																															
35																															
36																															

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)	Andy Jaskowiak	5-3-22	15:30	Brian H Witt	5-4-22	08:22				
6020 (Be, Co, As, Se, Sb, Tl)	Brian H Witt	5-4-22	12:44P		5/4/22	1244	1.0	Y	N	Y
** Dissolved FF 6010 (Mo, Mn)							0.3			
Alkalinity = (Total , Bicarb & Carb)							0.3			

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	Andy Jaskowiak Colton Palmer	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:	DATE Signed: 5-3-22				

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MM2 5/4/22 1500

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 ~~E~~

4. **Cooler Temperature(s):** (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

1.2/1.0	0.5/0.3	0.5/0.3	

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

Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** ~~HNO3 (<2)~~ ~~H2SO4 (<2)~~ NaOH (>10) ~~NaOH/ZnAc (>9)~~ Any non-conformance to pH recommendations will be noted on the container count form	–		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	–					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1530		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A –
Rush TAT Requested (4 days or less):		–	Residual Chlorine Check (Total/Amenable/Free Cyanide)			–
Custody Signatures Present?	–		Headspace Wisconsin Sulfide?			–
Containers Intact?:	–		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent –
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	–		Trip Blank Present?		–	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:		✓	

COMMENTS:

COC PAGE 1 **of** 2

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																															
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9												1	1			2	1	2	1	1	1		1					✓	✓	✓	
10												3	3			6	3	6	3	3	3		3					↓	↓	↓	
11												1	1			2	1	2	1	1	1		1					↓	↓	↓	
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
GN	General	AG3C	250mL NaOH amber glass

Plastic / Misc.

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

COC PAGE 2 of 2

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																															
2												1	1			2	1	2	1	1	1		1					WT	✓	✓	
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 10, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 04, 2022. 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. Robert Miller, Haley & Aldrich

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

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 #: 460198
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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50315479001	**AP-10A**	Water	05/03/22 17:30	05/04/22 12:44
50315479002	**MW-19A**	Water	05/03/22 16:35	05/04/22 12:44
50315479003	**MW-19I**	Water	05/03/22 15:45	05/04/22 12:44
50315479004	**MW-19B**	Water	05/03/22 14:50	05/04/22 12:44
50315479005	**MW-20A**	Water	05/03/22 12:05	05/04/22 12:44
50315479006	**MW-20I**	Water	05/03/22 12:55	05/04/22 12:44
50315479007	**MW-20B**	Water	05/03/22 14:10	05/04/22 08:00

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50315479001	**AP-10A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315479002	**MW-19A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315479003	**MW-19I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315479004	**MW-19B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315479005	**MW-20A**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

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	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315479006	**MW-20I**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315479007	**MW-20B**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SLB	3	PASI-I
		SM 2540C	WZE	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

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

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

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315479001	**AP-10A**					
EPA 9056	Chloride	186	mg/L	25.0	05/13/22 06:41	
EPA 9056	Sulfate	2280	mg/L	25.0	05/13/22 06:41	
EPA 6010	Barium	30.8	ug/L	10.0	05/14/22 18:33	
EPA 6010	Boron	27800	ug/L	100	05/14/22 18:33	
EPA 6010	Calcium	642000	ug/L	5000	05/14/22 18:54	
EPA 6010	Iron	8020	ug/L	100	05/14/22 18:33	
EPA 6010	Magnesium	9260	ug/L	1000	05/14/22 18:33	
EPA 6010	Manganese	2290	ug/L	10.0	05/14/22 18:33	
EPA 6010	Molybdenum	717	ug/L	10.0	05/14/22 18:33	
EPA 6010	Potassium	13700	ug/L	1000	05/14/22 18:33	
EPA 6010	Silica	10900	ug/L	450	05/14/22 18:33	N2
EPA 6010	Sodium	45300	ug/L	1000	05/14/22 18:33	
EPA 6010	Manganese, Dissolved	2380	ug/L	10.0	05/14/22 04:39	
EPA 6010	Molybdenum, Dissolved	713	ug/L	10.0	05/14/22 04:39	
EPA 6020	Arsenic	1.1	ug/L	1.0	05/10/22 23:46	
EPA 903.1	Radium-226	0.0492 ± 0.320 (0.645) C:NA T:99%	pCi/L		05/31/22 14:06	
EPA 904.0	Radium-228	0.656 ± 0.381 (0.682) C:73% T:89%	pCi/L		05/25/22 15:53	
Total Radium Calculation	Total Radium	0.705 ± 0.701 (1.33)	pCi/L		06/01/22 11:59	
SM 2320B	Alkalinity, Total as CaCO3	178	mg/L	2.0	05/10/22 10:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	178	mg/L	2.0	05/10/22 10:20	
SM 2540C	Total Dissolved Solids	2700	mg/L	40.0	05/09/22 15:03	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/13/22 11:33	H3
HACH 8146	Iron, Ferrous	4.9	mg/L	1.0	05/10/22 12:20	H3,N2
EPA 365.1	Phosphate as P04	0.16	mg/L	0.15	05/09/22 13:18	
SM 5310C	Total Organic Carbon	2.5	mg/L	1.0	05/11/22 14:26	
SM 5310C	Dissolved Organic Carbon	3.3	mg/L	1.0	05/12/22 20:56	
50315479002	**MW-19A**					
EPA 9056	Chloride	117	mg/L	2.5	05/13/22 07:49	
EPA 9056	Sulfate	1510	mg/L	25.0	05/13/22 08:06	
EPA 6010	Barium	35.4	ug/L	10.0	05/14/22 18:35	
EPA 6010	Boron	24800	ug/L	100	05/14/22 18:35	
EPA 6010	Calcium	600000	ug/L	5000	05/14/22 18:57	
EPA 6010	Iron	9500	ug/L	100	05/14/22 18:35	
EPA 6010	Magnesium	26900	ug/L	1000	05/14/22 18:35	
EPA 6010	Manganese	1840	ug/L	10.0	05/14/22 18:35	
EPA 6010	Molybdenum	926	ug/L	10.0	05/14/22 18:35	
EPA 6010	Potassium	12200	ug/L	1000	05/14/22 18:35	
EPA 6010	Silica	12800	ug/L	450	05/14/22 18:35	N2
EPA 6010	Sodium	43000	ug/L	1000	05/14/22 18:35	
EPA 6010	Manganese, Dissolved	1850	ug/L	10.0	05/14/22 04:41	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315479002	**MW-19A**					
EPA 6010	Molybdenum, Dissolved	952	ug/L	10.0	05/14/22 04:41	
EPA 6020	Arsenic	1.1	ug/L	1.0	05/11/22 00:00	
EPA 903.1	Radium-226	-0.0937 ± 0.390 (0.816) C:NA T:98%	pCi/L		05/31/22 14:06	
EPA 904.0	Radium-228	0.500 ± 0.405 (0.804) C:75% T:87%	pCi/L		05/25/22 15:53	
Total Radium Calculation	Total Radium	0.500 ± 0.795 (1.62)	pCi/L		06/01/22 11:59	
SM 2320B	Alkalinity, Total as CaCO3	259	mg/L	2.0	05/10/22 10:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	259	mg/L	2.0	05/10/22 10:20	
SM 2540C	Total Dissolved Solids	2420	mg/L	40.0	05/09/22 15:04	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/13/22 11:34	H3
HACH 8146	Iron, Ferrous	3.9	mg/L	1.0	05/10/22 12:20	H3,N2
EPA 365.1	Phosphate as P04	0.27	mg/L	0.15	05/09/22 13:19	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	05/11/22 14:46	
SM 5310C	Dissolved Organic Carbon	2.7	mg/L	1.0	05/12/22 21:20	
50315479003	**MW-19I**					
EPA 9056	Chloride	9.9	mg/L	0.25	05/13/22 08:23	
EPA 9056	Sulfate	64.9	mg/L	2.5	05/13/22 08:40	
EPA 6010	Barium	59.5	ug/L	10.0	05/14/22 18:37	
EPA 6010	Boron	912	ug/L	100	05/14/22 18:37	
EPA 6010	Calcium	103000	ug/L	1000	05/14/22 18:37	
EPA 6010	Magnesium	23600	ug/L	1000	05/14/22 18:37	
EPA 6010	Manganese	1780	ug/L	10.0	05/14/22 18:37	
EPA 6010	Silica	9030	ug/L	450	05/14/22 18:37	N2
EPA 6010	Sodium	6700	ug/L	1000	05/14/22 18:37	
EPA 6010	Manganese, Dissolved	1340	ug/L	10.0	05/14/22 04:43	
EPA 903.1	Radium-226	0.0435 ± 0.352 (0.690) C:NA T:105%	pCi/L		05/31/22 14:06	
EPA 904.0	Radium-228	0.149 ± 0.381 (0.852) C:70% T:88%	pCi/L		05/25/22 15:53	
Total Radium Calculation	Total Radium	0.193 ± 0.733 (1.54)	pCi/L		06/01/22 11:59	
SM 2320B	Alkalinity, Total as CaCO3	447	mg/L	2.0	05/10/22 10:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	447	mg/L	2.0	05/10/22 10:20	
SM 2540C	Total Dissolved Solids	427	mg/L	10.0	05/09/22 15:04	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/13/22 11:41	H3
EPA 353.2	Nitrogen, Nitrate	0.35	mg/L	0.10	05/05/22 09:30	

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315479003	**MW-19I**					
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	05/12/22 21:50	
50315479004	**MW-19B**					
EPA 9056	Chloride	9.9	mg/L	0.25	05/13/22 09:14	
EPA 9056	Fluoride	0.11	mg/L	0.10	05/13/22 09:14	
EPA 9056	Sulfate	56.7	mg/L	2.5	05/13/22 09:31	
EPA 6010	Barium	55.0	ug/L	10.0	05/14/22 18:39	
EPA 6010	Boron	306	ug/L	100	05/14/22 18:39	
EPA 6010	Calcium	84300	ug/L	1000	05/14/22 18:39	
EPA 6010	Magnesium	16300	ug/L	1000	05/14/22 18:39	
EPA 6010	Potassium	3980	ug/L	1000	05/14/22 18:39	
EPA 6010	Silica	7810	ug/L	450	05/14/22 18:39	N2
EPA 6010	Sodium	8280	ug/L	1000	05/14/22 18:39	
EPA 6020	Selenium	1.3	ug/L	1.0	05/11/22 00:10	
EPA 903.1	Radium-226	0.162 ± 0.317 (0.580) C:NA T:92%	pCi/L		05/31/22 14:06	
EPA 904.0	Radium-228	0.339 ± 0.441 (0.941) C:77% T:92%	pCi/L		05/25/22 16:00	
Total Radium Calculation	Total Radium	0.501 ± 0.758 (1.52)	pCi/L		06/01/22 11:59	
SM 2320B	Alkalinity, Total as CaCO3	227	mg/L	2.0	05/11/22 14:07	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	227	mg/L	2.0	05/11/22 14:07	
SM 2540C	Total Dissolved Solids	345	mg/L	10.0	05/09/22 15:05	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	05/13/22 11:42	H3
EPA 353.2	Nitrogen, Nitrate	1.6	mg/L	0.10	05/05/22 09:13	
50315479005	**MW-20A**					
EPA 9056	Chloride	59.1	mg/L	2.5	05/13/22 06:52	
EPA 9056	Fluoride	0.10	mg/L	0.10	05/13/22 06:34	
EPA 9056	Sulfate	903	mg/L	25.0	05/13/22 07:10	
EPA 6010	Barium	32.2	ug/L	10.0	05/14/22 18:41	
EPA 6010	Boron	12100	ug/L	100	05/14/22 18:41	
EPA 6010	Calcium	355000	ug/L	2000	05/14/22 18:59	
EPA 6010	Iron	8010	ug/L	100	05/14/22 18:41	
EPA 6010	Magnesium	30700	ug/L	1000	05/14/22 18:41	
EPA 6010	Manganese	1350	ug/L	10.0	05/14/22 18:41	
EPA 6010	Molybdenum	336	ug/L	10.0	05/14/22 18:41	
EPA 6010	Potassium	5250	ug/L	1000	05/14/22 18:41	
EPA 6010	Silica	12400	ug/L	450	05/14/22 18:41	N2
EPA 6010	Sodium	25400	ug/L	1000	05/14/22 18:41	
EPA 6010	Manganese, Dissolved	1290	ug/L	10.0	05/14/22 04:51	
EPA 6010	Molybdenum, Dissolved	288	ug/L	10.0	05/14/22 04:51	
EPA 6020	Arsenic	2.0	ug/L	1.0	05/11/22 00:15	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315479005	**MW-20A**					
EPA 903.1	Radium-226	0.309 ± 0.262 (0.324) C:NA T:96%	pCi/L		05/31/22 14:06	
EPA 904.0	Radium-228	0.180 ± 0.469 (1.04) C:80% T:94%	pCi/L		05/25/22 16:00	
Total Radium Calculation	Total Radium	0.489 ± 0.731 (1.36)	pCi/L		06/01/22 11:59	
SM 2320B	Alkalinity, Total as CaCO3	215	mg/L	2.0	05/11/22 10:23	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	215	mg/L	2.0	05/11/22 10:23	
SM 2540C	Total Dissolved Solids	1500	mg/L	20.0	05/17/22 12:50	H7
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/13/22 11:43	H3
HACH 8146	Iron, Ferrous	1.0	mg/L	0.40	05/10/22 12:21	H3,N2
EPA 365.1	Phosphate as P04	0.31	mg/L	0.15	05/09/22 13:23	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	05/11/22 17:28	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	05/12/22 22:11	
50315479006	**MW-20I**					
EPA 9056	Chloride	7.8	mg/L	0.25	05/13/22 07:29	
EPA 9056	Fluoride	0.12	mg/L	0.10	05/13/22 07:29	
EPA 9056	Sulfate	35.5	mg/L	2.5	05/13/22 07:48	
EPA 6010	Aluminum	333	ug/L	200	05/14/22 20:31	
EPA 6010	Barium	62.3	ug/L	10.0	05/14/22 20:31	
EPA 6010	Boron	328	ug/L	100	05/14/22 20:31	
EPA 6010	Calcium	119000	ug/L	1000	05/14/22 20:31	
EPA 6010	Iron	550	ug/L	100	05/14/22 20:31	
EPA 6010	Magnesium	25700	ug/L	1000	05/14/22 20:31	
EPA 6010	Manganese	1840	ug/L	10.0	05/14/22 20:31	
EPA 6010	Silica	12400	ug/L	450	05/14/22 20:31	N2
EPA 6010	Sodium	6930	ug/L	1000	05/14/22 20:31	
EPA 6010	Manganese, Dissolved	1410	ug/L	10.0	05/14/22 04:53	
EPA 6020	Cobalt	1.7	ug/L	1.0	05/11/22 00:29	
EPA 6020	Selenium	2.3	ug/L	1.0	05/11/22 00:29	
EPA 903.1	Radium-226	0.000 ± 0.352 (0.721) C:NA T:96%	pCi/L		05/31/22 14:06	
EPA 904.0	Radium-228	0.395 ± 0.523 (1.12) C:74% T:90%	pCi/L		05/25/22 16:00	
Total Radium Calculation	Total Radium	0.395 ± 0.875 (1.84)	pCi/L		06/01/22 11:59	
SM 2320B	Alkalinity, Total as CaCO3	357	mg/L	2.0	05/11/22 10:23	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	357	mg/L	2.0	05/11/22 10:23	

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315479006	**MW-20I**					
SM 2540C	Total Dissolved Solids	451	mg/L	10.0	05/09/22 15:06	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/13/22 11:45	H3
EPA 353.2	Nitrogen, Nitrate	5.1	mg/L	0.50	05/05/22 09:54	
SM 5310C	Dissolved Organic Carbon	1.3	mg/L	1.0	05/12/22 22:21	
50315479007	**MW-20B**					
EPA 9056	Chloride	14.5	mg/L	2.5	05/13/22 09:20	
EPA 9056	Sulfate	67.7	mg/L	2.5	05/13/22 09:20	
EPA 6010	Aluminum	1170	ug/L	200	05/14/22 18:50	
EPA 6010	Barium	117	ug/L	10.0	05/14/22 18:50	
EPA 6010	Boron	494	ug/L	100	05/14/22 18:50	
EPA 6010	Calcium	172000	ug/L	1000	05/14/22 18:50	
EPA 6010	Iron	1230	ug/L	100	05/14/22 18:50	
EPA 6010	Magnesium	24300	ug/L	1000	05/14/22 18:50	
EPA 6010	Manganese	288	ug/L	10.0	05/14/22 18:50	
EPA 6010	Silica	16400	ug/L	450	05/14/22 18:50	N2
EPA 6010	Sodium	10500	ug/L	1000	05/14/22 18:50	
EPA 6020	Selenium	4.1	ug/L	1.0	05/11/22 00:34	
EPA 903.1	Radium-226	0.125 ± 0.216 (0.386) C:NA T:102%	pCi/L		05/31/22 14:20	
EPA 904.0	Radium-228	-0.226 ± 0.434 (1.07) C:78% T:87%	pCi/L		05/25/22 18:18	
Total Radium Calculation	Total Radium	0.125 ± 0.650 (1.46)	pCi/L		06/01/22 11:59	
SM 2320B	Alkalinity, Total as CaCO3	439	mg/L	2.0	05/11/22 10:23	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	439	mg/L	2.0	05/11/22 10:23	
SM 2540C	Total Dissolved Solids	609	mg/L	10.0	05/09/22 15:06	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/13/22 11:46	H3
EPA 353.2	Nitrogen, Nitrate	6.3	mg/L	0.50	05/05/22 09:56	
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	05/11/22 18:13	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	05/12/22 22:31	

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: AP-10A **Lab ID: 50315479001** Collected: 05/03/22 17:30 Received: 05/04/22 12:44 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	**186**	mg/L	25.0	100		05/13/22 06:41	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/13/22 06:07	16984-48-8	
Sulfate	**2280**	mg/L	25.0	100		05/13/22 06:41	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 14:47	05/14/22 18:33	7429-90-5	
Barium	**30.8**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:33	7440-39-3	
Boron	**27800**	ug/L	100	1	05/11/22 14:47	05/14/22 18:33	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 14:47	05/14/22 18:33	7440-43-9	
Calcium	**642000**	ug/L	5000	5	05/11/22 14:47	05/14/22 18:54	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:33	7440-47-3	
Iron	**8020**	ug/L	100	1	05/11/22 14:47	05/14/22 18:33	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:33	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 14:47	05/14/22 18:33	7439-93-2	
Magnesium	**9260**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:33	7439-95-4	
Manganese	**2290**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:33	7439-96-5	
Molybdenum	**717**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:33	7439-98-7	
Potassium	**13700**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:33	7440-09-7	
Silica	**10900**	ug/L	450	1	05/11/22 14:47	05/14/22 18:33	7631-86-9	N2
Sodium	**45300**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:33	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2380**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:39	7439-96-5	
Molybdenum, Dissolved	**713**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:39	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:46	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:46	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/10/22 23:46	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:46	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:46	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/10/22 23:46	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**178**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Bicarbonate (CaCO3)	**178**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/10/22 10:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2700**	mg/L	40.0	1		05/09/22 15:03		

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(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: AP-10A **Lab ID: 50315479001** Collected: 05/03/22 17:30 Received: 05/04/22 12:44 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	**6.9**	Std. Units	0.10	1		05/13/22 11:33		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**4.9**	mg/L	1.0	5		05/10/22 12:20	15438-31-0	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		05/05/22 09:52	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 09:52	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.16**	mg/L	0.15	1	05/07/22 00:00	05/09/22 13:18		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.5**	mg/L	1.0	1		05/11/22 14:26	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.3**	mg/L	1.0	1		05/12/22 20:56		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-19A **Lab ID: 50315479002** Collected: 05/03/22 16:35 Received: 05/04/22 12:44 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		05/13/22 07:49	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/13/22 07:32	16984-48-8	
Sulfate	**1510**	mg/L	25.0	100		05/13/22 08:06	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 14:47	05/14/22 18:35	7429-90-5	
Barium	**35.4**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:35	7440-39-3	
Boron	**24800**	ug/L	100	1	05/11/22 14:47	05/14/22 18:35	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 14:47	05/14/22 18:35	7440-43-9	
Calcium	**600000**	ug/L	5000	5	05/11/22 14:47	05/14/22 18:57	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:35	7440-47-3	
Iron	**9500**	ug/L	100	1	05/11/22 14:47	05/14/22 18:35	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:35	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 14:47	05/14/22 18:35	7439-93-2	
Magnesium	**26900**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:35	7439-95-4	
Manganese	**1840**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:35	7439-96-5	
Molybdenum	**926**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:35	7439-98-7	
Potassium	**12200**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:35	7440-09-7	
Silica	**12800**	ug/L	450	1	05/11/22 14:47	05/14/22 18:35	7631-86-9	N2
Sodium	**43000**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:35	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1850**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:41	7439-96-5	
Molybdenum, Dissolved	**952**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:41	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	05/10/22 08:55	05/11/22 00:00	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:00	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/11/22 00:00	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:00	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:00	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:00	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**259**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Bicarbonate (CaCO3)	**259**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/10/22 10:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2420**	mg/L	40.0	1		05/09/22 15:04		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-19A **Lab ID: 50315479002** Collected: 05/03/22 16:35 Received: 05/04/22 12:44 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	**6.9**	Std. Units	0.10	1		05/13/22 11:34		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**3.9**	mg/L	1.0	5		05/10/22 12:20	15438-31-0	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		05/05/22 09:50	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 09:50	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.27**	mg/L	0.15	1	05/07/22 00:00	05/09/22 13:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.8**	mg/L	1.0	1		05/11/22 14:46	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.7**	mg/L	1.0	1		05/12/22 21:20		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-19I **Lab ID: 50315479003** Collected: 05/03/22 15:45 Received: 05/04/22 12:44 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		05/13/22 08:23	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/13/22 08:23	16984-48-8	
Sulfate	**64.9**	mg/L	2.5	10		05/13/22 08:40	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 14:47	05/14/22 18:37	7429-90-5	
Barium	**59.5**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:37	7440-39-3	
Boron	**912**	ug/L	100	1	05/11/22 14:47	05/14/22 18:37	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 14:47	05/14/22 18:37	7440-43-9	
Calcium	**103000**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:37	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:37	7440-47-3	
Iron	ND	ug/L	100	1	05/11/22 14:47	05/14/22 18:37	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:37	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 14:47	05/14/22 18:37	7439-93-2	
Magnesium	**23600**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:37	7439-95-4	
Manganese	**1780**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:37	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:37	7439-98-7	
Potassium	ND	ug/L	1000	1	05/11/22 14:47	05/14/22 18:37	7440-09-7	
Silica	**9030**	ug/L	450	1	05/11/22 14:47	05/14/22 18:37	7631-86-9	N2
Sodium	**6700**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:37	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1340**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:43	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:43	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	05/10/22 08:55	05/11/22 00:05	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:05	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/11/22 00:05	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:05	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:05	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:05	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**447**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Bicarbonate (CaCO3)	**447**	mg/L	2.0	1		05/10/22 10:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/10/22 10:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**427**	mg/L	10.0	1		05/09/22 15:04		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-19I **Lab ID: 50315479003** Collected: 05/03/22 15:45 Received: 05/04/22 12:44 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		05/13/22 11:41		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:21	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.35**	mg/L	0.10	1		05/05/22 09:30	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 09:30	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	05/07/22 00:00	05/09/22 13:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/11/22 16:30	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		05/12/22 21:50		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-19B **Lab ID: 50315479004** Collected: 05/03/22 14:50 Received: 05/04/22 12:44 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		05/13/22 09:14	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		05/13/22 09:14	16984-48-8	
Sulfate	**56.7**	mg/L	2.5	10		05/13/22 09:31	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 14:47	05/14/22 18:39	7429-90-5	
Barium	**55.0**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:39	7440-39-3	
Boron	**306**	ug/L	100	1	05/11/22 14:47	05/14/22 18:39	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 14:47	05/14/22 18:39	7440-43-9	
Calcium	**84300**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:39	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:39	7440-47-3	
Iron	ND	ug/L	100	1	05/11/22 14:47	05/14/22 18:39	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:39	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 14:47	05/14/22 18:39	7439-93-2	
Magnesium	**16300**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:39	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:39	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:39	7439-98-7	
Potassium	**3980**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:39	7440-09-7	
Silica	**7810**	ug/L	450	1	05/11/22 14:47	05/14/22 18:39	7631-86-9	N2
Sodium	**8280**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:39	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	05/11/22 14:39	05/14/22 04:49	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:49	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	05/10/22 08:55	05/11/22 00:10	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:10	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/11/22 00:10	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:10	7440-48-4	
Selenium	**1.3**	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:10	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:10	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**227**	mg/L	2.0	1		05/11/22 14:07		
Alkalinity,Bicarbonate (CaCO3)	**227**	mg/L	2.0	1		05/11/22 14:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/11/22 14:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**345**	mg/L	10.0	1		05/09/22 15:05		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-19B **Lab ID: 50315479004** Collected: 05/03/22 14:50 Received: 05/04/22 12:44 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		05/13/22 11:42		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:21	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**1.6**	mg/L	0.10	1		05/05/22 09:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 09:13	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	05/07/22 00:00	05/09/22 13:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/11/22 17:08	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/12/22 22:00		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-20A **Lab ID: 50315479005** Collected: 05/03/22 12:05 Received: 05/04/22 12:44 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**59.1**	mg/L	2.5	10		05/13/22 06:52	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		05/13/22 06:34	16984-48-8	
Sulfate	**903**	mg/L	25.0	100		05/13/22 07:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/11/22 14:47	05/14/22 18:41	7429-90-5	
Barium	**32.2**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:41	7440-39-3	
Boron	**12100**	ug/L	100	1	05/11/22 14:47	05/14/22 18:41	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 14:47	05/14/22 18:41	7440-43-9	
Calcium	**355000**	ug/L	2000	2	05/11/22 14:47	05/14/22 18:59	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:41	7440-47-3	
Iron	**8010**	ug/L	100	1	05/11/22 14:47	05/14/22 18:41	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:41	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 14:47	05/14/22 18:41	7439-93-2	
Magnesium	**30700**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:41	7439-95-4	
Manganese	**1350**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:41	7439-96-5	
Molybdenum	**336**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:41	7439-98-7	
Potassium	**5250**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:41	7440-09-7	
Silica	**12400**	ug/L	450	1	05/11/22 14:47	05/14/22 18:41	7631-86-9	N2
Sodium	**25400**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:41	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1290**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:51	7439-96-5	
Molybdenum, Dissolved	**288**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:51	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	05/10/22 08:55	05/11/22 00:15	7440-36-0	
Arsenic	**2.0**	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:15	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/11/22 00:15	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:15	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:15	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:15	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**215**	mg/L	2.0	1		05/11/22 10:23		
Alkalinity,Bicarbonate (CaCO3)	**215**	mg/L	2.0	1		05/11/22 10:23		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/11/22 10:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1500**	mg/L	20.0	1		05/17/22 12:50		H7

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-20A **Lab ID: 50315479005** Collected: 05/03/22 12:05 Received: 05/04/22 12:44 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		05/13/22 11:43		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.0**	mg/L	0.40	2		05/10/22 12:21	15438-31-0	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		05/05/22 08:49	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 08:49	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.31**	mg/L	0.15	1	05/07/22 00:00	05/09/22 13:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.1**	mg/L	1.0	1		05/11/22 17:28	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		05/12/22 22:11		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-20I **Lab ID: 50315479006** Collected: 05/03/22 12:55 Received: 05/04/22 12:44 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	**7.8**	mg/L	0.25	1		05/13/22 07:29	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	1		05/13/22 07:29	16984-48-8	
Sulfate	**35.5**	mg/L	2.5	10		05/13/22 07:48	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**333**	ug/L	200	1	05/11/22 14:47	05/14/22 20:31	7429-90-5	
Barium	**62.3**	ug/L	10.0	1	05/11/22 14:47	05/14/22 20:31	7440-39-3	
Boron	**328**	ug/L	100	1	05/11/22 14:47	05/14/22 20:31	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 14:47	05/14/22 20:31	7440-43-9	
Calcium	**119000**	ug/L	1000	1	05/11/22 14:47	05/14/22 20:31	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 20:31	7440-47-3	
Iron	**550**	ug/L	100	1	05/11/22 14:47	05/14/22 20:31	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 20:31	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 14:47	05/14/22 20:31	7439-93-2	
Magnesium	**25700**	ug/L	1000	1	05/11/22 14:47	05/14/22 20:31	7439-95-4	
Manganese	**1840**	ug/L	10.0	1	05/11/22 14:47	05/14/22 20:31	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 20:31	7439-98-7	
Potassium	ND	ug/L	1000	1	05/11/22 14:47	05/14/22 20:31	7440-09-7	
Silica	**12400**	ug/L	450	1	05/11/22 14:47	05/14/22 20:31	7631-86-9	N2
Sodium	**6930**	ug/L	1000	1	05/11/22 14:47	05/14/22 20:31	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1410**	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:53	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:53	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	05/10/22 08:55	05/11/22 00:29	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:29	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/11/22 00:29	7440-41-7	
Cobalt	**1.7**	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:29	7440-48-4	
Selenium	**2.3**	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:29	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:29	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**357**	mg/L	2.0	1		05/11/22 10:23		
Alkalinity,Bicarbonate (CaCO3)	**357**	mg/L	2.0	1		05/11/22 10:23		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/11/22 10:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**451**	mg/L	10.0	1		05/09/22 15:06		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-20I **Lab ID: 50315479006** Collected: 05/03/22 12:55 Received: 05/04/22 12:44 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		05/13/22 11:45		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:21	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**5.1**	mg/L	0.50	5		05/05/22 09:54	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	5		05/05/22 09:54	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/07/22 00:00	05/09/22 13:25		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/11/22 17:47	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.3**	mg/L	1.0	1		05/12/22 22:21		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-20B **Lab ID: 50315479007** Collected: 05/03/22 14:10 Received: 05/04/22 08:00 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	**14.5**	mg/L	2.5	10		05/13/22 09:20	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/13/22 09:02	16984-48-8	
Sulfate	**67.7**	mg/L	2.5	10		05/13/22 09:20	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**1170**	ug/L	200	1	05/11/22 14:47	05/14/22 18:50	7429-90-5	
Barium	**117**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:50	7440-39-3	
Boron	**494**	ug/L	100	1	05/11/22 14:47	05/14/22 18:50	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/11/22 14:47	05/14/22 18:50	7440-43-9	
Calcium	**172000**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:50	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:50	7440-47-3	
Iron	**1230**	ug/L	100	1	05/11/22 14:47	05/14/22 18:50	7439-89-6	
Lead	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:50	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/11/22 14:47	05/14/22 18:50	7439-93-2	
Magnesium	**24300**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:50	7439-95-4	
Manganese	**288**	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:50	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/11/22 14:47	05/14/22 18:50	7439-98-7	
Potassium	ND	ug/L	1000	1	05/11/22 14:47	05/14/22 18:50	7440-09-7	
Silica	**16400**	ug/L	450	1	05/11/22 14:47	05/14/22 18:50	7631-86-9	N2
Sodium	**10500**	ug/L	1000	1	05/11/22 14:47	05/14/22 18:50	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	05/11/22 14:39	05/14/22 04:56	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/11/22 14:39	05/14/22 04:56	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	05/10/22 08:55	05/11/22 00:34	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:34	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:55	05/11/22 00:34	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:34	7440-48-4	
Selenium	**4.1**	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:34	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:55	05/11/22 00:34	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**439**	mg/L	2.0	1		05/11/22 10:23		
Alkalinity,Bicarbonate (CaCO3)	**439**	mg/L	2.0	1		05/11/22 10:23		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/11/22 10:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**609**	mg/L	10.0	1		05/09/22 15:06		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-20B **Lab ID: 50315479007** Collected: 05/03/22 14:10 Received: 05/04/22 08:00 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	**6.8**	Std. Units	0.10	1		05/13/22 11:46		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/06/22 15:46	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:21	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**6.3**	mg/L	0.50	5		05/05/22 09:56	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	5		05/05/22 09:56	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	05/07/22 00:00	05/09/22 13:25		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.0**	mg/L	1.0	1		05/11/22 18:13	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.0**	mg/L	1.0	1		05/12/22 22:31		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675614
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004

METHOD BLANK: 3110749 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/12/22 14:33	
Fluoride	mg/L	ND	0.10	05/12/22 14:33	
Sulfate	mg/L	ND	0.25	05/12/22 14:33	

LABORATORY CONTROL SAMPLE: 3110750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	92	80-120	
Fluoride	mg/L	0.5	0.48	96	80-120	
Sulfate	mg/L	2.5	2.7	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110751 3110752

Parameter	Units	50315476002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	68.4	12.5	12.5	80.6	78.3	98	80	80-120	3	15	
Fluoride	mg/L	0.14	0.5	0.5	0.61	0.63	93	97	80-120	3	15	
Sulfate	mg/L	402	250	250	632	639	92	95	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675845
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479005, 50315479006, 50315479007

METHOD BLANK: 3111818 Matrix: Water
Associated Lab Samples: 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/13/22 05:01	
Fluoride	mg/L	ND	0.10	05/13/22 05:01	
Sulfate	mg/L	ND	0.25	05/13/22 05:01	

LABORATORY CONTROL SAMPLE: 3111819

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	0.53	106	80-120	
Sulfate	mg/L	2.5	2.6	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3111820 3111821

Parameter	Units	50315485002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.8	1.2	1.2	8.3	8.3	124	120	80-120	1	15	M0
Fluoride	mg/L	0.20	0.5	0.5	0.77	0.77	113	112	80-120	0	15	
Sulfate	mg/L	38.1	25	25	63.3	63.5	101	102	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675169
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 3108975 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/14/22 17:29	
Barium	ug/L	ND	10.0	05/14/22 17:29	
Boron	ug/L	ND	100	05/14/22 17:29	
Cadmium	ug/L	ND	2.0	05/14/22 17:29	
Calcium	ug/L	ND	1000	05/14/22 17:29	
Chromium	ug/L	ND	10.0	05/14/22 17:29	
Iron	ug/L	ND	100	05/14/22 17:29	
Lead	ug/L	ND	10.0	05/14/22 17:29	
Lithium	ug/L	ND	20.0	05/14/22 17:29	
Magnesium	ug/L	ND	1000	05/14/22 17:29	
Manganese	ug/L	ND	10.0	05/14/22 17:29	
Molybdenum	ug/L	ND	10.0	05/14/22 17:29	
Potassium	ug/L	ND	1000	05/14/22 17:29	
Silica	ug/L	ND	450	05/14/22 17:29	N2
Sodium	ug/L	ND	1000	05/14/22 17:29	

LABORATORY CONTROL SAMPLE: 3108976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	80-120	
Barium	ug/L	1000	1030	103	80-120	
Boron	ug/L	1000	1030	103	80-120	
Cadmium	ug/L	1000	994	99	80-120	
Calcium	ug/L	10000	10300	103	80-120	
Chromium	ug/L	1000	1030	103	80-120	
Iron	ug/L	10000	10100	101	80-120	
Lead	ug/L	1000	970	97	80-120	
Lithium	ug/L	1000	1030	103	80-120	
Magnesium	ug/L	10000	9940	99	80-120	
Manganese	ug/L	1000	996	100	80-120	
Molybdenum	ug/L	1000	1050	105	80-120	
Potassium	ug/L	10000	10300	103	80-120	
Silica	ug/L	10700	10700	101	80-120	N2
Sodium	ug/L	10000	10100	101	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108977 3108978

Parameter	Units	50315475007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	<0.20 mg/L	10000	10000	9810	10200	98	101	75-125	3	20	
Barium	ug/L	0.010 mg/L	1000	1000	1010	1040	100	103	75-125	3	20	
Boron	ug/L	<0.10 mg/L	1000	1000	1010	1040	99	102	75-125	3	20	
Cadmium	ug/L	<0.0020 mg/L	1000	1000	950	973	95	97	75-125	2	20	
Calcium	ug/L	20.3 mg/L	10000	10000	29000	29400	87	91	75-125	1	20	
Chromium	ug/L	<0.010 mg/L	1000	1000	996	1020	99	102	75-125	2	20	
Iron	ug/L	<50.0	10000	10000	9820	10100	98	100	75-125	2	20	
Lead	ug/L	<0.010 mg/L	1000	1000	924	946	92	95	75-125	2	20	
Lithium	ug/L	<8.0	1000	1000	1000	1030	100	103	75-125	3	20	
Magnesium	ug/L	4.2 mg/L	10000	10000	13400	13700	92	95	75-125	2	20	
Manganese	ug/L	<0.010 mg/L	1000	1000	961	986	96	98	75-125	3	20	
Molybdenum	ug/L	<0.010 mg/L	1000	1000	1010	1030	101	102	75-125	2	20	
Potassium	ug/L	1.1 mg/L	10000	10000	10900	11300	98	102	75-125	3	20	
Silica	ug/L	8.8 mg/L	10700	10700	18700	19100	92	97	75-125	2	20	N2
Sodium	ug/L	1.5 mg/L	10000	10000	11200	11500	97	100	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675129 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 3108852 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/14/22 04:18	
Molybdenum, Dissolved	ug/L	ND	10.0	05/14/22 04:18	

LABORATORY CONTROL SAMPLE: 3108853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	996	100	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108854 3108855

Parameter	Units	50315476002 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	1280	1000	1000	2230	2190	95	91	75-125	2	20	
Molybdenum, Dissolved	ug/L	116	1000	1000	1160	1160	105	104	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675233
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 3109287 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/10/22 22:49	
Arsenic	ug/L	ND	1.0	05/10/22 22:49	
Beryllium	ug/L	ND	0.20	05/10/22 22:49	
Cobalt	ug/L	ND	1.0	05/10/22 22:49	
Selenium	ug/L	ND	1.0	05/10/22 22:49	
Thallium	ug/L	ND	1.0	05/10/22 22:49	

LABORATORY CONTROL SAMPLE: 3109288

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.8	102	80-120	
Arsenic	ug/L	40	38.5	96	80-120	
Beryllium	ug/L	40	39.0	97	80-120	
Cobalt	ug/L	40	40.0	100	80-120	
Selenium	ug/L	40	39.4	98	80-120	
Thallium	ug/L	40	39.7	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109289 3109290

Parameter	Units	50315476002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	40.8	41.1	102	102	75-125	1	20	
Arsenic	ug/L	ND	40	40	40.1	38.2	98	94	75-125	5	20	
Beryllium	ug/L	ND	40	40	38.4	38.3	96	96	75-125	0	20	
Cobalt	ug/L	ND	40	40	37.9	37.6	94	93	75-125	1	20	
Selenium	ug/L	ND	40	40	38.6	36.9	96	92	75-125	4	20	
Thallium	ug/L	ND	40	40	40.1	39.9	100	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675303 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003

METHOD BLANK: 3109463 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/10/22 10:20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/10/22 10:20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/10/22 10:20	

LABORATORY CONTROL SAMPLE: 3109464

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	54.6	109	90-110	

SAMPLE DUPLICATE: 3109465

Parameter	Units	50315476002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	361	367	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	361	367	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3109466

Parameter	Units	50315475007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	71.9	74.7	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	71.9	74.7	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675330 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479005, 50315479006, 50315479007

METHOD BLANK: 3109534 Matrix: Water
Associated Lab Samples: 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/11/22 10:23	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/11/22 10:23	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/11/22 10:23	

LABORATORY CONTROL SAMPLE: 3109535

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

SAMPLE DUPLICATE: 3109536

Parameter	Units	50315563012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	61.1	63.0	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	61.1	63.0	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3109537

Parameter	Units	50315440004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	87.3	87.5	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	87.3	87.5	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675547
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479004

METHOD BLANK: 3110477 Matrix: Water
Associated Lab Samples: 50315479004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/11/22 14:07	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/11/22 14:07	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/11/22 14:07	

LABORATORY CONTROL SAMPLE: 3110478

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.4	95	90-110	

SAMPLE DUPLICATE: 3110479

Parameter	Units	50315446010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	242	245	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	242	245	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3110480

Parameter	Units	50315449001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	300	314	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	300	314	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675093 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479006, 50315479007

METHOD BLANK: 3108718 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/09/22 14:58	

LABORATORY CONTROL SAMPLE: 3108719

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	296	99	80-120	

SAMPLE DUPLICATE: 3108720

Parameter	Units	50315476002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1120	1080	4	10	

SAMPLE DUPLICATE: 3108721

Parameter	Units	50315563012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	131	135	3	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 676568
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479005

METHOD BLANK: 3115085 Matrix: Water
Associated Lab Samples: 50315479005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/17/22 12:50	

LABORATORY CONTROL SAMPLE: 3115086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	282	94	80-120	

SAMPLE DUPLICATE: 3115087

Parameter	Units	50316214007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	408	399	2	10	

SAMPLE DUPLICATE: 3115088

Parameter	Units	50316218009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	399	387	3	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 676103
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

SAMPLE DUPLICATE: 3113141

Parameter	Units	50315476002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

SAMPLE DUPLICATE: 3113142

Parameter	Units	50315520001 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: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 674837 | 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: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 3107402 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/06/22 15:46	

LABORATORY CONTROL SAMPLE: 3107403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.48	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3107404 3107405

Parameter	Units	50315476002 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	0.28	0.28	55	55	90-110	1	20	M3

MATRIX SPIKE SAMPLE: 3107406

Parameter	Units	50315479001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.53	106	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675307 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 3109472 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/10/22 12:19	H3,N2

LABORATORY CONTROL SAMPLE: 3109473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.96	96	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109474 3109475

Parameter	Units	50315476002 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	0.59	1	1	1.6	1.5	101	96	90-110	4	20	H3,N2

MATRIX SPIKE SAMPLE: 3109476

Parameter	Units	50315596001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	0.93	93	90-110	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 674541
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 3105747 Matrix: Water
Associated Lab Samples: 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/05/22 08:43	
Nitrogen, Nitrite	mg/L	ND	0.10	05/05/22 08:43	

LABORATORY CONTROL SAMPLE: 3105748

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.94	94	90-110	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3105749 3105750

Parameter	Units	50315476002 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	0.82	0.83	81	81	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.91	0.91	90	90	90-110	0	20	

MATRIX SPIKE SAMPLE: 3105751

Parameter	Units	50315479004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1	2.6	94	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.97	97	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 674543
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002

METHOD BLANK: 3105756 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/05/22 09:37	
Nitrogen, Nitrite	mg/L	ND	0.10	05/05/22 09:37	

LABORATORY CONTROL SAMPLE: 3105757

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.93	93	90-110	
Nitrogen, Nitrite	mg/L	1	0.99	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3105758 3105759

Parameter	Units	50315440026 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	0.96	0.96	89	90	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.98	98	98	90-110	0	20	

MATRIX SPIKE SAMPLE: 3106469

Parameter	Units	50315596001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	4.5	1	5.3	78	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.97	97	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 674939
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003

METHOD BLANK: 3108088 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/09/22 13:03	

LABORATORY CONTROL SAMPLE: 3108089

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

MATRIX SPIKE SAMPLE: 3108090

Parameter	Units	50314995003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.27		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108091 3108092

Parameter	Units	50315337012 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	<0.15			1.6	1.5				2		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 674940
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 3108093 Matrix: Water
Associated Lab Samples: 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/09/22 13:21	

LABORATORY CONTROL SAMPLE: 3108094

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.6			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108095 3108096

Parameter	Units	50315563009 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	1.5				4		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675015 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 3108507 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/11/22 13:47	

LABORATORY CONTROL SAMPLE: 3108508

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: 3108509 3108510

Parameter	Units	50315479002 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	1.8	10	10	11.8	11.2	100	94	80-120	5	20	

MATRIX SPIKE SAMPLE: 3108511

Parameter	Units	50315479003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	9.6	91	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 675892 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 3112052 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/12/22 20:33	

LABORATORY CONTROL SAMPLE: 3112053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112054 3112055

Parameter	Units	50315563012 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	1.4	10	10	11.7	11.3	103	99	80-120	4	20	

MATRIX SPIKE SAMPLE: 3112057

Parameter	Units	50315479001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	3.3	10	11.8	85	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: AP-10A **Lab ID: 50315479001** Collected: 05/03/22 17:30 Received: 05/04/22 12:44 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	**0.0492 ± 0.320 (0.645) C:NA T:99%**	pCi/L	05/31/22 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.656 ± 0.381 (0.682) C:73% T:89%**	pCi/L	05/25/22 15:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.705 ± 0.701 (1.33)**	pCi/L	06/01/22 11:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-19A **Lab ID: 50315479002** Collected: 05/03/22 16:35 Received: 05/04/22 12:44 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	**-0.0937 ± 0.390 (0.816) C:NA T:98%**	pCi/L	05/31/22 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.500 ± 0.405 (0.804) C:75% T:87%**	pCi/L	05/25/22 15:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.500 ± 0.795 (1.62)**	pCi/L	06/01/22 11:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-19I **Lab ID: 50315479003** Collected: 05/03/22 15:45 Received: 05/04/22 12:44 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	**0.0435 ± 0.352 (0.690) C:NA T:105%**	pCi/L	05/31/22 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.149 ± 0.381 (0.852) C:70% T:88%**	pCi/L	05/25/22 15:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.193 ± 0.733 (1.54)**	pCi/L	06/01/22 11:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-19B **Lab ID: 50315479004** Collected: 05/03/22 14:50 Received: 05/04/22 12:44 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	**0.162 ± 0.317 (0.580) C:NA T:92%**	pCi/L	05/31/22 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.339 ± 0.441 (0.941) C:77% T:92%**	pCi/L	05/25/22 16:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.501 ± 0.758 (1.52)**	pCi/L	06/01/22 11:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-20A **Lab ID: 50315479005** Collected: 05/03/22 12:05 Received: 05/04/22 12:44 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.309 ± 0.262 (0.324) C:NA T:96%**	pCi/L	05/31/22 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.180 ± 0.469 (1.04) C:80% T:94%**	pCi/L	05/25/22 16:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.489 ± 0.731 (1.36)**	pCi/L	06/01/22 11:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-20I **Lab ID: 50315479006** Collected: 05/03/22 12:55 Received: 05/04/22 12:44 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 ± 0.352 (0.721) C:NA T:96%**	pCi/L	05/31/22 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.395 ± 0.523 (1.12) C:74% T:90%**	pCi/L	05/25/22 16:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.395 ± 0.875 (1.84)**	pCi/L	06/01/22 11:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Sample: MW-20B **Lab ID: 50315479007** Collected: 05/03/22 14:10 Received: 05/04/22 08:00 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	**0.125 ± 0.216 (0.386) C:NA T:102%**	pCi/L	05/31/22 14:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.226 ± 0.434 (1.07) C:78% T:87%**	pCi/L	05/25/22 18:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.125 ± 0.650 (1.46)**	pCi/L	06/01/22 11:59	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 504682 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: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 2444394 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0339 ± 0.258 (0.538) C:NA T:105%	pCi/L	05/31/22 13:49	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

QC Batch: 504683 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: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

METHOD BLANK: 2444401 Matrix: Water
Associated Lab Samples: 50315479001, 50315479002, 50315479003, 50315479004, 50315479005, 50315479006, 50315479007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0979 ± 0.330 (0.744) C:76% T:88%	pCi/L	05/25/22 12:12	

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QUALIFIERS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

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.
H7	Re-extraction or re-analysis could not be performed within 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.

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7726 Moller Road
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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315479001	**AP-10A**	EPA 9056	675614		
50315479002	**MW-19A**	EPA 9056	675614		
50315479003	**MW-19I**	EPA 9056	675614		
50315479004	**MW-19B**	EPA 9056	675614		
50315479005	**MW-20A**	EPA 9056	675845		
50315479006	**MW-20I**	EPA 9056	675845		
50315479007	**MW-20B**	EPA 9056	675845		
50315479001	**AP-10A**	EPA 3010	675169	EPA 6010	676295
50315479002	**MW-19A**	EPA 3010	675169	EPA 6010	676295
50315479003	**MW-19I**	EPA 3010	675169	EPA 6010	676295
50315479004	**MW-19B**	EPA 3010	675169	EPA 6010	676295
50315479005	**MW-20A**	EPA 3010	675169	EPA 6010	676295
50315479006	**MW-20I**	EPA 3010	675169	EPA 6010	676295
50315479007	**MW-20B**	EPA 3010	675169	EPA 6010	676295
50315479001	**AP-10A**	EPA 3010	675129	EPA 6010	676239
50315479002	**MW-19A**	EPA 3010	675129	EPA 6010	676239
50315479003	**MW-19I**	EPA 3010	675129	EPA 6010	676239
50315479004	**MW-19B**	EPA 3010	675129	EPA 6010	676239
50315479005	**MW-20A**	EPA 3010	675129	EPA 6010	676239
50315479006	**MW-20I**	EPA 3010	675129	EPA 6010	676239
50315479007	**MW-20B**	EPA 3010	675129	EPA 6010	676239
50315479001	**AP-10A**	EPA 200.2	675233	EPA 6020	675435
50315479002	**MW-19A**	EPA 200.2	675233	EPA 6020	675435
50315479003	**MW-19I**	EPA 200.2	675233	EPA 6020	675435
50315479004	**MW-19B**	EPA 200.2	675233	EPA 6020	675435
50315479005	**MW-20A**	EPA 200.2	675233	EPA 6020	675435
50315479006	**MW-20I**	EPA 200.2	675233	EPA 6020	675435
50315479007	**MW-20B**	EPA 200.2	675233	EPA 6020	675435
50315479001	**AP-10A**	EPA 903.1	504682		
50315479002	**MW-19A**	EPA 903.1	504682		
50315479003	**MW-19I**	EPA 903.1	504682		
50315479004	**MW-19B**	EPA 903.1	504682		
50315479005	**MW-20A**	EPA 903.1	504682		
50315479006	**MW-20I**	EPA 903.1	504682		
50315479007	**MW-20B**	EPA 903.1	504682		
50315479001	**AP-10A**	EPA 904.0	504683		
50315479002	**MW-19A**	EPA 904.0	504683		
50315479003	**MW-19I**	EPA 904.0	504683		
50315479004	**MW-19B**	EPA 904.0	504683		
50315479005	**MW-20A**	EPA 904.0	504683		
50315479006	**MW-20I**	EPA 904.0	504683		
50315479007	**MW-20B**	EPA 904.0	504683		
50315479001	**AP-10A**	Total Radium Calculation	508541		
50315479002	**MW-19A**	Total Radium Calculation	508541		
50315479003	**MW-19I**	Total Radium Calculation	508541		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315479004	**MW-19B**	Total Radium Calculation	508541		
50315479005	**MW-20A**	Total Radium Calculation	508541		
50315479006	**MW-20I**	Total Radium Calculation	508541		
50315479007	**MW-20B**	Total Radium Calculation	508541		
50315479001	**AP-10A**	SM 2320B	675303		
50315479002	**MW-19A**	SM 2320B	675303		
50315479003	**MW-19I**	SM 2320B	675303		
50315479004	**MW-19B**	SM 2320B	675547		
50315479005	**MW-20A**	SM 2320B	675330		
50315479006	**MW-20I**	SM 2320B	675330		
50315479007	**MW-20B**	SM 2320B	675330		
50315479001	**AP-10A**	SM 2540C	675093		
50315479002	**MW-19A**	SM 2540C	675093		
50315479003	**MW-19I**	SM 2540C	675093		
50315479004	**MW-19B**	SM 2540C	675093		
50315479005	**MW-20A**	SM 2540C	676568		
50315479006	**MW-20I**	SM 2540C	675093		
50315479007	**MW-20B**	SM 2540C	675093		
50315479001	**AP-10A**	SM 4500-H+B	676103		
50315479002	**MW-19A**	SM 4500-H+B	676103		
50315479003	**MW-19I**	SM 4500-H+B	676103		
50315479004	**MW-19B**	SM 4500-H+B	676103		
50315479005	**MW-20A**	SM 4500-H+B	676103		
50315479006	**MW-20I**	SM 4500-H+B	676103		
50315479007	**MW-20B**	SM 4500-H+B	676103		
50315479001	**AP-10A**	SM 4500-S2-D	674837		
50315479002	**MW-19A**	SM 4500-S2-D	674837		
50315479003	**MW-19I**	SM 4500-S2-D	674837		
50315479004	**MW-19B**	SM 4500-S2-D	674837		
50315479005	**MW-20A**	SM 4500-S2-D	674837		
50315479006	**MW-20I**	SM 4500-S2-D	674837		
50315479007	**MW-20B**	SM 4500-S2-D	674837		
50315479001	**AP-10A**	HACH 8146	675307		
50315479002	**MW-19A**	HACH 8146	675307		
50315479003	**MW-19I**	HACH 8146	675307		
50315479004	**MW-19B**	HACH 8146	675307		
50315479005	**MW-20A**	HACH 8146	675307		
50315479006	**MW-20I**	HACH 8146	675307		
50315479007	**MW-20B**	HACH 8146	675307		
50315479001	**AP-10A**	EPA 353.2	674543		
50315479002	**MW-19A**	EPA 353.2	674543		
50315479003	**MW-19I**	EPA 353.2	674541		
50315479004	**MW-19B**	EPA 353.2	674541		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50315479

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315479005	**MW-20A**	EPA 353.2	674541		
50315479006	**MW-20I**	EPA 353.2	674541		
50315479007	**MW-20B**	EPA 353.2	674541		
50315479001	**AP-10A**	EPA 365.1	674939	EPA 365.1	675319
50315479002	**MW-19A**	EPA 365.1	674939	EPA 365.1	675319
50315479003	**MW-19I**	EPA 365.1	674939	EPA 365.1	675319
50315479004	**MW-19B**	EPA 365.1	674940	EPA 365.1	675320
50315479005	**MW-20A**	EPA 365.1	674940	EPA 365.1	675320
50315479006	**MW-20I**	EPA 365.1	674940	EPA 365.1	675320
50315479007	**MW-20B**	EPA 365.1	674940	EPA 365.1	675320
50315479001	**AP-10A**	SM 5310C	675015		
50315479002	**MW-19A**	SM 5310C	675015		
50315479003	**MW-19I**	SM 5310C	675015		
50315479004	**MW-19B**	SM 5310C	675015		
50315479005	**MW-20A**	SM 5310C	675015		
50315479006	**MW-20I**	SM 5310C	675015		
50315479007	**MW-20B**	SM 5310C	675015		
50315479001	**AP-10A**	SM 5310C	675892		
50315479002	**MW-19A**	SM 5310C	675892		
50315479003	**MW-19I**	SM 5310C	675892		
50315479004	**MW-19B**	SM 5310C	675892		
50315479005	**MW-20A**	SM 5310C	675892		
50315479006	**MW-20I**	SM 5310C	675892		
50315479007	**MW-20B**	SM 5310C	675892		

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Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical F

WO# : 50315479

50315479

The Chain-of-Custody is a LEGAL DOCUMENT. All re

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found a

Section A	Section B	Section C
Required Client Information:	**Required Project Information:**	**Invoice Information:**
Company: Atlas Indianapolis	Report To: Mark Breting	Attention: Accounts Payable - Paula Sedam
Address: 7988 Centerpoint Drive Suite 100	Copy To:	Company Name: Atlas Indianapolis
Indianapolis, IN 46256		Address:
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:
Phone: (317)579-4082 Fax:	Project Name: Petersburg Profile 2 Report 5	Pace Project Manager: Hayden Putt
Requested Due Date:	Project #:	Pace Profile #: 10498/10

Regulatory Agency

State / Location: IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
1	AP-9A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
2	AP-10A	WT		5-3-22	1730				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		001
3	MW-19A	WT		5-3-22	1635				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		002
4	MW-19I	WT		5-3-22	1545				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		003
5	MW-19B	WT		5-3-22	1450				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		004
6	MW-20A	WT		5-3-22	1205				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		005
7	MW-20I	WT		5-3-22	1255				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		006
8	MW-20B	WT		5-3-22	1410				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		007
9	MW-21A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
10	MW-21I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
11	MW-21B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
12	MW-25A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		

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

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)		5.4.22	0800		5-4-22	08:00A				
6020 (Be, Co, As, Se, Sb, Tl)	Brian H. Wa	5.4.22	12:44P		5/4/22	1244	1.4	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)							1.0			
Alkalinity = (Total , Bicarb & Carb)							1.2	1.8		

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: NICK WALTON

SIGNATURE of SAMPLER: Nick Walton

DATE Signed: 5-3-22

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

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MR 5/4/22 1530

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(s):** (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

1.6/1.4	1.2/1.0	1.4/1.2	2.0/1.8

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** ~~HNO3 (<2)~~ ~~H2SO4 (<2)~~ NaOH (>10) ~~NaOH/ZnAc (>9)~~ Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1500			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:		✓	

COMMENTS:

COC PAGE ____ of ____

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																															
2												1	1			2	1	2	1	1	1		1					W	✓	✓	
3																															
4																															
5																															
6																															
7																															
8												4																			
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	
GN	General	AG3C	250mL NaOH amber glass	

Plastic / Misc.

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 03, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 09, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Indianapolis

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

Sincerely,

Hayden Putt

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

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: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50315982001	**MW-2R**	Water	05/08/22 08:25	05/09/22 10:55
50315982002	**MW-3**	Water	05/08/22 10:00	05/09/22 10:55
50315982003	**MW-4C**	Water	05/08/22 15:30	05/09/22 10:55
50315982004	**DUP 1**	Water	05/08/22 10:00	05/09/22 10:55
50315982005	**Field Blank 1**	Water	05/08/22 10:45	05/09/22 10:55

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50315982001	**MW-2R**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	SLB	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315982002	**MW-3**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	SLB	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315982003	**MW-4C**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	SLB	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315982004	**DUP 1**	EPA 9056	RMR	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	SLB	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315982005	**Field Blank 1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		SM 2320B	SLB	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	SWJ	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315982001	**MW-2R**					
EPA 9056	Chloride	58.4	mg/L	25.0	05/17/22 15:42	
EPA 9056	Sulfate	1610	mg/L	25.0	05/17/22 15:42	
EPA 6010	Iron	17200	ug/L	100	05/19/22 12:01	
EPA 6010	Magnesium	49400	ug/L	1000	05/19/22 12:01	
EPA 6010	Manganese	5510	ug/L	10.0	05/19/22 12:01	
EPA 6010	Potassium	115000	ug/L	2000	05/19/22 14:10	
EPA 6010	Silica	16100	ug/L	450	05/19/22 12:01	N2
EPA 6010	Sodium	116000	ug/L	1000	05/19/22 12:01	
EPA 6010	Manganese, Dissolved	5740	ug/L	10.0	05/20/22 02:17	
EPA 6010	Molybdenum, Dissolved	10.4	ug/L	10.0	05/20/22 02:17	
SM 2320B	Alkalinity, Total as CaCO3	139	mg/L	2.0	05/17/22 10:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	139	mg/L	2.0	05/17/22 10:56	
SM 2540C	Total Dissolved Solids	2410	mg/L	40.0	05/13/22 12:34	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/15/22 09:01	H3
EPA 365.1	Phosphate as P04	1.8	mg/L	0.15	05/14/22 08:57	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	05/14/22 21:07	
SM 5310C	Dissolved Organic Carbon	1.7	mg/L	1.0	05/18/22 18:32	
50315982002	**MW-3**					
EPA 9056	Chloride	68.4	mg/L	2.5	05/17/22 17:07	
EPA 9056	Sulfate	1540	mg/L	25.0	05/17/22 17:24	
EPA 6010	Magnesium	11800	ug/L	1000	05/19/22 12:03	
EPA 6010	Manganese	4030	ug/L	10.0	05/19/22 12:03	
EPA 6010	Potassium	187000	ug/L	3000	05/19/22 14:12	
EPA 6010	Silica	12000	ug/L	450	05/19/22 12:03	N2
EPA 6010	Sodium	95500	ug/L	1000	05/19/22 12:03	
EPA 6010	Manganese, Dissolved	3980	ug/L	10.0	05/20/22 02:19	
EPA 6010	Molybdenum, Dissolved	300	ug/L	10.0	05/20/22 02:19	
SM 2320B	Alkalinity, Total as CaCO3	102	mg/L	2.0	05/17/22 10:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	102	mg/L	2.0	05/17/22 10:56	
SM 2540C	Total Dissolved Solids	2210	mg/L	40.0	05/13/22 12:34	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/15/22 09:03	H3
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/14/22 21:59	
SM 5310C	Dissolved Organic Carbon	4.5	mg/L	1.0	05/18/22 18:52	
50315982003	**MW-4C**					
EPA 9056	Chloride	40.3	mg/L	2.5	05/17/22 17:58	
EPA 9056	Sulfate	1440	mg/L	25.0	05/17/22 18:15	
EPA 6010	Magnesium	59300	ug/L	1000	05/19/22 12:14	
EPA 6010	Manganese	970	ug/L	10.0	05/19/22 12:14	
EPA 6010	Potassium	41700	ug/L	1000	05/19/22 12:14	
EPA 6010	Silica	19600	ug/L	450	05/19/22 12:14	N2
EPA 6010	Sodium	79400	ug/L	1000	05/19/22 12:14	
EPA 6010	Manganese, Dissolved	1980	ug/L	10.0	05/20/22 02:29	
SM 2320B	Alkalinity, Total as CaCO3	376	mg/L	2.0	05/17/22 10:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	376	mg/L	2.0	05/17/22 10:56	
SM 2540C	Total Dissolved Solids	2340	mg/L	40.0	05/13/22 12:35	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/15/22 09:05	H3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315982003	**MW-4C**					
SM 5310C	Total Organic Carbon	2.0	mg/L	1.0	05/14/22 21:18	
SM 5310C	Dissolved Organic Carbon	2.6	mg/L	1.0	05/18/22 20:37	
50315982004	**DUP 1**					
EPA 9056	Chloride	67.4	mg/L	2.5	05/17/22 18:49	
EPA 9056	Sulfate	1800	mg/L	25.0	05/17/22 19:06	
EPA 6010	Magnesium	12500	ug/L	1000	05/19/22 12:16	
EPA 6010	Manganese	3530	ug/L	10.0	05/19/22 12:16	
EPA 6010	Potassium	170000	ug/L	3000	05/20/22 13:27	
EPA 6010	Silica	12400	ug/L	450	05/19/22 12:16	N2
EPA 6010	Sodium	103000	ug/L	1000	05/19/22 12:16	
EPA 6010	Manganese, Dissolved	3850	ug/L	10.0	05/20/22 02:31	
EPA 6010	Molybdenum, Dissolved	296	ug/L	10.0	05/20/22 02:31	
SM 2320B	Alkalinity, Total as CaCO3	104	mg/L	2.0	05/17/22 10:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	2.0	05/17/22 10:56	
SM 2540C	Total Dissolved Solids	2390	mg/L	40.0	05/13/22 12:35	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/15/22 09:33	H3
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	05/14/22 21:28	
SM 5310C	Dissolved Organic Carbon	2.6	mg/L	1.0	05/18/22 20:57	
50315982005	**Field Blank 1**					
SM 2320B	Alkalinity, Total as CaCO3	3.3	mg/L	2.0	05/17/22 10:56	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	3.3	mg/L	2.0	05/17/22 10:56	
SM 4500-H+B	pH at 25 Degrees C	6.0	Std. Units	0.10	05/15/22 09:38	H3

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: MW-2R **Lab ID: 50315982001** Collected: 05/08/22 08:25 Received: 05/09/22 10:55 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	**58.4**	mg/L	25.0	100		05/17/22 15:42	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/17/22 15:25	16984-48-8	
Sulfate	**1610**	mg/L	25.0	100		05/17/22 15:42	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/17/22 14:31	05/19/22 12:01	7429-90-5	
Iron	**17200**	ug/L	100	1	05/17/22 14:31	05/19/22 12:01	7439-89-6	
Magnesium	**49400**	ug/L	1000	1	05/17/22 14:31	05/19/22 12:01	7439-95-4	
Manganese	**5510**	ug/L	10.0	1	05/17/22 14:31	05/19/22 12:01	7439-96-5	
Potassium	**115000**	ug/L	2000	2	05/17/22 14:31	05/19/22 14:10	7440-09-7	
Silica	**16100**	ug/L	450	1	05/17/22 14:31	05/19/22 12:01	7631-86-9	N2
Sodium	**116000**	ug/L	1000	1	05/17/22 14:31	05/19/22 12:01	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**5740**	ug/L	10.0	1	05/17/22 15:14	05/20/22 02:17	7439-96-5	
Molybdenum, Dissolved	**10.4**	ug/L	10.0	1	05/17/22 15:14	05/20/22 02:17	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**139**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Bicarbonate (CaCO3)	**139**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/17/22 10:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2410**	mg/L	40.0	1		05/13/22 12:34		
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		05/15/22 09:01		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/22 09:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 13:45	15438-31-0	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		05/09/22 20:47	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/09/22 20:47	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: MW-2R **Lab ID: 50315982001** Collected: 05/08/22 08:25 Received: 05/09/22 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.8**	mg/L	0.15	1	05/11/22 10:00	05/14/22 08:57		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.3**	mg/L	1.0	1		05/14/22 21:07	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		05/18/22 18:32		

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: MW-3 **Lab ID: 50315982002** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 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	**68.4**	mg/L	2.5	10		05/17/22 17:07	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/17/22 16:50	16984-48-8	
Sulfate	**1540**	mg/L	25.0	100		05/17/22 17:24	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/17/22 14:31	05/19/22 12:03	7429-90-5	
Iron	ND	ug/L	100	1	05/17/22 14:31	05/19/22 12:03	7439-89-6	
Magnesium	**11800**	ug/L	1000	1	05/17/22 14:31	05/19/22 12:03	7439-95-4	
Manganese	**4030**	ug/L	10.0	1	05/17/22 14:31	05/19/22 12:03	7439-96-5	
Potassium	**187000**	ug/L	3000	3	05/17/22 14:31	05/19/22 14:12	7440-09-7	
Silica	**12000**	ug/L	450	1	05/17/22 14:31	05/19/22 12:03	7631-86-9	N2
Sodium	**95500**	ug/L	1000	1	05/17/22 14:31	05/19/22 12:03	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**3980**	ug/L	10.0	1	05/17/22 15:14	05/20/22 02:19	7439-96-5	
Molybdenum, Dissolved	**300**	ug/L	10.0	1	05/17/22 15:14	05/20/22 02:19	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**102**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Bicarbonate (CaCO3)	**102**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/17/22 10:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2210**	mg/L	40.0	1		05/13/22 12:34		
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		05/15/22 09:03		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/22 09:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 13:45	15438-31-0	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		05/09/22 20:19	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/09/22 20:19	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: MW-3 **Lab ID: 50315982002** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/11/22 10:00	05/14/22 08:58		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		05/14/22 21:59	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**4.5**	mg/L	1.0	1		05/18/22 18:52		

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: MW-4C **Lab ID: 50315982003** Collected: 05/08/22 15:30 Received: 05/09/22 10:55 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	**40.3**	mg/L	2.5	10		05/17/22 17:58	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/17/22 17:41	16984-48-8	
Sulfate	**1440**	mg/L	25.0	100		05/17/22 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	05/17/22 14:31	05/19/22 12:14	7429-90-5	
Iron	ND	ug/L	100	1	05/17/22 14:31	05/19/22 12:14	7439-89-6	
Magnesium	**59300**	ug/L	1000	1	05/17/22 14:31	05/19/22 12:14	7439-95-4	
Manganese	**970**	ug/L	10.0	1	05/17/22 14:31	05/19/22 12:14	7439-96-5	
Potassium	**41700**	ug/L	1000	1	05/17/22 14:31	05/19/22 12:14	7440-09-7	
Silica	**19600**	ug/L	450	1	05/17/22 14:31	05/19/22 12:14	7631-86-9	N2
Sodium	**79400**	ug/L	1000	1	05/17/22 14:31	05/19/22 12:14	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1980**	ug/L	10.0	1	05/17/22 15:14	05/20/22 02:29	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/17/22 15:14	05/20/22 02:29	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**376**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Bicarbonate (CaCO3)	**376**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/17/22 10:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2340**	mg/L	40.0	1		05/13/22 12:35		
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		05/15/22 09:05		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/22 09:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 13:46	15438-31-0	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		05/09/22 20:41	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/09/22 20:41	14797-65-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: MW-4C **Lab ID: 50315982003** Collected: 05/08/22 15:30 Received: 05/09/22 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/11/22 10:00	05/14/22 09:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.0**	mg/L	1.0	1		05/14/22 21:18	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.6**	mg/L	1.0	1		05/18/22 20:37		

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: DUP 1 **Lab ID: 50315982004** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 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	**67.4**	mg/L	2.5	10		05/17/22 18:49	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/17/22 18:32	16984-48-8	
Sulfate	**1800**	mg/L	25.0	100		05/17/22 19:06	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/17/22 14:31	05/19/22 12:16	7429-90-5	
Iron	ND	ug/L	100	1	05/17/22 14:31	05/19/22 12:16	7439-89-6	
Magnesium	**12500**	ug/L	1000	1	05/17/22 14:31	05/19/22 12:16	7439-95-4	
Manganese	**3530**	ug/L	10.0	1	05/17/22 14:31	05/19/22 12:16	7439-96-5	
Potassium	**170000**	ug/L	3000	3	05/17/22 14:31	05/20/22 13:27	7440-09-7	
Silica	**12400**	ug/L	450	1	05/17/22 14:31	05/19/22 12:16	7631-86-9	N2
Sodium	**103000**	ug/L	1000	1	05/17/22 14:31	05/19/22 12:16	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**3850**	ug/L	10.0	1	05/17/22 15:14	05/20/22 02:31	7439-96-5	
Molybdenum, Dissolved	**296**	ug/L	10.0	1	05/17/22 15:14	05/20/22 02:31	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**104**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Bicarbonate (CaCO3)	**104**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/17/22 10:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2390**	mg/L	40.0	1		05/13/22 12:35		
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		05/15/22 09:33		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/22 09:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 13:46	15438-31-0	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		05/09/22 20:24	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/09/22 20:24	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: DUP 1 **Lab ID: 50315982004** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/11/22 10:00	05/14/22 09:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.3**	mg/L	1.0	1		05/14/22 21:28	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.6**	mg/L	1.0	1		05/18/22 20:57		

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: Field Blank 1 **Lab ID: 50315982005** Collected: 05/08/22 10:45 Received: 05/09/22 10:55 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		05/17/22 19:57	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/17/22 19:57	16984-48-8	
Sulfate	ND	mg/L	0.25	1		05/17/22 19:57	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/17/22 14:31	05/19/22 12:18	7429-90-5	
Iron	ND	ug/L	100	1	05/17/22 14:31	05/19/22 12:18	7439-89-6	
Magnesium	ND	ug/L	1000	1	05/17/22 14:31	05/19/22 12:18	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/17/22 14:31	05/19/22 12:18	7439-96-5	
Potassium	ND	ug/L	1000	1	05/17/22 14:31	05/19/22 12:18	7440-09-7	
Silica	ND	ug/L	450	1	05/17/22 14:31	05/19/22 12:18	7631-86-9	N2
Sodium	ND	ug/L	1000	1	05/17/22 14:31	05/19/22 12:18	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**3.3**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Bicarbonate (CaCO3)	**3.3**	mg/L	2.0	1		05/17/22 10:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/17/22 10:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		05/13/22 12:35		PL
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		05/15/22 09:38		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/13/22 09:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 13:46	15438-31-0	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		05/09/22 20:37	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/09/22 20:37	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	05/11/22 11:30	05/14/22 09:03		

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ANALYTICAL RESULTS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Sample: Field Blank 1 **Lab ID: 50315982005** Collected: 05/08/22 10:45 Received: 05/09/22 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/14/22 22:55	7440-44-0	

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676177
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

METHOD BLANK: 3113539 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/16/22 13:41	
Fluoride	mg/L	ND	0.10	05/16/22 13:41	
Sulfate	mg/L	ND	0.25	05/16/22 13:41	

LABORATORY CONTROL SAMPLE: 3113540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	91	80-120	
Fluoride	mg/L	0.5	0.49	98	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3113541 3113542

Parameter	Units	50315953004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	180	125	125	273	273	75	74	80-120	0	15	M0
Fluoride	mg/L	0.029J	0.5	0.5	0.46	0.46	87	87	80-120	0	15	
Sulfate	mg/L	130	25	25	156	156	105	104	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3113543 3113544

Parameter	Units	50315982002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	68.4	12.5	12.5	82.0	82.1	108	109	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.39	0.40	73	75	80-120	3	15	M0
Sulfate	mg/L	1540	250	250	1730	1710	78	67	80-120	1	15	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3113545 3113546

Parameter	Units	50315984002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	52.3	125	125	189	188	109	109	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.41	0.42	76	78	80-120	3	15	M0
Sulfate	mg/L	1650	250	250	1760	1750	43	38	80-120	1	15	M0

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676300
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

METHOD BLANK: 3114320 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/19/22 11:09	
Iron	ug/L	ND	100	05/19/22 11:09	
Magnesium	ug/L	ND	1000	05/19/22 11:09	
Manganese	ug/L	ND	10.0	05/19/22 11:09	
Potassium	ug/L	ND	1000	05/19/22 11:09	
Silica	ug/L	ND	450	05/19/22 11:09	N2
Sodium	ug/L	ND	1000	05/19/22 11:09	

LABORATORY CONTROL SAMPLE: 3114321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10600	106	80-120	
Iron	ug/L	10000	10300	103	80-120	
Magnesium	ug/L	10000	10400	104	80-120	
Manganese	ug/L	1000	1040	104	80-120	
Potassium	ug/L	10000	10600	106	80-120	
Silica	ug/L	10700	11100	104	80-120	N2
Sodium	ug/L	10000	10600	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114275 3114276

Parameter	Units	50315982002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10400	10400	104	104	75-125	0	20	
Iron	ug/L	ND	10000	10000	9770	9760	98	98	75-125	0	20	
Magnesium	ug/L	11800	10000	10000	21600	21600	98	98	75-125	0	20	
Manganese	ug/L	4030	1000	1000	5020	5010	99	98	75-125	0	20	
Potassium	ug/L	187000	10000	10000	210000	193000	226	63	75-125	8	20	P6
Silica	ug/L	12000	10700	10700	23200	23200	105	104	75-125	0	20	N2
Sodium	ug/L	95500	10000	10000	108000	108000	126	124	75-125	0	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114322 3114323

Parameter	Units	50315986002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10400	10500	103	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114322 3114323

Parameter	Units	50315986002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	10000	10000	9720	9690	96	96	75-125	0	20	
Magnesium	ug/L	11600	10000	10000	21400	21300	98	97	75-125	1	20	
Manganese	ug/L	4250	1000	1000	5300	5280	105	103	75-125	0	20	
Potassium	ug/L	158000	10000	10000	183000	192000	249	344	75-125	5	20	P6
Silica	ug/L	11700	10700	10700	22900	23100	104	106	75-125	1	20	N2
Sodium	ug/L	90100	10000	10000	103000	104000	125	139	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676297
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004

METHOD BLANK: 3114309 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/20/22 01:53	
Molybdenum, Dissolved	ug/L	ND	10.0	05/20/22 01:53	

LABORATORY CONTROL SAMPLE: 3114310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	1020	102	80-120	
Molybdenum, Dissolved	ug/L	1000	1060	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114311 3114312

Parameter	Units	50315982002 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	3980	1000	1000	4660	4820	68	84	75-125	3	20	M0
Molybdenum, Dissolved	ug/L	300	1000	1000	1260	1310	96	101	75-125	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114313 3114314

Parameter	Units	50315984002 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	3260	1000	1000	4170	4120	91	86	75-125	1	20	
Molybdenum, Dissolved	ug/L	346	1000	1000	1380	1360	103	102	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676481 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

METHOD BLANK: 3114819 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/17/22 10:56	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/17/22 10:56	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/17/22 10:56	

LABORATORY CONTROL SAMPLE: 3114820

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.7	101	90-110	

SAMPLE DUPLICATE: 3114821

Parameter	Units	50315982002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	102	105	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	102	105	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3114822

Parameter	Units	50315984002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	98.6	98.9	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	98.6	98.9	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676064
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

METHOD BLANK: 3112905 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/13/22 12:32	

LABORATORY CONTROL SAMPLE: 3112906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	294	98	80-120	

SAMPLE DUPLICATE: 3112907

Parameter	Units	50315982002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2210	2340	5	10	

SAMPLE DUPLICATE: 3112908

Parameter	Units	50315984002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2370	2270	4	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676312
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982002, 50315982003

SAMPLE DUPLICATE: 3114350

Parameter	Units	50315984002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	2	H3

SAMPLE DUPLICATE: 3114351

Parameter	Units	50315985002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	2	H3

SAMPLE DUPLICATE: 3114352

Parameter	Units	50315953004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	1	2	H3

SAMPLE DUPLICATE: 3114353

Parameter	Units	50315982002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676313
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982004, 50315982005

SAMPLE DUPLICATE: 3114354

Parameter	Units	50315986002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	1	2	H3

SAMPLE DUPLICATE: 3114355

Parameter	Units	50316036002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676048 | 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: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

METHOD BLANK: 3112808 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/13/22 09:09	

LABORATORY CONTROL SAMPLE: 3112809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.54	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112810 3112811

Parameter	Units	50315982002 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	0.19	0.20	37	39	90-110	4	20	M3

MATRIX SPIKE SAMPLE: 3112812

Parameter	Units	50315982003 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: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 675313 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

METHOD BLANK: 3109497 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/10/22 13:44	H3,N2

LABORATORY CONTROL SAMPLE: 3109498

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.98	98	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109499 3109500

Parameter	Units	50315984002 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	0.95	0.97	93	96	90-110	2	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109963 3109964

Parameter	Units	50315982002 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	1.0	1.1	101	103	90-110	2	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 675278 | 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: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

METHOD BLANK: 3109415 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004, 50315982005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/09/22 20:45	
Nitrogen, Nitrite	mg/L	ND	0.10	05/09/22 20:45	

LABORATORY CONTROL SAMPLE: 3109416

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	100	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109417 3109418

Parameter	Units	50315982002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.0	0.99	99	98	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	100	100	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109419 3109420

Parameter	Units	50315984002 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	0.99	0.99	98	98	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	1.0	99	100	90-110	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 675568
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004

METHOD BLANK: 3110560 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/14/22 08:51	

LABORATORY CONTROL SAMPLE: 3110561

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110562 3110563

Parameter	Units	50315982002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.6	1.7				9		

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 675570
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982005

METHOD BLANK: 3110568 Matrix: Water
Associated Lab Samples: 50315982005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/14/22 09:02	

LABORATORY CONTROL SAMPLE: 3110569

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110570 3110571

Parameter	Units	50315984002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.6	1.6				2		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110572 3110573

Parameter	Units	50316023006 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	1.6			3.2	3.0				8		

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676192
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982003, 50315982004

METHOD BLANK: 3113670 Matrix: Water
Associated Lab Samples: 50315982001, 50315982003, 50315982004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/14/22 15:48	

LABORATORY CONTROL SAMPLE: 3113671

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: 3113672 3113673

Parameter	Units	50315836008 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	10.1	9.7	97	93	80-120	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3113674 3113675

Parameter	Units	50315883004 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	11.2	20	20	30.3	28.8	95	88	80-120	5	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676284
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982002, 50315982005

METHOD BLANK: 3114224 Matrix: Water
Associated Lab Samples: 50315982002, 50315982005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/14/22 21:37	

LABORATORY CONTROL SAMPLE: 3114225

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114226 3114227

Parameter	Units	50315982002 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	1.4	10	10	11.4	11.4	100	100	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114228 3114229

Parameter	Units	50315984002 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	1.4	10	10	11.2	11.5	99	101	80-120	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

QC Batch: 676936 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004

METHOD BLANK: 3116637 Matrix: Water
Associated Lab Samples: 50315982001, 50315982002, 50315982003, 50315982004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/18/22 16:17	

LABORATORY CONTROL SAMPLE: 3116638

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3116639 3116640

Parameter	Units	50315982002 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	4.5	10	10	14.3	14.1	99	96	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3116641 3116642

Parameter	Units	50315984002 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	11.1	10.7	95	92	80-120	3	20	

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QUALIFIERS

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315982001	**MW-2R**	EPA 9056	676177		
50315982002	**MW-3**	EPA 9056	676177		
50315982003	**MW-4C**	EPA 9056	676177		
50315982004	**DUP 1**	EPA 9056	676177		
50315982005	**Field Blank 1**	EPA 9056	676177		
50315982001	**MW-2R**	EPA 3010	676300	EPA 6010	677123
50315982002	**MW-3**	EPA 3010	676300	EPA 6010	677123
50315982003	**MW-4C**	EPA 3010	676300	EPA 6010	677123
50315982004	**DUP 1**	EPA 3010	676300	EPA 6010	677123
50315982005	**Field Blank 1**	EPA 3010	676300	EPA 6010	677123
50315982001	**MW-2R**	EPA 3010	676297	EPA 6010	677275
50315982002	**MW-3**	EPA 3010	676297	EPA 6010	677275
50315982003	**MW-4C**	EPA 3010	676297	EPA 6010	677275
50315982004	**DUP 1**	EPA 3010	676297	EPA 6010	677275
50315982001	**MW-2R**	SM 2320B	676481		
50315982002	**MW-3**	SM 2320B	676481		
50315982003	**MW-4C**	SM 2320B	676481		
50315982004	**DUP 1**	SM 2320B	676481		
50315982005	**Field Blank 1**	SM 2320B	676481		
50315982001	**MW-2R**	SM 2540C	676064		
50315982002	**MW-3**	SM 2540C	676064		
50315982003	**MW-4C**	SM 2540C	676064		
50315982004	**DUP 1**	SM 2540C	676064		
50315982005	**Field Blank 1**	SM 2540C	676064		
50315982001	**MW-2R**	SM 4500-H+B	676312		
50315982002	**MW-3**	SM 4500-H+B	676312		
50315982003	**MW-4C**	SM 4500-H+B	676312		
50315982004	**DUP 1**	SM 4500-H+B	676313		
50315982005	**Field Blank 1**	SM 4500-H+B	676313		
50315982001	**MW-2R**	SM 4500-S2-D	676048		
50315982002	**MW-3**	SM 4500-S2-D	676048		
50315982003	**MW-4C**	SM 4500-S2-D	676048		
50315982004	**DUP 1**	SM 4500-S2-D	676048		
50315982005	**Field Blank 1**	SM 4500-S2-D	676048		
50315982001	**MW-2R**	HACH 8146	675313		
50315982002	**MW-3**	HACH 8146	675313		
50315982003	**MW-4C**	HACH 8146	675313		
50315982004	**DUP 1**	HACH 8146	675313		
50315982005	**Field Blank 1**	HACH 8146	675313		
50315982001	**MW-2R**	EPA 353.2	675278		
50315982002	**MW-3**	EPA 353.2	675278		
50315982003	**MW-4C**	EPA 353.2	675278		
50315982004	**DUP 1**	EPA 353.2	675278		
50315982005	**Field Blank 1**	EPA 353.2	675278		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R6 Geochem Only
Pace Project No.: 50315982

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315982001	**MW-2R**	EPA 365.1	675568	EPA 365.1	676273
50315982002	**MW-3**	EPA 365.1	675568	EPA 365.1	676273
50315982003	**MW-4C**	EPA 365.1	675568	EPA 365.1	676273
50315982004	**DUP 1**	EPA 365.1	675568	EPA 365.1	676273
50315982005	**Field Blank 1**	EPA 365.1	675570	EPA 365.1	676274
50315982001	**MW-2R**	SM 5310C	676192		
50315982002	**MW-3**	SM 5310C	676284		
50315982003	**MW-4C**	SM 5310C	676192		
50315982004	**DUP 1**	SM 5310C	676192		
50315982005	**Field Blank 1**	SM 5310C	676284		
50315982001	**MW-2R**	SM 5310C	676936		
50315982002	**MW-3**	SM 5310C	676936		
50315982003	**MW-4C**	SM 5310C	676936		
50315982004	**DUP 1**	SM 5310C	676936		

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax	Project Name:	Petersburg Profile 2 Report 6	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/14

Regulatory Agency: | State / Location: IN

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate				Residual Chlorine (Y/N)	50315982
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																					Y		Y						
1	MW-2R	WT		5/8	0825				9	3	3	2		1				X	X	X	X	X	X	X	X	X				001
2	MW-3	WT		5/8	1000				9	3	3	2		1				X	X	X	X	X	X	X	X	X				002
3	MW-4C	WT		5.8	1530				9	3	3	2		1				X	X	X	X	X	X	X	X	X				003
4	DUP 1	WT		5.8	1000				9	3	3	2		1				X	X	X	X	X	X	X	X	X				HP ~~004~~ 004
5	MSD	WT		5.8	1000				9	3	3	2		1				X	X	X	X	X	X	X	X	X				HP ~~003~~ 004 HP
6	MS	WT		5.8	1000				9	3	3	2		1				X	X	X	X	X	X	X	X	X				~~004~~ HP
7	Field Blank 1	WT		5.8	1045				7	3	2	1		1				X	X	X		X	X		X	X				005
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Mn, Mg, Na, K, SiO2)		5.9.22	825		3-9	8.25				
6020 (Be, Co, As, Se, Tl, Sb) 7470 Hg	Jay Williams	3-9	10[illegible]	Hayden Putt	5/9/22	1055	see sour	Y	N	Y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Dorner

SIGNATURE of SAMPLER: [signature] DATE Signed: 5-9-22

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

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: HRP 5/9/22 1306

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(s):** see comments | | | **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO_3/NO_2	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1400		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/A		Trip Blank Custody Seals?:		✓	

COMMENTS:

Coolers Temps: 1. 1.0/0.8 5. 1.9/1.7
2. 1.5/1.3 6. 2.1/1.9
3. 0.8/0.6 7. 2.0/1.8
4. 0.7/0.5 8. 1.6/1.4

COC PAGE 1 of 1

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			HP2	1	2	1	1	1		1					WT	✓	✓	
2												3	3				3	6	3	3	3		3					↓	↓	↓	
3												1	1				1	2	1	1	1		1								
4												1	1				1	2	1	1	1		1								
5																															
6																															
7												1					1	2	1		1		1					WT	✓	✓	
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
GN	General	AG3C	250mL NaOH amber glass

Plastic / Misc.

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

July 13, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 09, 2022. 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. Robert Miller, Haley & Aldrich

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

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 #: 460198
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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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50315986001	**MW-2R**	Water	05/08/22 08:25	05/09/22 10:55
50315986002	**MW-3**	Water	05/08/22 10:00	05/09/22 10:55
50315986003	**MW-3 RAD MS**	Water	05/08/22 10:00	05/09/22 10:55
50315986004	**MW-3 RAD MSD**	Water	05/08/22 10:00	05/09/22 10:55
50315986005	**MW-4C**	Water	05/08/22 15:30	05/09/22 10:55
50315986006	**DUP 1**	Water	05/08/22 10:00	05/09/22 10:55
50315986007	**Field Blank 1**	Water	05/08/22 11:00	05/09/22 10:55

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50315986001	**MW-2R**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
50315986002	**MW-3**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
50315986003	**MW-3 RAD MS**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50315986004	**MW-3 RAD MSD**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50315986005	**MW-4C**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
50315986006	**DUP 1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
50315986007	**Field Blank 1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I

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

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7726 Moller Road
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SUMMARY OF DETECTION

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315986001	**MW-2R**					
EPA 9056	Chloride	72.2	mg/L	2.5	05/23/22 10:50	
EPA 9056	Sulfate	1610	mg/L	25.0	05/20/22 18:18	
EPA 6010	Boron	1790	ug/L	100	05/19/22 11:11	
EPA 6010	Calcium	506000	ug/L	3000	05/19/22 13:54	
EPA 6010	Lithium	897	ug/L	20.0	05/19/22 11:11	
EPA 6020	Arsenic	16.3	ug/L	1.0	05/14/22 22:24	
EPA 6020	Barium	45.2	ug/L	1.0	05/14/22 22:24	
EPA 6020	Cobalt	3.3	ug/L	1.0	05/14/22 22:24	
EPA 6020	Molybdenum	10.2	ug/L	1.0	05/14/22 22:24	
EPA 903.1	Radium-226	0.455 ± 0.559 (0.911) C:NA T:90%	pCi/L		06/22/22 11:44	
EPA 904.0	Radium-228	0.768 ± 0.357 (0.562) C:76% T:85%	pCi/L		06/20/22 15:28	
Total Radium Calculation	Total Radium	1.22 ± 0.916 (1.47)	pCi/L		06/24/22 17:45	
SM 2540C	Total Dissolved Solids	2420	mg/L	40.0	05/13/22 15:46	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/15/22 09:40	H3
50315986002	**MW-3**					
EPA 9056	Chloride	60.8	mg/L	2.5	05/23/22 11:48	
EPA 9056	Sulfate	1530	mg/L	25.0	05/23/22 12:04	
EPA 6010	Boron	1140	ug/L	100	05/19/22 11:13	
EPA 6010	Calcium	514000	ug/L	3000	05/19/22 13:56	
EPA 6010	Lithium	1960	ug/L	20.0	05/19/22 11:13	
EPA 6020	Arsenic	14.8	ug/L	1.0	05/14/22 22:39	
EPA 6020	Barium	55.0	ug/L	1.0	05/14/22 22:39	
EPA 6020	Cobalt	1.8	ug/L	1.0	05/14/22 22:39	
EPA 6020	Molybdenum	273	ug/L	2.0	05/16/22 15:16	
EPA 903.1	Radium-226	0.563 ± 0.388 (0.414) C:NA T:96%	pCi/L		06/22/22 11:44	
EPA 904.0	Radium-228	0.695 ± 0.438 (0.826) C:74% T:85%	pCi/L		06/20/22 15:28	
Total Radium Calculation	Total Radium	1.26 ± 0.826 (1.24)	pCi/L		06/24/22 17:45	
SM 2540C	Total Dissolved Solids	2270	mg/L	40.0	05/13/22 15:46	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/15/22 09:42	H3

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315986003	**MW-3 RAD MS**					
EPA 903.1	Radium-226	77.56 %REC ± NA (NA) C:NA T:NA	pCi/L		06/22/22 11:44	
EPA 904.0	Radium-228	103.51 %REC ± NA (NA) C:NA T:NA	pCi/L		06/20/22 15:28	
50315986004	**MW-3 RAD MSD**					
EPA 903.1	Radium-226	76.16 %REC 1.83 RPD ± NA (NA) C:NA T:NA	pCi/L		06/22/22 11:44	
EPA 904.0	Radium-228	83.19 %REC 21.77RPD ± NA (NA) C:NA T:NA	pCi/L		06/20/22 15:28	
50315986005	**MW-4C**					
EPA 9056	Chloride	42.8	mg/L	2.5	05/21/22 03:45	
EPA 9056	Sulfate	1450	mg/L	25.0	05/21/22 04:02	
EPA 6010	Boron	3630	ug/L	100	05/19/22 11:31	
EPA 6010	Calcium	583000	ug/L	5000	05/19/22 14:06	
EPA 6010	Lithium	442	ug/L	20.0	05/19/22 11:31	
EPA 6020	Barium	26.6	ug/L	1.0	05/14/22 22:53	
EPA 6020	Cadmium	0.88	ug/L	0.20	05/14/22 22:53	
EPA 6020	Molybdenum	7.8	ug/L	1.0	05/14/22 22:53	
EPA 903.1	Radium-226	0.183 ± 0.398 (0.734) C:NA T:109%	pCi/L		06/22/22 11:44	
EPA 904.0	Radium-228	0.972 ± 0.446 (0.737) C:78% T:82%	pCi/L		06/20/22 15:28	
Total Radium Calculation	Total Radium	1.16 ± 0.844 (1.47)	pCi/L		06/24/22 17:45	
SM 2540C	Total Dissolved Solids	2310	mg/L	40.0	05/13/22 15:47	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/15/22 09:44	H3
50315986006	**DUP 1**					
EPA 9056	Chloride	58.6	mg/L	2.5	05/21/22 04:36	
EPA 9056	Sulfate	1670	mg/L	25.0	05/21/22 04:53	
EPA 6010	Boron	1140	ug/L	100	05/19/22 11:33	
EPA 6010	Calcium	537000	ug/L	5000	05/19/22 14:08	
EPA 6010	Lithium	2010	ug/L	20.0	05/19/22 11:33	
EPA 6020	Arsenic	14.2	ug/L	1.0	05/14/22 23:07	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315986006	**DUP 1**					
EPA 6020	Barium	52.7	ug/L	1.0	05/14/22 23:07	
EPA 6020	Cobalt	1.8	ug/L	1.0	05/14/22 23:07	
EPA 6020	Molybdenum	258	ug/L	2.0	05/16/22 15:35	
EPA 903.1	Radium-226	0.556 ± 0.613 (0.980) C:NA T:100%	pCi/L		06/22/22 11:44	
EPA 904.0	Radium-228	0.548 ± 0.446 (0.897) C:71% T:88%	pCi/L		06/20/22 15:26	
Total Radium Calculation	Total Radium	1.10 ± 1.06 (1.88)	pCi/L		06/24/22 17:45	
SM 2540C	Total Dissolved Solids	2410	mg/L	40.0	05/13/22 15:47	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/15/22 09:46	H3
50315986007	**Field Blank 1**					
EPA 903.1	Radium-226	0.139 ± 0.512 (0.983) C:NA T:94%	pCi/L		06/22/22 11:44	
EPA 904.0	Radium-228	0.450 ± 0.368 (0.737) C:78% T:92%	pCi/L		06/20/22 15:26	
Total Radium Calculation	Total Radium	0.589 ± 0.880 (1.72)	pCi/L		06/24/22 17:45	
SM 4500-H+B	pH at 25 Degrees C	5.9	Std. Units	0.10	05/15/22 09:52	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: MW-2R **Lab ID: 50315986001** Collected: 05/08/22 08:25 Received: 05/09/22 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis							
Chloride	**72.2**	mg/L	2.5	10		05/23/22 10:50	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/20/22 18:34	16984-48-8	
Sulfate	**1610**	mg/L	25.0	100		05/20/22 18:18	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**1790**	ug/L	100	1	05/17/22 14:31	05/19/22 11:11	7440-42-8	
Calcium	**506000**	ug/L	3000	3	05/17/22 14:31	05/19/22 13:54	7440-70-2	
Lithium	**897**	ug/L	20.0	1	05/17/22 14:31	05/19/22 11:11	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:24	7440-36-0	
Arsenic	**16.3**	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:24	7440-38-2	
Barium	**45.2**	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:24	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/13/22 09:30	05/14/22 22:24	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/13/22 09:30	05/14/22 22:24	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/13/22 09:30	05/14/22 22:24	7440-47-3	
Cobalt	**3.3**	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:24	7440-48-4	
Lead	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:24	7439-92-1	
Molybdenum	**10.2**	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:24	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:24	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:24	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/12/22 12:13	05/12/22 19:24	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2420**	mg/L	40.0	1		05/13/22 15:46		
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		05/15/22 09:40		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: MW-3 **Lab ID: 50315986002** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 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	**60.8**	mg/L	2.5	10		05/23/22 11:48	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/23/22 11:31	16984-48-8	
Sulfate	**1530**	mg/L	25.0	100		05/23/22 12:04	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**1140**	ug/L	100	1	05/17/22 14:31	05/19/22 11:13	7440-42-8	
Calcium	**514000**	ug/L	3000	3	05/17/22 14:31	05/19/22 13:56	7440-70-2	
Lithium	**1960**	ug/L	20.0	1	05/17/22 14:31	05/19/22 11:13	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:39	7440-36-0	
Arsenic	**14.8**	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:39	7440-38-2	
Barium	**55.0**	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:39	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/13/22 09:30	05/14/22 22:39	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/13/22 09:30	05/14/22 22:39	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/13/22 09:30	05/14/22 22:39	7440-47-3	
Cobalt	**1.8**	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:39	7440-48-4	
Lead	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:39	7439-92-1	
Molybdenum	**273**	ug/L	2.0	2	05/13/22 09:30	05/16/22 15:16	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:39	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:39	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/12/22 12:13	05/12/22 19:26	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2270**	mg/L	40.0	1		05/13/22 15:46		
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		05/15/22 09:42		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: MW-4C **Lab ID: 50315986005** Collected: 05/08/22 15:30 Received: 05/09/22 10:55 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		05/21/22 03:45	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/21/22 03:28	16984-48-8	
Sulfate	**1450**	mg/L	25.0	100		05/21/22 04:02	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**3630**	ug/L	100	1	05/17/22 14:31	05/19/22 11:31	7440-42-8	
Calcium	**583000**	ug/L	5000	5	05/17/22 14:31	05/19/22 14:06	7440-70-2	
Lithium	**442**	ug/L	20.0	1	05/17/22 14:31	05/19/22 11:31	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:53	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:53	7440-38-2	
Barium	**26.6**	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:53	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/13/22 09:30	05/14/22 22:53	7440-41-7	
Cadmium	**0.88**	ug/L	0.20	1	05/13/22 09:30	05/14/22 22:53	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/13/22 09:30	05/14/22 22:53	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:53	7440-48-4	
Lead	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:53	7439-92-1	
Molybdenum	**7.8**	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:53	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:53	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 22:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/12/22 12:13	05/12/22 19:33	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2310**	mg/L	40.0	1		05/13/22 15:47		
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		05/15/22 09:44		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: DUP 1 **Lab ID: 50315986006** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 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	**58.6**	mg/L	2.5	10		05/21/22 04:36	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/21/22 04:19	16984-48-8	
Sulfate	**1670**	mg/L	25.0	100		05/21/22 04:53	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1140**	ug/L	100	1	05/17/22 14:31	05/19/22 11:33	7440-42-8	
Calcium	**537000**	ug/L	5000	5	05/17/22 14:31	05/19/22 14:08	7440-70-2	
Lithium	**2010**	ug/L	20.0	1	05/17/22 14:31	05/19/22 11:33	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:07	7440-36-0	
Arsenic	**14.2**	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:07	7440-38-2	
Barium	**52.7**	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:07	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/13/22 09:30	05/14/22 23:07	7440-41-7	CU
Cadmium	ND	ug/L	0.20	1	05/13/22 09:30	05/14/22 23:07	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/13/22 09:30	05/14/22 23:07	7440-47-3	
Cobalt	**1.8**	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:07	7440-48-4	
Lead	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:07	7439-92-1	
Molybdenum	**258**	ug/L	2.0	2	05/13/22 09:30	05/16/22 15:35	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:07	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:07	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/12/22 12:13	05/12/22 19:36	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2410**	mg/L	40.0	1		05/13/22 15:47		
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		05/15/22 09:46		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: Field Blank 1 **Lab ID: 50315986007** Collected: 05/08/22 11:00 Received: 05/09/22 10:55 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		05/21/22 05:10	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/21/22 05:10	16984-48-8	
Sulfate	ND	mg/L	0.25	1		05/21/22 05:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	ND	ug/L	100	1	05/17/22 14:31	05/19/22 11:35	7440-42-8	
Calcium	ND	ug/L	1000	1	05/17/22 14:31	05/19/22 11:35	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/17/22 14:31	05/19/22 11:35	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:12	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:12	7440-38-2	
Barium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:12	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/13/22 09:30	05/14/22 23:12	7440-41-7	CU
Cadmium	ND	ug/L	0.20	1	05/13/22 09:30	05/14/22 23:12	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/13/22 09:30	05/14/22 23:12	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:12	7440-48-4	
Lead	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:12	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:12	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/13/22 09:30	05/14/22 23:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/12/22 12:13	05/12/22 19:38	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		05/13/22 15:47		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**5.9**	Std. Units	0.10	1		05/15/22 09:52		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

QC Batch: 676962
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

METHOD BLANK: 3116809 Matrix: Water
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/20/22 12:15	
Fluoride	mg/L	ND	0.10	05/20/22 12:15	
Sulfate	mg/L	ND	0.25	05/20/22 12:15	

LABORATORY CONTROL SAMPLE: 3116810

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	90	80-120	
Fluoride	mg/L	0.5	0.48	97	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3116811 3116812

Parameter	Units	50315836008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	15.8	12.5	12.5	27.4	27.4	93	93	80-120	0	15	
Fluoride	mg/L	0.12	0.5	0.5	0.50	0.49	74	73	80-120	1	15	M0
Sulfate	mg/L	49.0	25	25	77.4	72.9	113	95	80-120	6	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3116813 3116814

Parameter	Units	50315985002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	50.3	12.5	12.5	63.0	64.1	102	110	80-120	2	15	
Fluoride	mg/L	ND	0.5	0.5	0.41	0.41	75	77	80-120	2	15	M0
Sulfate	mg/L	1620	250	250	1780	1800	64	70	80-120	1	15	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3116815 3116816

Parameter	Units	50315986002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	60.8	12.5	12.5	71.9	72.1	89	90	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.39	0.40	76	78	80-120	2	15	M0
Sulfate	mg/L	1530	250	250	1770	1750	96	86	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

QC Batch: 675625
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

METHOD BLANK: 3110789 Matrix: Water
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/12/22 18:35	

LABORATORY CONTROL SAMPLE: 3110790

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110791 3110792

Parameter	Units	50315984002 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	4.2	4.0	83	79	75-125	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110793 3110794

Parameter	Units	50315986002 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	4.3	4.4	84	87	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

QC Batch: 676300
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

METHOD BLANK: 3114320 Matrix: Water
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	05/19/22 11:09	
Calcium	ug/L	ND	1000	05/19/22 11:09	
Lithium	ug/L	ND	20.0	05/19/22 11:09	

LABORATORY CONTROL SAMPLE: 3114321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	1100	110	80-120	
Calcium	ug/L	10000	10800	108	80-120	
Lithium	ug/L	1000	1120	112	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114275 3114276

Parameter	Units	50315982002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L		1000	1000	2170	2180	106	107	75-125	0	20	
Calcium	ug/L		10000	10000	570000	512000	312	-267	75-125	11	20	P6
Lithium	ug/L		1000	1000	3300	3290	122	122	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114322 3114323

Parameter	Units	50315986002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	1140	1000	1000	2220	2230	108	108	75-125	0	20	
Calcium	ug/L	514000	10000	10000	544000	580000	300	657	75-125	6	20	P6
Lithium	ug/L	1960	1000	1000	3160	3230	120	127	75-125	2	20	M0

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QUALITY CONTROL DATA

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

QC Batch: 675954 | Analysis Method: EPA 6020
QC Batch Method: EPA 200.2 | Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

METHOD BLANK: 3112370 Matrix: Water
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/14/22 20:58	
Arsenic	ug/L	ND	1.0	05/14/22 20:58	
Barium	ug/L	ND	1.0	05/14/22 20:58	
Beryllium	ug/L	ND	0.20	05/14/22 20:58	
Cadmium	ug/L	ND	0.20	05/14/22 20:58	
Chromium	ug/L	ND	2.0	05/14/22 20:58	
Cobalt	ug/L	ND	1.0	05/14/22 20:58	
Lead	ug/L	ND	1.0	05/14/22 20:58	
Molybdenum	ug/L	ND	1.0	05/14/22 20:58	
Selenium	ug/L	ND	1.0	05/14/22 20:58	
Thallium	ug/L	ND	1.0	05/14/22 20:58	

LABORATORY CONTROL SAMPLE: 3112371

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.8	104	80-120	
Arsenic	ug/L	40	38.3	96	80-120	
Barium	ug/L	40	39.9	100	80-120	
Beryllium	ug/L	40	37.3	93	80-120	
Cadmium	ug/L	40	38.6	96	80-120	
Chromium	ug/L	40	40.3	101	80-120	
Cobalt	ug/L	40	40.5	101	80-120	
Lead	ug/L	40	40.2	101	80-120	
Molybdenum	ug/L	40	39.4	98	80-120	
Selenium	ug/L	40	38.8	97	80-120	
Thallium	ug/L	40	40.7	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112372 3112373

Parameter	Units	50315315003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.0	43.1	105	108	75-125	3	20	
Arsenic	ug/L	0.0064 mg/L	40	40	45.8	44.9	99	96	75-125	2	20	
Barium	ug/L	0.025 mg/L	40	40	64.6	65.2	99	100	75-125	1	20	
Beryllium	ug/L	ND	40	40	39.0	39.8	97	99	75-125	2	20	
Cadmium	ug/L	ND	40	40	37.3	38.0	93	95	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112372 3112373

Parameter	Units	50315315003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	ND	40	40	39.2	39.0	97	96	75-125	0	20	
Cobalt	ug/L	0.0027 mg/L	40	40	40.5	41.1	94	96	75-125	2	20	
Lead	ug/L	ND	40	40	40.3	41.0	101	103	75-125	2	20	
Molybdenum	ug/L	0.52 mg/L	40	40	548	561	78	111	75-125	2	20	E
Selenium	ug/L	ND	40	40	39.7	39.8	98	99	75-125	0	20	
Thallium	ug/L	ND	40	40	40.9	41.5	102	104	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112374 3112375

Parameter	Units	50315986002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	44.3	42.2	110	105	75-125	5	20	
Arsenic	ug/L	14.8	40	40	53.9	56.8	98	105	75-125	5	20	
Barium	ug/L	55.0	40	40	97.0	94.0	105	97	75-125	3	20	
Beryllium	ug/L	ND	40	40	90.6	82.8	226	207	75-125	9	20	M3
Cadmium	ug/L	ND	40	40	38.4	37.1	96	92	75-125	4	20	
Chromium	ug/L	ND	40	40	38.8	40.8	97	101	75-125	5	20	
Cobalt	ug/L	1.8	40	40	41.4	39.0	99	93	75-125	6	20	
Lead	ug/L	ND	40	40	41.8	40.3	104	101	75-125	4	20	
Molybdenum	ug/L	273	40	40	315	309	106	91	75-125	2	20	
Selenium	ug/L	ND	40	40	41.5	44.3	103	109	75-125	6	20	
Thallium	ug/L	ND	40	40	41.9	40.3	105	101	75-125	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112376 3112377

Parameter	Units	50316088002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	44.1	43.2	110	108	75-125	2	20	
Arsenic	ug/L	ND	40	40	38.9	39.0	96	97	75-125	0	20	
Barium	ug/L	53.5	40	40	96.1	93.9	106	101	75-125	2	20	
Beryllium	ug/L	ND	40	40	45.1	44.2	113	111	75-125	2	20	CH
Cadmium	ug/L	ND	40	40	39.5	38.9	99	97	75-125	2	20	
Chromium	ug/L	ND	40	40	40.3	40.9	100	102	75-125	1	20	
Cobalt	ug/L	ND	40	40	40.4	39.9	101	99	75-125	1	20	
Lead	ug/L	ND	40	40	42.4	41.8	106	104	75-125	1	20	
Molybdenum	ug/L	1.4	40	40	43.4	41.7	105	101	75-125	4	20	
Selenium	ug/L	ND	40	40	39.4	39.7	98	99	75-125	1	20	
Thallium	ug/L	ND	40	40	42.8	42.2	107	105	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

QC Batch: 676065 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

METHOD BLANK: 3112909 Matrix: Water
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/13/22 15:45	

LABORATORY CONTROL SAMPLE: 3112910

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

SAMPLE DUPLICATE: 3112911

Parameter	Units	50315985002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2460	2320	6	10	

SAMPLE DUPLICATE: 3112912

Parameter	Units	50315986002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2270	2310	2	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

QC Batch: 676313
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315986001, 50315986002, 50315986005, 50315986006, 50315986007

SAMPLE DUPLICATE: 3114354

Parameter	Units	50315986002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	1	2	H3

SAMPLE DUPLICATE: 3114355

Parameter	Units	50316036002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	1	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: MW-2R **Lab ID: 50315986001** Collected: 05/08/22 08:25 Received: 05/09/22 10:55 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	**0.455 ± 0.559 (0.911) C:NA T:90%**	pCi/L	06/22/22 11:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.768 ± 0.357 (0.562) C:76% T:85%**	pCi/L	06/20/22 15:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.22 ± 0.916 (1.47)**	pCi/L	06/24/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: MW-3 **Lab ID: 50315986002** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 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	**0.563 ± 0.388 (0.414) C:NA T:96%**	pCi/L	06/22/22 11:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.695 ± 0.438 (0.826) C:74% T:85%**	pCi/L	06/20/22 15:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.26 ± 0.826 (1.24)**	pCi/L	06/24/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: MW-3 RAD MS **Lab ID: 50315986003** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 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	**77.56 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/22/22 11:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**103.51 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/20/22 15:28	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: MW-3 RAD MSD **Lab ID: 50315986004** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 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	**76.16 %REC 1.83 RPD ± NA (NA) C:NA T:NA**	pCi/L	06/22/22 11:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**83.19 %REC 21.77RPD ± NA (NA) C:NA T:NA**	pCi/L	06/20/22 15:28	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: MW-4C **Lab ID: 50315986005** Collected: 05/08/22 15:30 Received: 05/09/22 10:55 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	**0.183 ± 0.398 (0.734) C:NA T:109%**	pCi/L	06/22/22 11:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.972 ± 0.446 (0.737) C:78% T:82%**	pCi/L	06/20/22 15:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.16 ± 0.844 (1.47)**	pCi/L	06/24/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: DUP 1 **Lab ID: 50315986006** Collected: 05/08/22 10:00 Received: 05/09/22 10:55 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	**0.556 ± 0.613 (0.980) C:NA T:100%**	pCi/L	06/22/22 11:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.548 ± 0.446 (0.897) C:71% T:88%**	pCi/L	06/20/22 15:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.10 ± 1.06 (1.88)**	pCi/L	06/24/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Sample: Field Blank 1 **Lab ID: 50315986007** Collected: 05/08/22 11:00 Received: 05/09/22 10:55 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 ± 0.512 (0.983) C:NA T:94%**	pCi/L	06/22/22 11:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.450 ± 0.368 (0.737) C:78% T:92%**	pCi/L	06/20/22 15:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.589 ± 0.880 (1.72)**	pCi/L	06/24/22 17:45	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

QC Batch: 507526 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: 50315986001, 50315986002, 50315986003, 50315986004, 50315986005, 50315986006, 50315986007

METHOD BLANK: 2459167 Matrix: Water
Associated Lab Samples: 50315986001, 50315986002, 50315986003, 50315986004, 50315986005, 50315986006, 50315986007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.402 ± 0.280 (0.534) C:80% T:101%	pCi/L	06/20/22 15:28	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

QC Batch: 507525 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: 50315986001, 50315986002, 50315986003, 50315986004, 50315986005, 50315986006, 50315986007

METHOD BLANK: 2459166 Matrix: Water
Associated Lab Samples: 50315986001, 50315986002, 50315986003, 50315986004, 50315986005, 50315986006, 50315986007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.110 ± 0.306 (0.722) C:NA T:93%	pCi/L	06/22/22 11:44	

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QUALIFIERS

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

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 (%)

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CU	The continuing calibration for this analyte is above laboratory acceptance limits. Analyte was not detected above the reporting limit in any of the associated samples.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
PL	The minimum mass of dried residue of 2.5 mg could not be obtained using the routine sample volume of 100 mL.

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Indianapolis, IN 46268
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315986001	**MW-2R**	EPA 9056	676962		
50315986002	**MW-3**	EPA 9056	676962		
50315986005	**MW-4C**	EPA 9056	676962		
50315986006	**DUP 1**	EPA 9056	676962		
50315986007	**Field Blank 1**	EPA 9056	676962		
50315986001	**MW-2R**	EPA 3010	676300	EPA 6010	677123
50315986002	**MW-3**	EPA 3010	676300	EPA 6010	677123
50315986005	**MW-4C**	EPA 3010	676300	EPA 6010	677123
50315986006	**DUP 1**	EPA 3010	676300	EPA 6010	677123
50315986007	**Field Blank 1**	EPA 3010	676300	EPA 6010	677123
50315986001	**MW-2R**	EPA 200.2	675954	EPA 6020	676200
50315986002	**MW-3**	EPA 200.2	675954	EPA 6020	676200
50315986005	**MW-4C**	EPA 200.2	675954	EPA 6020	676200
50315986006	**DUP 1**	EPA 200.2	675954	EPA 6020	676200
50315986007	**Field Blank 1**	EPA 200.2	675954	EPA 6020	676200
50315986001	**MW-2R**	EPA 7470	675625	EPA 7470	675925
50315986002	**MW-3**	EPA 7470	675625	EPA 7470	675925
50315986005	**MW-4C**	EPA 7470	675625	EPA 7470	675925
50315986006	**DUP 1**	EPA 7470	675625	EPA 7470	675925
50315986007	**Field Blank 1**	EPA 7470	675625	EPA 7470	675925
50315986001	**MW-2R**	EPA 903.1	507525		
50315986002	**MW-3**	EPA 903.1	507525		
50315986003	**MW-3 RAD MS**	EPA 903.1	507525		
50315986004	**MW-3 RAD MSD**	EPA 903.1	507525		
50315986005	**MW-4C**	EPA 903.1	507525		
50315986006	**DUP 1**	EPA 903.1	507525		
50315986007	**Field Blank 1**	EPA 903.1	507525		
50315986001	**MW-2R**	EPA 904.0	507526		
50315986002	**MW-3**	EPA 904.0	507526		
50315986003	**MW-3 RAD MS**	EPA 904.0	507526		
50315986004	**MW-3 RAD MSD**	EPA 904.0	507526		
50315986005	**MW-4C**	EPA 904.0	507526		
50315986006	**DUP 1**	EPA 904.0	507526		
50315986007	**Field Blank 1**	EPA 904.0	507526		
50315986001	**MW-2R**	Total Radium Calculation	514180		
50315986002	**MW-3**	Total Radium Calculation	514180		
50315986005	**MW-4C**	Total Radium Calculation	514180		
50315986006	**DUP 1**	Total Radium Calculation	514180		
50315986007	**Field Blank 1**	Total Radium Calculation	514180		
50315986001	**MW-2R**	SM 2540C	676065		
50315986002	**MW-3**	SM 2540C	676065		
50315986005	**MW-4C**	SM 2540C	676065		
50315986006	**DUP 1**	SM 2540C	676065		
50315986007	**Field Blank 1**	SM 2540C	676065		
50315986001	**MW-2R**	SM 4500-H+B	676313		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R1 App III/IV
Pace Project No.: 50315986

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315986002	**MW-3**	SM 4500-H+B	676313		
50315986005	**MW-4C**	SM 4500-H+B	676313		
50315986006	**DUP 1**	SM 4500-H+B	676313		
50315986007	**Field Blank 1**	SM 4500-H+B	676313		

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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.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Profile 2 Report 1 App III/IV	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/11

Regulatory Agency:

State / Location: IN

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS	(Cl, F, SO4) IC	Metals, Total*	Rad-226	Rad-226	Residual Chlorine (Y/N)	50315986
1	MW-2R	WT		5.8.22	0825				5	2		3						X	X	X		X	X		001
2	MW-3	WT		5.8.22	1000				5	2		3						X	X	X		X	X		002
3	MW-4C	WT		5.8.22	1520				5	2		3						X	X	X		X	X		005
4	DUP 1	WT		5.8.22	1000				5	2		3						X	X	X		X	X		006
5	MSD	WT		5.8.22	1000				5	2		3						X	X	X		X	X		003
6	MS	WT		5.8.22	1000				5	2		3						X	X	X		X	X		004
7	Field Blank 1	WT		5.8.22	1100				5	2		3						X	X	X		X	X		007
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (B, Ca, Li)		5.5.22	8:25		5.9	8:25				
6020 (Be, Ba, Cr, Co, As, Se, Pb, Mo, Cd, Tl, Sb); 7470 Hg		5.9	10:55		5/9/22	1055	see SCW	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Doerner

SIGNATURE of SAMPLER: [signature] DATE Signed: 5.9.22

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

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: HRP 5/9/22 1306

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(s):** (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

see	comments		

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			
Short Hold Time Analysis (48 hours or less)? Analysis:		/				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			/
Rush TAT Requested (4 days or less):		/	Residual Chlorine Check (Total/Amenable/Free Cyanide)			/
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			/
Containers Intact?:	/		Headspace in VOA Vials (>6mm): 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)	NA		Trip Blank Custody Seals?:		/	

COMMENTS:

Coolers Temps: 1. 1.0/0.8 5. 1.9/1.7
2. 1.5/1.3 6. 2.1/1.9
3. 0.8/0.6 7. 2.0/1.8
4. 0.7/0.5 8. 1.6/1.4

COC PAGE 1 **of** 5

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																2		2	1									WT	✓		
2																6		6	3									↓	↓		
3																2		2	1												
4																2		2	1												
5																															
6																															
7																2		2	1									WT	✓		
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 03, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 13, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Indianapolis

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

Sincerely,

Hayden Putt

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

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: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50316445001	**AP-1R**	Water	05/12/22 11:50	05/13/22 08:36
50316445002	**AP-2A**	Water	05/12/22 12:55	05/13/22 08:36
50316445003	**AP-2BO**	Water	05/12/22 14:00	05/13/22 08:36
50316445004	**AP-7**	Water	05/12/22 17:25	05/13/22 08:36
50316445005	**AP-8**	Water	05/12/22 14:55	05/13/22 08:36
50316445006	**DUP 2**	Water	05/12/22 14:55	05/13/22 08:36
50316445007	**FIELD BLANK 2**	Water	05/12/22 16:10	05/13/22 08:36

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50316445001	**AP-1R**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50316445002	**AP-2A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50316445003	**AP-2BO**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50316445004	**AP-7**	EPA 9056	RMR	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	DJS	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50316445005	**AP-8**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50316445006	**DUP 2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50316445007	**FIELD BLANK 2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	7	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316445001	**AP-1R**					
EPA 9056	Chloride	144	mg/L	25.0	05/26/22 06:58	
EPA 9056	Sulfate	1080	mg/L	25.0	05/26/22 06:58	
EPA 6010	Aluminum	229	ug/L	200	05/25/22 10:21	
EPA 6010	Iron	12300	ug/L	100	05/25/22 10:21	
EPA 6010	Magnesium	65800	ug/L	1000	05/25/22 10:21	
EPA 6010	Manganese	9490	ug/L	10.0	05/25/22 10:21	
EPA 6010	Potassium	2020	ug/L	1000	05/25/22 10:21	
EPA 6010	Silica	21000	ug/L	450	05/25/22 10:21	N2
EPA 6010	Sodium	58000	ug/L	1000	05/25/22 10:21	
EPA 6010	Manganese, Dissolved	9870	ug/L	10.0	05/24/22 03:22	
EPA 6010	Molybdenum, Dissolved	15.8	ug/L	10.0	05/24/22 03:22	
SM 2320B	Alkalinity, Total as CaCO3	254	mg/L	2.0	05/20/22 13:57	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	254	mg/L	2.0	05/20/22 13:57	
SM 2540C	Total Dissolved Solids	1830	mg/L	40.0	05/18/22 12:55	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/20/22 18:30	H3
EPA 365.1	Phosphate as P04	2.0	mg/L	0.15	05/15/22 20:20	
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	05/25/22 04:23	
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	05/23/22 11:59	
50316445002	**AP-2A**					
EPA 9056	Chloride	122	mg/L	25.0	05/26/22 08:23	
EPA 9056	Sulfate	1530	mg/L	25.0	05/26/22 08:23	
EPA 6010	Iron	4610	ug/L	100	05/25/22 10:23	
EPA 6010	Magnesium	6740	ug/L	1000	05/25/22 10:23	
EPA 6010	Manganese	842	ug/L	10.0	05/25/22 10:23	
EPA 6010	Potassium	41900	ug/L	1000	05/25/22 10:23	
EPA 6010	Silica	8380	ug/L	450	05/25/22 10:23	N2
EPA 6010	Sodium	45300	ug/L	1000	05/25/22 10:23	
EPA 6010	Manganese, Dissolved	860	ug/L	10.0	05/24/22 03:28	
EPA 6010	Molybdenum, Dissolved	1300	ug/L	10.0	05/24/22 03:28	
SM 2320B	Alkalinity, Total as CaCO3	50.7	mg/L	2.0	05/20/22 13:58	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	50.7	mg/L	2.0	05/20/22 13:58	
SM 2540C	Total Dissolved Solids	2640	mg/L	40.0	05/18/22 12:56	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/20/22 18:33	H3
HACH 8146	Iron, Ferrous	0.22	mg/L	0.20	05/25/22 22:13	H3,N2
EPA 365.1	Phosphate as P04	1.1	mg/L	0.15	05/15/22 20:21	
SM 5310C	Total Organic Carbon	1.7	mg/L	1.0	05/25/22 04:34	
SM 5310C	Dissolved Organic Carbon	1.9	mg/L	1.0	05/23/22 12:19	
50316445003	**AP-2BO**					
EPA 9056	Chloride	105	mg/L	2.5	05/26/22 08:56	
EPA 9056	Sulfate	1410	mg/L	25.0	05/26/22 09:11	
EPA 6010	Iron	404	ug/L	100	05/25/22 10:30	
EPA 6010	Magnesium	36100	ug/L	1000	05/25/22 10:30	
EPA 6010	Manganese	2800	ug/L	10.0	05/25/22 10:30	
EPA 6010	Potassium	13400	ug/L	1000	05/25/22 10:30	
EPA 6010	Silica	11900	ug/L	450	05/25/22 10:30	N2
EPA 6010	Sodium	35400	ug/L	1000	05/25/22 10:30	

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316445003	**AP-2BO**					
EPA 6010	Manganese, Dissolved	2780	ug/L	10.0	05/24/22 03:30	
EPA 6010	Molybdenum, Dissolved	164	ug/L	10.0	05/24/22 03:30	
SM 2320B	Alkalinity, Total as CaCO3	164	mg/L	2.0	05/20/22 13:58	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	164	mg/L	2.0	05/20/22 13:58	
SM 2540C	Total Dissolved Solids	2600	mg/L	40.0	05/18/22 12:56	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/20/22 18:33	H3
SM 5310C	Total Organic Carbon	3.4	mg/L	1.0	05/25/22 04:45	
SM 5310C	Dissolved Organic Carbon	3.7	mg/L	1.0	05/23/22 13:53	
50316445004	**AP-7**					
EPA 9056	Chloride	2.9	mg/L	0.25	05/26/22 10:01	
EPA 9056	Sulfate	318	mg/L	25.0	05/26/22 10:35	
EPA 6010	Iron	29200	ug/L	100	05/25/22 10:34	
EPA 6010	Magnesium	66500	ug/L	1000	05/25/22 10:34	
EPA 6010	Manganese	1560	ug/L	10.0	05/25/22 10:34	
EPA 6010	Potassium	2390	ug/L	1000	05/25/22 10:34	
EPA 6010	Silica	26200	ug/L	450	05/25/22 10:34	N2
EPA 6010	Sodium	11200	ug/L	1000	05/25/22 10:34	
EPA 6010	Manganese, Dissolved	1600	ug/L	10.0	05/24/22 03:32	
SM 2320B	Alkalinity, Total as CaCO3	544	mg/L	2.0	05/20/22 13:58	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	544	mg/L	2.0	05/20/22 13:58	
SM 2540C	Total Dissolved Solids	1110	mg/L	20.0	05/18/22 12:57	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/20/22 18:34	H3
HACH 8146	Iron, Ferrous	2.9	mg/L	1.0	05/25/22 22:43	H3,N2
EPA 365.1	Phosphate as P04	0.45	mg/L	0.15	05/15/22 20:23	
SM 5310C	Total Organic Carbon	1.9	mg/L	1.0	05/25/22 05:25	
SM 5310C	Dissolved Organic Carbon	2.9	mg/L	1.0	05/23/22 14:12	
50316445005	**AP-8**					
EPA 9056	Chloride	10.9	mg/L	0.25	05/26/22 10:52	
EPA 9056	Fluoride	2.1	mg/L	0.10	05/26/22 10:52	
EPA 9056	Sulfate	854	mg/L	25.0	05/26/22 11:25	
EPA 6010	Aluminum	3990	ug/L	200	05/25/22 10:37	
EPA 6010	Iron	47400	ug/L	100	05/25/22 10:37	
EPA 6010	Magnesium	71400	ug/L	1000	05/25/22 10:37	
EPA 6010	Manganese	18400	ug/L	10.0	05/25/22 10:37	
EPA 6010	Potassium	2440	ug/L	1000	05/25/22 10:37	
EPA 6010	Silica	72800	ug/L	450	05/25/22 10:37	N2
EPA 6010	Sodium	14900	ug/L	1000	05/25/22 10:37	
EPA 6010	Manganese, Dissolved	16800	ug/L	10.0	05/24/22 03:34	
SM 2320B	Alkalinity, Total as CaCO3	5.0	mg/L	2.0	05/20/22 13:59	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	5.0	mg/L	2.0	05/20/22 13:59	
SM 2540C	Total Dissolved Solids	1560	mg/L	20.0	05/18/22 12:57	
SM 4500-H+B	pH at 25 Degrees C	4.9	Std. Units	0.10	05/20/22 18:36	H3
HACH 8146	Iron, Ferrous	32.2	mg/L	10.0	05/25/22 22:14	H3,N2
SM 5310C	Total Organic Carbon	3.4	mg/L	1.0	05/25/22 05:59	
SM 5310C	Dissolved Organic Carbon	3.5	mg/L	1.0	05/23/22 14:38	

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7726 Moller Road
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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316445006	**DUP 2**					
EPA 9056	Chloride	12.3	mg/L	0.25	05/26/22 11:40	
EPA 9056	Fluoride	1.3	mg/L	0.10	05/26/22 11:40	
EPA 9056	Sulfate	860	mg/L	25.0	05/26/22 12:11	
EPA 6010	Aluminum	2160	ug/L	200	05/25/22 10:39	
EPA 6010	Iron	99300	ug/L	100	05/25/22 10:39	
EPA 6010	Magnesium	56500	ug/L	1000	05/25/22 10:39	
EPA 6010	Manganese	13800	ug/L	10.0	05/25/22 10:39	
EPA 6010	Potassium	3510	ug/L	1000	05/25/22 10:39	
EPA 6010	Silica	56800	ug/L	450	05/25/22 10:39	N2
EPA 6010	Sodium	13700	ug/L	1000	05/25/22 10:39	
EPA 6010	Manganese, Dissolved	12400	ug/L	10.0	05/24/22 03:36	
SM 2320B	Alkalinity, Total as CaCO3	28.2	mg/L	2.0	05/20/22 14:00	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	28.2	mg/L	2.0	05/20/22 14:00	
SM 2540C	Total Dissolved Solids	1450	mg/L	20.0	05/18/22 12:57	
SM 4500-H+B	pH at 25 Degrees C	5.3	Std. Units	0.10	05/20/22 18:37	H3
HACH 8146	Iron, Ferrous	90.2	mg/L	10.0	05/25/22 22:15	H3,N2
SM 5310C	Total Organic Carbon	3.2	mg/L	1.0	05/25/22 06:10	
SM 5310C	Dissolved Organic Carbon	3.9	mg/L	1.0	05/23/22 16:15	
50316445007	**FIELD BLANK 2**					
SM 2320B	Alkalinity, Total as CaCO3	4.0	mg/L	2.0	05/20/22 14:00	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	4.0	mg/L	2.0	05/20/22 14:00	
SM 4500-H+B	pH at 25 Degrees C	5.5	Std. Units	0.10	05/20/22 18:38	H3

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-1R **Lab ID: 50316445001** Collected: 05/12/22 11:50 Received: 05/13/22 08:36 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	**144**	mg/L	25.0	100		05/26/22 06:58	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 04:43	16984-48-8	
Sulfate	**1080**	mg/L	25.0	100		05/26/22 06:58	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**229**	ug/L	200	1	05/24/22 09:12	05/25/22 10:21	7429-90-5	
Iron	**12300**	ug/L	100	1	05/24/22 09:12	05/25/22 10:21	7439-89-6	
Magnesium	**65800**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:21	7439-95-4	
Manganese	**9490**	ug/L	10.0	1	05/24/22 09:12	05/25/22 10:21	7439-96-5	
Potassium	**2020**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:21	7440-09-7	
Silica	**21000**	ug/L	450	1	05/24/22 09:12	05/25/22 10:21	7631-86-9	N2
Sodium	**58000**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:21	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**9870**	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:22	7439-96-5	
Molybdenum, Dissolved	**15.8**	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:22	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**254**	mg/L	2.0	1		05/20/22 13:57		
Alkalinity,Bicarbonate (CaCO3)	**254**	mg/L	2.0	1		05/20/22 13:57		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/20/22 13:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1830**	mg/L	40.0	1		05/18/22 12:55		
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		05/20/22 18:30		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 08:43	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:09	15438-31-0	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		05/13/22 19:42	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/13/22 19:42	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-1R **Lab ID: 50316445001** Collected: 05/12/22 11:50 Received: 05/13/22 08:36 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/14/22 05:30	05/15/22 20:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.6**	mg/L	1.0	1		05/25/22 04:23	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.1**	mg/L	1.0	1		05/23/22 11:59		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-2A **Lab ID: 50316445002** Collected: 05/12/22 12:55 Received: 05/13/22 08:36 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	**122**	mg/L	25.0	100		05/26/22 08:23	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 07:49	16984-48-8	
Sulfate	**1530**	mg/L	25.0	100		05/26/22 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	05/24/22 09:12	05/25/22 10:23	7429-90-5	
Iron	**4610**	ug/L	100	1	05/24/22 09:12	05/25/22 10:23	7439-89-6	
Magnesium	**6740**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:23	7439-95-4	
Manganese	**842**	ug/L	10.0	1	05/24/22 09:12	05/25/22 10:23	7439-96-5	
Potassium	**41900**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:23	7440-09-7	
Silica	**8380**	ug/L	450	1	05/24/22 09:12	05/25/22 10:23	7631-86-9	N2
Sodium	**45300**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:23	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**860**	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:28	7439-96-5	
Molybdenum, Dissolved	**1300**	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:28	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**50.7**	mg/L	2.0	1		05/20/22 13:58		
Alkalinity,Bicarbonate (CaCO3)	**50.7**	mg/L	2.0	1		05/20/22 13:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/20/22 13:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2640**	mg/L	40.0	1		05/18/22 12:56		
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		05/20/22 18:33		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 08:43	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.22**	mg/L	0.20	1		05/25/22 22:13	15438-31-0	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		05/13/22 19:35	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/13/22 19:35	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-2A **Lab ID: 50316445002** Collected: 05/12/22 12:55 Received: 05/13/22 08:36 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.1**	mg/L	0.15	1	05/14/22 05:30	05/15/22 20:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.7**	mg/L	1.0	1		05/25/22 04:34	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.9**	mg/L	1.0	1		05/23/22 12:19		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-2BO **Lab ID: 50316445003** Collected: 05/12/22 14:00 Received: 05/13/22 08:36 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	**105**	mg/L	2.5	10		05/26/22 08:56	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 08:40	16984-48-8	
Sulfate	**1410**	mg/L	25.0	100		05/26/22 09:11	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/24/22 09:12	05/25/22 10:30	7429-90-5	
Iron	**404**	ug/L	100	1	05/24/22 09:12	05/25/22 10:30	7439-89-6	
Magnesium	**36100**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:30	7439-95-4	
Manganese	**2800**	ug/L	10.0	1	05/24/22 09:12	05/25/22 10:30	7439-96-5	
Potassium	**13400**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:30	7440-09-7	
Silica	**11900**	ug/L	450	1	05/24/22 09:12	05/25/22 10:30	7631-86-9	N2
Sodium	**35400**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:30	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2780**	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:30	7439-96-5	
Molybdenum, Dissolved	**164**	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:30	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**164**	mg/L	2.0	1		05/20/22 13:58		
Alkalinity,Bicarbonate (CaCO3)	**164**	mg/L	2.0	1		05/20/22 13:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/20/22 13:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2600**	mg/L	40.0	1		05/18/22 12:56		
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		05/20/22 18:33		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 08:43	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:13	15438-31-0	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		05/14/22 09:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/14/22 09:11	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-2BO **Lab ID: 50316445003** Collected: 05/12/22 14:00 Received: 05/13/22 08:36 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/14/22 05:30	05/15/22 20:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**3.4**	mg/L	1.0	1		05/25/22 04:45	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.7**	mg/L	1.0	1		05/23/22 13:53		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-7 **Lab ID: 50316445004** Collected: 05/12/22 17:25 Received: 05/13/22 08:36 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	**2.9**	mg/L	0.25	1		05/26/22 10:01	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 10:01	16984-48-8	
Sulfate	**318**	mg/L	25.0	100		05/26/22 10:35	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/24/22 09:12	05/25/22 10:34	7429-90-5	
Iron	**29200**	ug/L	100	1	05/24/22 09:12	05/25/22 10:34	7439-89-6	
Magnesium	**66500**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:34	7439-95-4	
Manganese	**1560**	ug/L	10.0	1	05/24/22 09:12	05/25/22 10:34	7439-96-5	
Potassium	**2390**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:34	7440-09-7	
Silica	**26200**	ug/L	450	1	05/24/22 09:12	05/25/22 10:34	7631-86-9	N2
Sodium	**11200**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:34	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1600**	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:32	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:32	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**544**	mg/L	2.0	1		05/20/22 13:58		
Alkalinity,Bicarbonate (CaCO3)	**544**	mg/L	2.0	1		05/20/22 13:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/20/22 13:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1110**	mg/L	20.0	1		05/18/22 12:57		
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		05/20/22 18:34		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 08:43	18496-25-8	P4
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	**2.9**	mg/L	1.0	5		05/25/22 22:43	15438-31-0	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		05/14/22 09:30	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/14/22 09:30	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-7 **Lab ID: 50316445004** Collected: 05/12/22 17:25 Received: 05/13/22 08:36 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.45**	mg/L	0.15	1	05/14/22 05:30	05/15/22 20:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.9**	mg/L	1.0	1		05/25/22 05:25	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.9**	mg/L	1.0	1		05/23/22 14:12		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-8 **Lab ID: 50316445005** Collected: 05/12/22 14:55 Received: 05/13/22 08:36 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	**10.9**	mg/L	0.25	1		05/26/22 10:52	16887-00-6	
Fluoride	**2.1**	mg/L	0.10	1		05/26/22 10:52	16984-48-8	
Sulfate	**854**	mg/L	25.0	100		05/26/22 11:25	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**3990**	ug/L	200	1	05/24/22 09:12	05/25/22 10:37	7429-90-5	
Iron	**47400**	ug/L	100	1	05/24/22 09:12	05/25/22 10:37	7439-89-6	
Magnesium	**71400**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:37	7439-95-4	
Manganese	**18400**	ug/L	10.0	1	05/24/22 09:12	05/25/22 10:37	7439-96-5	
Potassium	**2440**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:37	7440-09-7	
Silica	**72800**	ug/L	450	1	05/24/22 09:12	05/25/22 10:37	7631-86-9	N2
Sodium	**14900**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:37	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**16800**	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:34	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:34	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**5.0**	mg/L	2.0	1		05/20/22 13:59		
Alkalinity,Bicarbonate (CaCO3)	**5.0**	mg/L	2.0	1		05/20/22 13:59		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/20/22 13:59		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1560**	mg/L	20.0	1		05/18/22 12:57		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**4.9**	Std. Units	0.10	1		05/20/22 18:36		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 08:43	18496-25-8	P4
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	**32.2**	mg/L	10.0	50		05/25/22 22:14	15438-31-0	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		05/14/22 09:15	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/14/22 09:15	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: AP-8 **Lab ID: 50316445005** Collected: 05/12/22 14:55 Received: 05/13/22 08:36 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/14/22 05:30	05/15/22 20:24		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**3.4**	mg/L	1.0	1		05/25/22 05:59	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.5**	mg/L	1.0	1		05/23/22 14:38		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: DUP 2 **Lab ID: 50316445006** Collected: 05/12/22 14:55 Received: 05/13/22 08:36 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	**12.3**	mg/L	0.25	1		05/26/22 11:40	16887-00-6	
Fluoride	**1.3**	mg/L	0.10	1		05/26/22 11:40	16984-48-8	
Sulfate	**860**	mg/L	25.0	100		05/26/22 12:11	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**2160**	ug/L	200	1	05/24/22 09:12	05/25/22 10:39	7429-90-5	
Iron	**99300**	ug/L	100	1	05/24/22 09:12	05/25/22 10:39	7439-89-6	
Magnesium	**56500**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:39	7439-95-4	
Manganese	**13800**	ug/L	10.0	1	05/24/22 09:12	05/25/22 10:39	7439-96-5	
Potassium	**3510**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:39	7440-09-7	
Silica	**56800**	ug/L	450	1	05/24/22 09:12	05/25/22 10:39	7631-86-9	N2
Sodium	**13700**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:39	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**12400**	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:36	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/21/22 15:00	05/24/22 03:36	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**28.2**	mg/L	2.0	1		05/20/22 14:00		
Alkalinity,Bicarbonate (CaCO3)	**28.2**	mg/L	2.0	1		05/20/22 14:00		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/20/22 14:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1450**	mg/L	20.0	1		05/18/22 12:57		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		05/20/22 18:37		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 08:43	18496-25-8	P4
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	**90.2**	mg/L	10.0	50		05/25/22 22:15	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	1.0	10		05/14/22 10:16	14797-55-8	D3
Nitrogen, Nitrite	ND	mg/L	1.0	10		05/14/22 10:16	14797-65-0	D3

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: DUP 2 **Lab ID: 50316445006** Collected: 05/12/22 14:55 Received: 05/13/22 08:36 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/14/22 05:30	05/15/22 20:25		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**3.2**	mg/L	1.0	1		05/25/22 06:10	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.9**	mg/L	1.0	1		05/23/22 16:15		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: FIELD BLANK 2 **Lab ID: 50316445007** Collected: 05/12/22 16:10 Received: 05/13/22 08:36 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		05/26/22 15:00	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 15:00	16984-48-8	
Sulfate	ND	mg/L	0.25	1		05/26/22 15:00	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/24/22 09:12	05/25/22 10:32	7429-90-5	
Iron	ND	ug/L	100	1	05/24/22 09:12	05/25/22 10:32	7439-89-6	
Magnesium	ND	ug/L	1000	1	05/24/22 09:12	05/25/22 10:32	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/24/22 09:12	05/25/22 10:32	7439-96-5	
Potassium	ND	ug/L	1000	1	05/24/22 09:12	05/25/22 10:32	7440-09-7	
Silica	ND	ug/L	450	1	05/24/22 09:12	05/25/22 10:32	7631-86-9	N2
Sodium	ND	ug/L	1000	1	05/24/22 09:12	05/25/22 10:32	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**4.0**	mg/L	2.0	1		05/20/22 14:00		
Alkalinity,Bicarbonate (CaCO3)	**4.0**	mg/L	2.0	1		05/20/22 14:00		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/20/22 14:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		05/18/22 12:58		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		05/20/22 18:38		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 08:43	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:16	15438-31-0	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		05/14/22 09:26	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/14/22 09:26	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1							
	Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	05/14/22 05:30	05/15/22 20:25		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Sample: FIELD BLANK 2 **Lab ID: 50316445007** Collected: 05/12/22 16:10 Received: 05/13/22 08:36 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/25/22 06:23	7440-44-0	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 678022
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

METHOD BLANK: 3121706 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/26/22 03:35	
Fluoride	mg/L	ND	0.10	05/26/22 03:35	
Sulfate	mg/L	ND	0.25	05/26/22 03:35	

LABORATORY CONTROL SAMPLE: 3121707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	89	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: 3121708 3121709

Parameter	Units	50316445001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	144	125	125	246	245	82	81	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.37	0.36	74	72	80-120	3	15	M0
Sulfate	mg/L	1080	250	250	1260	1260	73	73	80-120	0	15	M0

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: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 677582
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

METHOD BLANK: 3120333 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/25/22 12:24	
Iron	ug/L	ND	100	05/25/22 12:24	
Magnesium	ug/L	ND	1000	05/25/22 12:24	
Manganese	ug/L	ND	10.0	05/25/22 12:24	
Potassium	ug/L	ND	1000	05/25/22 12:24	
Silica	ug/L	ND	450	05/25/22 12:24	N2
Sodium	ug/L	ND	1000	05/25/22 12:24	

LABORATORY CONTROL SAMPLE: 3120334

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9500	95	80-120	
Iron	ug/L	10000	9640	96	80-120	
Magnesium	ug/L	10000	9620	96	80-120	
Manganese	ug/L	1000	952	95	80-120	
Potassium	ug/L	10000	9680	97	80-120	
Silica	ug/L	10700	9910	93	80-120	N2
Sodium	ug/L	10000	9560	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120335 3120336

Parameter	Units	50316345018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	83600	10000	10000	113000	108000	290	245	75-125	4	20	P6
Iron	ug/L	164000	10000	10000	186000	177000	220	135	75-125	5	20	P6
Magnesium	ug/L	73000	10000	10000	89700	86000	167	130	75-125	4	20	P6
Manganese	ug/L	10000	1000	1000	11800	11400	181	135	75-125	4	20	P6
Potassium	ug/L	12100	10000	10000	25200	24400	131	123	75-125	3	20	M0
Silica	ug/L	85700	10700	10700	226000	219000	1310	1250	75-125	3	20	N2
Sodium	ug/L	9320	10000	10000	21000	20200	117	109	75-125	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120337 3120338

Parameter	Units	50316525001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	43500	10000	10000	61800	61500	183	180	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120337 3120338

Parameter	Units	50316525001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	71600	10000	10000	81600	81200	99	96	75-125	0	20	
Magnesium	ug/L	75400	10000	10000	84600	84800	92	94	75-125	0	20	
Manganese	ug/L	1540	1000	1000	2460	2470	91	93	75-125	1	20	
Potassium	ug/L	9840	10000	10000	21900	22100	121	123	75-125	1	20	
Silica	ug/L	85700	10700	10700	163000	161000	726	707	75-125	1	20	N2
Sodium	ug/L	7720	10000	10000	17900	18200	101	105	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 677435
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006

METHOD BLANK: 3119311 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/24/22 03:13	
Molybdenum, Dissolved	ug/L	ND	10.0	05/24/22 03:13	

LABORATORY CONTROL SAMPLE: 3119312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	988	99	80-120	
Molybdenum, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119313 3119314

Parameter	Units	50316506002 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	20.8	1000	1000	988	993	97	97	75-125	0	20	
Molybdenum, Dissolved	ug/L	27.4	1000	1000	1050	1050	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 677185 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

METHOD BLANK: 3117826 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	4.0	2.0	05/20/22 13:54	B
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/20/22 13:54	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/20/22 13:54	

LABORATORY CONTROL SAMPLE: 3117827

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.1	106	90-110	

SAMPLE DUPLICATE: 3117828

Parameter	Units	50316481012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	206	206	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	206	206	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3117829

Parameter	Units	50316481022 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	170	176	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	170	176	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 676823 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

METHOD BLANK: 3116131 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/18/22 12:49	

LABORATORY CONTROL SAMPLE: 3116132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	318	106	80-120	

SAMPLE DUPLICATE: 3116134

Parameter	Units	50316343005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1390	1550	11	10	R1

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 677473
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

SAMPLE DUPLICATE: 3119836

Parameter	Units	50316343003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.0	1	2	H3

SAMPLE DUPLICATE: 3119837

Parameter	Units	50316499001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 676794
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

METHOD BLANK: 3116023 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/18/22 08:43	

LABORATORY CONTROL SAMPLE: 3116024

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: 3116025 3116026

Parameter	Units	50316445001 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	0.42	0.43	85	85	90-110	0	20	M3

MATRIX SPIKE SAMPLE: 3116027

Parameter	Units	50316495001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.40	63	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 678396 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445005, 50316445006, 50316445007

METHOD BLANK: 3123107 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445005, 50316445006, 50316445007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/25/22 21:41	H3,N2

LABORATORY CONTROL SAMPLE: 3123108

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123109 3123110

Parameter	Units	50316506002 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	1.0	0.97	102	97	90-110	5	20	H3,N2

MATRIX SPIKE SAMPLE: 3123111

Parameter	Units	50316499003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	0.98	98	90-110	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 678397
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445004

METHOD BLANK: 3123112 Matrix: Water
Associated Lab Samples: 50316445004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/25/22 22:41	H3,N2

LABORATORY CONTROL SAMPLE: 3123113

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: 3123114 3123115

Parameter	Units	50316507001 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	0.97	0.96	97	96	90-110	1	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123116 3123117

Parameter	Units	50316511002 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	0.98	0.99	98	99	90-110	1	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 676224
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002

METHOD BLANK: 3113922 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/13/22 19:05	
Nitrogen, Nitrite	mg/L	ND	0.10	05/13/22 19:05	

LABORATORY CONTROL SAMPLE: 3113923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.98	98	90-110	
Nitrogen, Nitrite	mg/L	1	0.95	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3113924 3113925

Parameter	Units	50316506002 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	0.18	1	1	1.2	1.2	102	103	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.99	99	99	90-110	0	20	

MATRIX SPIKE SAMPLE: 3113926

Parameter	Units	50316499003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	3.5	1	4.4	94	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	95	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 676251
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

METHOD BLANK: 3114048 Matrix: Water
Associated Lab Samples: 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/14/22 09:04	
Nitrogen, Nitrite	mg/L	ND	0.10	05/14/22 09:04	

LABORATORY CONTROL SAMPLE: 3114049

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	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114050 3114051

Parameter	Units	50316507001 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	0.84	1	1	1.9	1.9	102	102	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.97	0.97	97	97	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114052 3114053

Parameter	Units	50316511002 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	0.98	0.98	98	98	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.96	0.96	96	96	90-110	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 676235 | 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: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

METHOD BLANK: 3113996 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/15/22 20:14	

LABORATORY CONTROL SAMPLE: 3113997

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3113998 3113999

Parameter	Units	50316393004 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	24.3			105	94.9				10		

MATRIX SPIKE SAMPLE: 3114000

Parameter	Units	50316481004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.5			

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 677890 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

METHOD BLANK: 3121319 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006, 50316445007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/25/22 02:11	

LABORATORY CONTROL SAMPLE: 3121320

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3121321 3121322

Parameter	Units	50316445003 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	3.4	10	10	13.7	13.6	102	101	80-120	1	20	

MATRIX SPIKE SAMPLE: 3121323

Parameter	Units	50316481001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	3.2	10	14.1	109	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

QC Batch: 677653 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006

METHOD BLANK: 3120515 Matrix: Water
Associated Lab Samples: 50316445001, 50316445002, 50316445003, 50316445004, 50316445005, 50316445006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/23/22 09:11	

LABORATORY CONTROL SAMPLE: 3120516

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120517 3120518

Parameter	Units	50316506002 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	2.2	10	10	12.3	12.5	101	103	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120519 3120520

Parameter	Units	50316507001 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	1.6	10	10	11.9	12.1	103	104	80-120	1	20	

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

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
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.
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.
P4	Sample field preservation does not meet EPA or method recommendations for this analysis.
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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316445001	**AP-1R**	EPA 9056	678022		
50316445002	**AP-2A**	EPA 9056	678022		
50316445003	**AP-2BO**	EPA 9056	678022		
50316445004	**AP-7**	EPA 9056	678022		
50316445005	**AP-8**	EPA 9056	678022		
50316445006	**DUP 2**	EPA 9056	678022		
50316445007	**FIELD BLANK 2**	EPA 9056	678022		
50316445001	**AP-1R**	EPA 3010	677582	EPA 6010	678237
50316445002	**AP-2A**	EPA 3010	677582	EPA 6010	678237
50316445003	**AP-2BO**	EPA 3010	677582	EPA 6010	678237
50316445004	**AP-7**	EPA 3010	677582	EPA 6010	678237
50316445005	**AP-8**	EPA 3010	677582	EPA 6010	678237
50316445006	**DUP 2**	EPA 3010	677582	EPA 6010	678237
50316445007	**FIELD BLANK 2**	EPA 3010	677582	EPA 6010	678237
50316445001	**AP-1R**	EPA 3010	677435	EPA 6010	677903
50316445002	**AP-2A**	EPA 3010	677435	EPA 6010	677903
50316445003	**AP-2BO**	EPA 3010	677435	EPA 6010	677903
50316445004	**AP-7**	EPA 3010	677435	EPA 6010	677903
50316445005	**AP-8**	EPA 3010	677435	EPA 6010	677903
50316445006	**DUP 2**	EPA 3010	677435	EPA 6010	677903
50316445001	**AP-1R**	SM 2320B	677185		
50316445002	**AP-2A**	SM 2320B	677185		
50316445003	**AP-2BO**	SM 2320B	677185		
50316445004	**AP-7**	SM 2320B	677185		
50316445005	**AP-8**	SM 2320B	677185		
50316445006	**DUP 2**	SM 2320B	677185		
50316445007	**FIELD BLANK 2**	SM 2320B	677185		
50316445001	**AP-1R**	SM 2540C	676823		
50316445002	**AP-2A**	SM 2540C	676823		
50316445003	**AP-2BO**	SM 2540C	676823		
50316445004	**AP-7**	SM 2540C	676823		
50316445005	**AP-8**	SM 2540C	676823		
50316445006	**DUP 2**	SM 2540C	676823		
50316445007	**FIELD BLANK 2**	SM 2540C	676823		
50316445001	**AP-1R**	SM 4500-H+B	677473		
50316445002	**AP-2A**	SM 4500-H+B	677473		
50316445003	**AP-2BO**	SM 4500-H+B	677473		
50316445004	**AP-7**	SM 4500-H+B	677473		
50316445005	**AP-8**	SM 4500-H+B	677473		
50316445006	**DUP 2**	SM 4500-H+B	677473		
50316445007	**FIELD BLANK 2**	SM 4500-H+B	677473		
50316445001	**AP-1R**	SM 4500-S2-D	676794		
50316445002	**AP-2A**	SM 4500-S2-D	676794		
50316445003	**AP-2BO**	SM 4500-S2-D	676794		
50316445004	**AP-7**	SM 4500-S2-D	676794		
50316445005	**AP-8**	SM 4500-S2-D	676794		

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316445

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316445006	**DUP 2**	SM 4500-S2-D	676794		
50316445007	**FIELD BLANK 2**	SM 4500-S2-D	676794		
50316445001	**AP-1R**	HACH 8146	678396		
50316445002	**AP-2A**	HACH 8146	678396		
50316445003	**AP-2BO**	HACH 8146	678396		
50316445004	**AP-7**	HACH 8146	678397		
50316445005	**AP-8**	HACH 8146	678396		
50316445006	**DUP 2**	HACH 8146	678396		
50316445007	**FIELD BLANK 2**	HACH 8146	678396		
50316445001	**AP-1R**	EPA 353.2	676224		
50316445002	**AP-2A**	EPA 353.2	676224		
50316445003	**AP-2BO**	EPA 353.2	676251		
50316445004	**AP-7**	EPA 353.2	676251		
50316445005	**AP-8**	EPA 353.2	676251		
50316445006	**DUP 2**	EPA 353.2	676251		
50316445007	**FIELD BLANK 2**	EPA 353.2	676251		
50316445001	**AP-1R**	EPA 365.1	676235	EPA 365.1	676453
50316445002	**AP-2A**	EPA 365.1	676235	EPA 365.1	676453
50316445003	**AP-2BO**	EPA 365.1	676235	EPA 365.1	676453
50316445004	**AP-7**	EPA 365.1	676235	EPA 365.1	676453
50316445005	**AP-8**	EPA 365.1	676235	EPA 365.1	676453
50316445006	**DUP 2**	EPA 365.1	676235	EPA 365.1	676453
50316445007	**FIELD BLANK 2**	EPA 365.1	676235	EPA 365.1	676453
50316445001	**AP-1R**	SM 5310C	677890		
50316445002	**AP-2A**	SM 5310C	677890		
50316445003	**AP-2BO**	SM 5310C	677890		
50316445004	**AP-7**	SM 5310C	677890		
50316445005	**AP-8**	SM 5310C	677890		
50316445006	**DUP 2**	SM 5310C	677890		
50316445007	**FIELD BLANK 2**	SM 5310C	677890		
50316445001	**AP-1R**	SM 5310C	677653		
50316445002	**AP-2A**	SM 5310C	677653		
50316445003	**AP-2BO**	SM 5310C	677653		
50316445004	**AP-7**	SM 5310C	677653		
50316445005	**AP-8**	SM 5310C	677653		
50316445006	**DUP 2**	SM 5310C	677653		

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WO# : 50316445

50316445

CHAIN-OF-CUSTOD

The Chain-of-Custody is a LEGA

Page : 1 Of 2

Section A — **Required Client Information:**

Company:	Atlas Indianapolis
Address:	7988 Centerpoint Drive Suite 100
	Indianapolis, IN 46256
Email:	mark.breting@oneatlas.com
Phone:	(317)579-4082 Fax:
Requested Due Date:	

Section B — **Required Project Information:**

Report To:	Mark Breting
Copy To:	
Purchase Order #:	
Project Name:	Petersburg Profile 2 Report 8
Project #:	

Section C — **Invoice Informat.**

Attention:	Accounts Payable - Paula Sedam
Company Name:	Atlas Indianapolis
Address:	
Pace Quote:	
Pace Project Manager:	Hayden Putt
Pace Profile #:	10498/14

Regulatory Agency
State / Location
IN

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Residual Chlorine (Y/N)	
				Requested Analysis Filtered (Y/N)																		Y			Y				
1	AP-1R	WT		5.12.22	1150				9	3	3	2		1				X	X	X	X	X	X	X	X	X		-001
2	AP-2A	WT		5.12.22	1255				9	3	3	2		1				X	X	X	X	X	X	X	X	X		-002
3	AP-2BO	WT		5.12	1400				9	3	3	2		1				X	X	X	X	X	X	X	X	X		-003
4	AP-3	WT							9	3	3	2		1				X	X	X	X	X	X	X	X	X		
5	AP-3A	WT							9	3	3	2		1				X	X	X	X	X	X	X	X	X		
6	AP-4A	WT							9	3	3	2		1				X	X	X	X	X	X	X	X	X		
7	AP-4I	WT							9	3	3	2		1				X	X	X	X	X	X	X	X	X		
8	AP-4B	WT							9	3	3	2		1				X	X	X	X	X	X	X	X	X		
9	AP-5	WT							9	3	3	2		1				X	X	X	X	X	X	X	X	X		
10	AP-5A	WT							9	3	3	2		1				X	X	X	X	X	X	X	X	X		
11	AP-6A	WT							9	3	3	2		1				X	X	X	X	X	X	X	X	X		
12	AP-6B	WT							9	3	3	2		1				X	X	X	X	X	X	X	X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Mn, Mg, Na, K, SiO2)	Nick Walton	5-13	0835	Joy Williams	5/13	8:36	See Sour	Y	Y	Y
	Joy Williams	5-13	11:00							
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick WALTON

SIGNATURE of SAMPLER: Nick Walton — DATE Signed: 5-12-22

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 2 Report 8	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/14

Regulatory Agency	State / Location
	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate				Residual Chlorine (Y/N)	
13	AP-7	WT		5-12	1725				9	3	3	2		1					X	X	X	X	X	X	X	X	X				-004
14	AP-8	WT		5-12	1455				9	3	3	2		1					X	X	X	X	X	X	X	X	X				-005
15	DUP 2	WT		5-12	1455				9	3	3	2		1					X	X	X	X	X	X	X	X	X				-006
16	FIELD BLANK 2	WT		5-12	1610				7	3	2	2		1					X	X	X	X	X	X	X	X	X				-007
17																																
18																																
19																																
20																																
21																																
22																																
23																																
24																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Mn, Mg, Na, K, SiO2)	Nick Walton	5-13	0835	Jay Williams	5/13	8:36	See SWV	Y	Y	Y
	Jay Williams	5-13	11.00							
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

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:	NICK WALTON					
SIGNATURE of SAMPLER:	Nick Walton	DATE Signed: 5-12-22				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 5/13/22 1300

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(s):** 3.6/3.6 | 1.5/1.5 | 1.5/1.5 | 1.8/1.8
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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

	Yes	No
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1400	
Rush TAT Requested (4 days or less):		✓
Custody Signatures Present?	✓	
Containers Intact?:	✓	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓	
Extra labels on Terracore Vials? (soils only)		✓

	Yes	No	N/A
All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
	Present	Absent	N/A
Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Headspace Wisconsin Sulfide?			✓
	Present	Absent	No VOA Vials Sent
Headspace in VOA Vials (>6mm): See Containter Count form for details			✓
Trip Blank Present?		✓	
Trip Blank Custody Seals?:			✓

COMMENTS: #5 2.2/2.2°C (MCS 5/13/22)

COC PAGE 1 of 2

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				1	2	1	1	1		1					WT	✓	✓	
2												↓	↓				↓	↓	↓	↓	↓		↓					↓	↓	↓	
3												↓	↓				↓	↓	↓	↓	↓		↓					↓	↓	↓	
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

COC PAGE 2 of 2

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				1	2	1	1	1		1					SW	✓	9	
2												↓	↓				↓	↓	↓	↓	↓		↓					↓	↓	7	
3													↓							↓										9	
4												↓					↓	↓	↓		↓		↓					↓	↓	✓	
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

July 12, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 13, 2022. 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,

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

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 #: 460198
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: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50316448001	**AP-1R**	Water	05/12/22 11:50	05/13/22 11:00
50316448002	**AP-2A**	Water	05/12/22 12:55	05/13/22 11:00
50316448003	**AP-2BO**	Water	05/12/22 14:00	05/13/22 11:00
50316448004	**AP-7**	Water	05/12/22 17:25	05/13/22 11:00
50316448005	**AP-8**	Water	05/12/22 14:55	05/13/22 11:00
50316448006	**DUP 2**	Water	05/12/22 08:00	05/13/22 11:00
50316448007	**FIELD BLANK 2**	Water	05/12/22 16:10	05/13/22 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50316448001	**AP-1R**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	MMS	1	PASI-I
50316448002	**AP-2A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	MMS	1	PASI-I
50316448003	**AP-2BO**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	MMS	1	PASI-I
50316448004	**AP-7**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	MMS	1	PASI-I
50316448005	**AP-8**	EPA 9056	RMR	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	MMS	1	PASI-I
50316448006	**DUP 2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	MMS	1	PASI-I
50316448007	**FIELD BLANK 2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	MMS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316448001	**AP-1R**					
EPA 9056	Chloride	145	mg/L	25.0	05/26/22 17:19	
EPA 9056	Sulfate	1050	mg/L	25.0	05/26/22 17:19	
EPA 6010	Boron	9520	ug/L	100	05/25/22 10:41	
EPA 6010	Calcium	435000	ug/L	3000	05/25/22 11:23	
EPA 6020	Arsenic	1.7	ug/L	1.0	05/20/22 07:48	
EPA 6020	Barium	66.5	ug/L	1.0	05/20/22 07:48	
EPA 6020	Molybdenum	13.4	ug/L	1.0	05/20/22 07:48	
EPA 903.1	Radium-226	0.293 ± 0.269 (0.159) C:NA T:91%	pCi/L		07/01/22 15:05	
EPA 904.0	Radium-228	0.891 ± 0.400 (0.650) C:75% T:91%	pCi/L		06/24/22 14:32	
Total Radium Calculation	Total Radium	1.18 ± 0.669 (0.809)	pCi/L		07/01/22 17:37	
SM 2540C	Total Dissolved Solids	2190	mg/L	20.0	05/18/22 12:59	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/20/22 18:30	H3
50316448002	**AP-2A**					
EPA 9056	Chloride	130	mg/L	25.0	05/26/22 18:07	
EPA 9056	Sulfate	1550	mg/L	25.0	05/26/22 18:07	
EPA 6010	Boron	18600	ug/L	100	05/25/22 10:44	
EPA 6010	Calcium	638000	ug/L	5000	05/25/22 11:25	
EPA 6010	Lithium	66.8	ug/L	20.0	05/25/22 10:44	
EPA 6020	Antimony	3.1	ug/L	1.0	05/20/22 07:52	
EPA 6020	Arsenic	16.0	ug/L	1.0	05/20/22 07:52	
EPA 6020	Barium	52.6	ug/L	1.0	05/20/22 07:52	
EPA 6020	Lead	1.5	ug/L	1.0	05/20/22 07:52	
EPA 6020	Molybdenum	1570	ug/L	20.0	05/20/22 20:09	
EPA 903.1	Radium-226	0.473 ± 0.466 (0.710) C:NA T:91%	pCi/L		07/01/22 15:05	
EPA 904.0	Radium-228	1.32 ± 0.454 (0.614) C:77% T:91%	pCi/L		06/24/22 14:32	
Total Radium Calculation	Total Radium	1.79 ± 0.920 (1.32)	pCi/L		07/01/22 17:37	
SM 2540C	Total Dissolved Solids	2530	mg/L	40.0	05/19/22 14:50	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/20/22 18:33	H3
50316448003	**AP-2BO**					
EPA 9056	Chloride	113	mg/L	2.5	05/26/22 18:41	
EPA 9056	Sulfate	1460	mg/L	25.0	05/26/22 18:58	
EPA 6010	Boron	16500	ug/L	100	05/25/22 10:46	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316448003	**AP-2BO**					
EPA 6010	Calcium	548000	ug/L	5000	05/25/22 11:27	
EPA 6020	Arsenic	2.0	ug/L	1.0	05/20/22 08:07	
EPA 6020	Barium	25.8	ug/L	1.0	05/20/22 08:07	
EPA 6020	Cobalt	4.8	ug/L	1.0	05/20/22 08:07	
EPA 6020	Molybdenum	155	ug/L	1.0	05/20/22 08:07	
EPA 903.1	Radium-226	0.438 ± 0.410 (0.582) C:NA T:91%	pCi/L		07/01/22 15:05	
EPA 904.0	Radium-228	0.913 ± 0.418 (0.695) C:76% T:91%	pCi/L		06/24/22 14:32	
Total Radium Calculation	Total Radium	1.35 ± 0.828 (1.28)	pCi/L		07/01/22 17:37	
SM 2540C	Total Dissolved Solids	2270	mg/L	40.0	05/19/22 14:50	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/20/22 18:33	H3
50316448004	**AP-7**					
EPA 9056	Chloride	4.2	mg/L	0.25	05/26/22 19:48	
EPA 9056	Sulfate	322	mg/L	25.0	05/26/22 20:22	
EPA 6010	Boron	273	ug/L	100	05/25/22 10:48	
EPA 6010	Calcium	214000	ug/L	2000	05/25/22 11:29	
EPA 6020	Arsenic	1.5	ug/L	1.0	05/20/22 08:12	
EPA 6020	Barium	82.2	ug/L	1.0	05/20/22 08:12	
EPA 903.1	Radium-226	0.616 ± 0.356 (0.139) C:NA T:90%	pCi/L		07/01/22 15:05	
EPA 904.0	Radium-228	0.800 ± 0.360 (0.581) C:80% T:90%	pCi/L		06/24/22 14:32	
Total Radium Calculation	Total Radium	1.42 ± 0.716 (0.720)	pCi/L		07/01/22 17:37	
SM 2540C	Total Dissolved Solids	1030	mg/L	20.0	05/19/22 14:51	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/20/22 18:34	H3
50316448005	**AP-8**					
EPA 9056	Chloride	12.4	mg/L	0.25	05/26/22 20:39	
EPA 9056	Fluoride	1.0	mg/L	0.10	05/26/22 20:39	
EPA 9056	Sulfate	856	mg/L	25.0	05/26/22 21:13	
EPA 6010	Boron	536	ug/L	100	05/25/22 10:51	
EPA 6010	Calcium	160000	ug/L	1000	05/25/22 10:51	
EPA 6010	Lithium	83.0	ug/L	20.0	05/25/22 10:51	
EPA 6020	Arsenic	5.4	ug/L	1.0	05/20/22 08:16	
EPA 6020	Barium	15.2	ug/L	1.0	05/20/22 08:16	
EPA 6020	Beryllium	4.2	ug/L	0.20	05/20/22 08:16	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316448005	**AP-8**					
EPA 6020	Cadmium	15.4	ug/L	0.20	05/20/22 08:16	
EPA 6020	Cobalt	663	ug/L	10.0	05/20/22 20:13	
EPA 903.1	Radium-226	0.510 ± 0.338 (0.154) C:NA T:86%	pCi/L		07/01/22 15:05	
EPA 904.0	Radium-228	0.280 ± 0.282 (0.575) C:78% T:86%	pCi/L		06/24/22 14:32	
Total Radium Calculation	Total Radium	0.790 ± 0.620 (0.729)	pCi/L		07/01/22 17:37	
SM 2540C	Total Dissolved Solids	1450	mg/L	20.0	05/19/22 14:51	
SM 4500-H+B	pH at 25 Degrees C	4.9	Std. Units	0.10	05/20/22 18:36	H3
50316448006	**DUP 2**					
EPA 9056	Chloride	12.2	mg/L	0.25	05/26/22 21:30	
EPA 9056	Fluoride	1.1	mg/L	0.10	05/26/22 21:30	
EPA 9056	Sulfate	862	mg/L	25.0	05/26/22 22:04	
EPA 6010	Boron	434	ug/L	100	05/25/22 10:57	
EPA 6010	Calcium	163000	ug/L	1000	05/25/22 10:57	
EPA 6010	Lithium	112	ug/L	20.0	05/25/22 10:57	
EPA 6020	Arsenic	6.5	ug/L	1.0	05/20/22 10:07	
EPA 6020	Barium	16.7	ug/L	1.0	05/20/22 08:21	
EPA 6020	Beryllium	5.8	ug/L	0.20	05/20/22 08:21	
EPA 6020	Cadmium	23.1	ug/L	0.20	05/20/22 08:21	
EPA 6020	Cobalt	820	ug/L	10.0	05/20/22 20:18	
EPA 6020	Lead	2.9	ug/L	1.0	05/20/22 10:07	
EPA 6020	Molybdenum	2.0	ug/L	1.0	05/20/22 10:07	
EPA 903.1	Radium-226	0.104 ± 0.237 (0.381) C:NA T:96%	pCi/L		07/01/22 15:40	
EPA 904.0	Radium-228	1.08 ± 0.382 (0.518) C:82% T:96%	pCi/L		06/24/22 14:32	
Total Radium Calculation	Total Radium	1.18 ± 0.619 (0.899)	pCi/L		07/01/22 17:37	
SM 2540C	Total Dissolved Solids	1450	mg/L	20.0	05/19/22 14:51	
SM 4500-H+B	pH at 25 Degrees C	5.3	Std. Units	0.10	05/20/22 18:37	H3
50316448007	**FIELD BLANK 2**					
EPA 903.1	Radium-226	-0.228 ± 0.354 (0.856) C:NA T:88%	pCi/L		07/01/22 15:28	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316448007	**FIELD BLANK 2**					
EPA 904.0	Radium-228	0.565 ± 0.339 (0.619) C:80% T:88%	pCi/L		06/24/22 14:32	
Total Radium Calculation	Total Radium	0.565 ± 0.693 (1.48)	pCi/L		07/01/22 17:37	
SM 4500-H+B	pH at 25 Degrees C	5.5	Std. Units	0.10	05/20/22 18:38	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-1R **Lab ID: 50316448001** Collected: 05/12/22 11:50 Received: 05/13/22 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	**145**	mg/L	25.0	100		05/26/22 17:19	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 15:16	16984-48-8	
Sulfate	**1050**	mg/L	25.0	100		05/26/22 17:19	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**9520**	ug/L	100	1	05/24/22 09:12	05/25/22 10:41	7440-42-8	
Calcium	**435000**	ug/L	3000	3	05/24/22 09:12	05/25/22 11:23	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/24/22 09:12	05/25/22 10:41	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:48	7440-36-0	
Arsenic	**1.7**	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:48	7440-38-2	
Barium	**66.5**	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:48	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 07:48	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 07:48	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 08:05	05/20/22 07:48	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:48	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:48	7439-92-1	
Molybdenum	**13.4**	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:48	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:48	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:48	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/19/22 21:10	05/20/22 15:36	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2190**	mg/L	20.0	1		05/18/22 12:59		
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		05/20/22 18:30		H3

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ANALYTICAL RESULTS

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-2A **Lab ID: 50316448002** Collected: 05/12/22 12:55 Received: 05/13/22 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	**130**	mg/L	25.0	100		05/26/22 18:07	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 17:35	16984-48-8	
Sulfate	**1550**	mg/L	25.0	100		05/26/22 18:07	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**18600**	ug/L	100	1	05/24/22 09:12	05/25/22 10:44	7440-42-8	
Calcium	**638000**	ug/L	5000	5	05/24/22 09:12	05/25/22 11:25	7440-70-2	
Lithium	**66.8**	ug/L	20.0	1	05/24/22 09:12	05/25/22 10:44	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	**3.1**	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:52	7440-36-0	
Arsenic	**16.0**	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:52	7440-38-2	
Barium	**52.6**	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:52	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 07:52	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 07:52	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 08:05	05/20/22 07:52	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:52	7440-48-4	
Lead	**1.5**	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:52	7439-92-1	
Molybdenum	**1570**	ug/L	20.0	20	05/19/22 08:05	05/20/22 20:09	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:52	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:52	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/19/22 21:10	05/20/22 15:38	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2530**	mg/L	40.0	1		05/19/22 14:50		
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		05/20/22 18:33		H3

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ANALYTICAL RESULTS

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-2BO **Lab ID: 50316448003** Collected: 05/12/22 14:00 Received: 05/13/22 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	**113**	mg/L	2.5	10		05/26/22 18:41	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 18:24	16984-48-8	
Sulfate	**1460**	mg/L	25.0	100		05/26/22 18:58	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**16500**	ug/L	100	1	05/24/22 09:12	05/25/22 10:46	7440-42-8	
Calcium	**548000**	ug/L	5000	5	05/24/22 09:12	05/25/22 11:27	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/24/22 09:12	05/25/22 10:46	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:07	7440-36-0	
Arsenic	**2.0**	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:07	7440-38-2	
Barium	**25.8**	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:07	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 08:07	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 08:07	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 08:05	05/20/22 08:07	7440-47-3	
Cobalt	**4.8**	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:07	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 09:24	7439-92-1	
Molybdenum	**155**	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:07	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:07	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 09:24	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/19/22 21:10	05/20/22 15:41	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2270**	mg/L	40.0	1		05/19/22 14:50		
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		05/20/22 18:33		H3

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ANALYTICAL RESULTS

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-7 **Lab ID: 50316448004** Collected: 05/12/22 17:25 Received: 05/13/22 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	**4.2**	mg/L	0.25	1		05/26/22 19:48	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 19:48	16984-48-8	
Sulfate	**322**	mg/L	25.0	100		05/26/22 20:22	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**273**	ug/L	100	1	05/24/22 09:12	05/25/22 10:48	7440-42-8	
Calcium	**214000**	ug/L	2000	2	05/24/22 09:12	05/25/22 11:29	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/24/22 09:12	05/25/22 10:48	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:12	7440-36-0	
Arsenic	**1.5**	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:12	7440-38-2	
Barium	**82.2**	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:12	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 08:12	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 08:12	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 08:05	05/20/22 08:12	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:12	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 09:29	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:12	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 09:29	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/19/22 21:10	05/20/22 15:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1030**	mg/L	20.0	1		05/19/22 14:51		
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		05/20/22 18:34		H3

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ANALYTICAL RESULTS

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-8 **Lab ID: 50316448005** Collected: 05/12/22 14:55 Received: 05/13/22 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	**12.4**	mg/L	0.25	1		05/26/22 20:39	16887-00-6	
Fluoride	**1.0**	mg/L	0.10	1		05/26/22 20:39	16984-48-8	
Sulfate	**856**	mg/L	25.0	100		05/26/22 21:13	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**536**	ug/L	100	1	05/24/22 09:12	05/25/22 10:51	7440-42-8	
Calcium	**160000**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:51	7440-70-2	
Lithium	**83.0**	ug/L	20.0	1	05/24/22 09:12	05/25/22 10:51	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:16	7440-36-0	
Arsenic	**5.4**	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:16	7440-38-2	
Barium	**15.2**	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:16	7440-39-3	
Beryllium	**4.2**	ug/L	0.20	1	05/19/22 08:05	05/20/22 08:16	7440-41-7	
Cadmium	**15.4**	ug/L	0.20	1	05/19/22 08:05	05/20/22 08:16	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 08:05	05/20/22 08:16	7440-47-3	
Cobalt	**663**	ug/L	10.0	10	05/19/22 08:05	05/20/22 20:13	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 10:17	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 10:17	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:16	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 10:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/19/22 21:10	05/20/22 15:46	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1450**	mg/L	20.0	1		05/19/22 14:51		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**4.9**	Std. Units	0.10	1		05/20/22 18:36		H3

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ANALYTICAL RESULTS

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: DUP 2 **Lab ID: 50316448006** Collected: 05/12/22 08:00 Received: 05/13/22 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	**12.2**	mg/L	0.25	1		05/26/22 21:30	16887-00-6	
Fluoride	**1.1**	mg/L	0.10	1		05/26/22 21:30	16984-48-8	
Sulfate	**862**	mg/L	25.0	100		05/26/22 22:04	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**434**	ug/L	100	1	05/24/22 09:12	05/25/22 10:57	7440-42-8	
Calcium	**163000**	ug/L	1000	1	05/24/22 09:12	05/25/22 10:57	7440-70-2	
Lithium	**112**	ug/L	20.0	1	05/24/22 09:12	05/25/22 10:57	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:21	7440-36-0	
Arsenic	**6.5**	ug/L	1.0	1	05/19/22 08:05	05/20/22 10:07	7440-38-2	
Barium	**16.7**	ug/L	1.0	1	05/19/22 08:05	05/20/22 08:21	7440-39-3	
Beryllium	**5.8**	ug/L	0.20	1	05/19/22 08:05	05/20/22 08:21	7440-41-7	
Cadmium	**23.1**	ug/L	0.20	1	05/19/22 08:05	05/20/22 08:21	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 08:05	05/20/22 08:21	7440-47-3	
Cobalt	**820**	ug/L	10.0	10	05/19/22 08:05	05/20/22 20:18	7440-48-4	
Lead	**2.9**	ug/L	1.0	1	05/19/22 08:05	05/20/22 10:07	7439-92-1	
Molybdenum	**2.0**	ug/L	1.0	1	05/19/22 08:05	05/20/22 10:07	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 10:07	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 10:07	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/19/22 21:10	05/20/22 15:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1450**	mg/L	20.0	1		05/19/22 14:51		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		05/20/22 18:37		H3

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ANALYTICAL RESULTS

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: FIELD BLANK 2 **Lab ID: 50316448007** Collected: 05/12/22 16:10 Received: 05/13/22 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		05/26/22 23:12	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/26/22 23:12	16984-48-8	
Sulfate	ND	mg/L	0.25	1		05/26/22 23:12	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	ND	ug/L	100	1	05/24/22 09:12	05/25/22 11:00	7440-42-8	
Calcium	ND	ug/L	1000	1	05/24/22 09:12	05/25/22 11:00	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/24/22 09:12	05/25/22 11:00	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:33	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:33	7440-38-2	
Barium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:33	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 07:33	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 08:05	05/20/22 07:33	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 08:05	05/20/22 07:33	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:33	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:33	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:33	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:33	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 08:05	05/20/22 07:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/19/22 21:17	05/20/22 16:00	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		05/19/22 14:52		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		05/20/22 18:38		H3

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QUALITY CONTROL DATA

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

QC Batch: 678022
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

METHOD BLANK: 3121706 Matrix: Water
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/26/22 03:35	
Fluoride	mg/L	ND	0.10	05/26/22 03:35	
Sulfate	mg/L	ND	0.25	05/26/22 03:35	

LABORATORY CONTROL SAMPLE: 3121707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	89	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: 3121708 3121709

Parameter	Units	50316445001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	144	125	125	246	245	82	81	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.37	0.36	74	72	80-120	3	15	M0
Sulfate	mg/L	1080	250	250	1260	1260	73	73	80-120	0	15	M0

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QUALITY CONTROL DATA

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

QC Batch: 677005 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006

METHOD BLANK: 3117090 Matrix: Water
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/20/22 14:26	

LABORATORY CONTROL SAMPLE: 3117091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3117092 3117093

Parameter	Units	50316359001 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	5.0	100	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

QC Batch: 677141
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316448007

METHOD BLANK: 3117622 Matrix: Water
Associated Lab Samples: 50316448007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/20/22 15:51	

LABORATORY CONTROL SAMPLE: 3117623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3117624 3117625

Parameter	Units	50316506002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.7	4.8	95	96	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3117626 3117627

Parameter	Units	50316507001 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	5.0	99	99	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

QC Batch: 677582
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

METHOD BLANK: 3120333 Matrix: Water
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	05/25/22 12:24	
Calcium	ug/L	ND	1000	05/25/22 12:24	
Lithium	ug/L	ND	20.0	05/25/22 12:24	

LABORATORY CONTROL SAMPLE: 3120334

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	945	95	80-120	
Calcium	ug/L	10000	9930	99	80-120	
Lithium	ug/L	1000	947	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120335 3120336

Parameter	Units	50316345018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	58.4J	1000	1000	1080	1020	102	97	75-125	5	20	
Calcium	ug/L	233000	10000	10000	263000	252000	306	197	75-125	4	20	E,P6
Lithium	ug/L	75.8	1000	1000	1140	1090	106	101	75-125	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120337 3120338

Parameter	Units	50316525001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	279	1000	1000	1260	1270	99	99	75-125	0	20	
Calcium	ug/L	232000	10000	10000	237000	237000	56	57	75-125	0	20	E,P6
Lithium	ug/L	49.2	1000	1000	1040	1070	100	102	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

QC Batch: 676953
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

METHOD BLANK: 3116776 Matrix: Water
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/20/22 06:50	
Arsenic	ug/L	ND	1.0	05/20/22 06:50	
Barium	ug/L	ND	1.0	05/20/22 06:50	
Beryllium	ug/L	ND	0.20	05/20/22 06:50	
Cadmium	ug/L	ND	0.20	05/20/22 06:50	
Chromium	ug/L	ND	2.0	05/20/22 06:50	
Cobalt	ug/L	ND	1.0	05/20/22 06:50	
Lead	ug/L	ND	1.0	05/20/22 06:50	
Molybdenum	ug/L	ND	1.0	05/20/22 06:50	
Selenium	ug/L	ND	1.0	05/20/22 06:50	
Thallium	ug/L	ND	1.0	05/20/22 06:50	

LABORATORY CONTROL SAMPLE: 3116777

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.3	106	80-120	
Arsenic	ug/L	40	39.4	98	80-120	
Barium	ug/L	40	39.0	97	80-120	
Beryllium	ug/L	40	39.4	98	80-120	
Cadmium	ug/L	40	38.9	97	80-120	
Chromium	ug/L	40	39.8	100	80-120	
Cobalt	ug/L	40	41.5	104	80-120	
Lead	ug/L	40	40.2	101	80-120	
Molybdenum	ug/L	40	40.2	100	80-120	
Selenium	ug/L	40	39.3	98	80-120	
Thallium	ug/L	40	40.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3116778 3116779

Parameter	Units	50316784011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.8	42.4	104	106	75-125	1	20	
Arsenic	ug/L	ND	40	40	44.3	45.3	99	102	75-125	2	20	
Barium	ug/L	13.3	40	40	52.0	52.4	97	98	75-125	1	20	
Beryllium	ug/L	ND	40	40	40.6	40.9	101	102	75-125	1	20	
Cadmium	ug/L	ND	40	40	38.1	38.5	95	96	75-125	1	20	
Chromium	ug/L	ND	40	40	38.0	38.9	94	97	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3116778 3116779

Parameter	Units	50316784011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	ND	40	40	38.2	38.5	95	96	75-125	1	20	
Lead	ug/L	ND	40	40	40.0	40.2	99	100	75-125	1	20	
Molybdenum	ug/L	9.2	40	40	49.6	49.7	101	101	75-125	0	20	
Selenium	ug/L	ND	40	40	39.8	40.1	98	99	75-125	1	20	
Thallium	ug/L	ND	40	40	40.1	40.4	100	101	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

QC Batch: 676823
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316448001

METHOD BLANK: 3116131 Matrix: Water
Associated Lab Samples: 50316448001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/18/22 12:49	

LABORATORY CONTROL SAMPLE: 3116132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	318	106	80-120	

SAMPLE DUPLICATE: 3116134

Parameter	Units	50316343005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1390	1550	11	10	R1

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QUALITY CONTROL DATA

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

QC Batch: 677048 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

METHOD BLANK: 3117317 Matrix: Water
Associated Lab Samples: 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/19/22 14:49	

LABORATORY CONTROL SAMPLE: 3117318

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

SAMPLE DUPLICATE: 3117319

Parameter	Units	50316448002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2530	2520	0	10	

SAMPLE DUPLICATE: 3117320

Parameter	Units	50316481022 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	588	584	1	10	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-1R **Lab ID: 50316448001** Collected: 05/12/22 11:50 Received: 05/13/22 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	**0.293 ± 0.269 (0.159) C:NA T:91%**	pCi/L	07/01/22 15:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.891 ± 0.400 (0.650) C:75% T:91%**	pCi/L	06/24/22 14:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.18 ± 0.669 (0.809)**	pCi/L	07/01/22 17:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-2A **Lab ID: 50316448002** Collected: 05/12/22 12:55 Received: 05/13/22 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	**0.473 ± 0.466 (0.710) C:NA T:91%**	pCi/L	07/01/22 15:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.32 ± 0.454 (0.614) C:77% T:91%**	pCi/L	06/24/22 14:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.79 ± 0.920 (1.32)**	pCi/L	07/01/22 17:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-2BO **Lab ID: 50316448003** Collected: 05/12/22 14:00 Received: 05/13/22 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	**0.438 ± 0.410 (0.582) C:NA T:91%**	pCi/L	07/01/22 15:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.913 ± 0.418 (0.695) C:76% T:91%**	pCi/L	06/24/22 14:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.35 ± 0.828 (1.28)**	pCi/L	07/01/22 17:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-7 **Lab ID: 50316448004** Collected: 05/12/22 17:25 Received: 05/13/22 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	**0.616 ± 0.356 (0.139) C:NA T:90%**	pCi/L	07/01/22 15:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.800 ± 0.360 (0.581) C:80% T:90%**	pCi/L	06/24/22 14:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.42 ± 0.716 (0.720)**	pCi/L	07/01/22 17:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: AP-8 **Lab ID: 50316448005** Collected: 05/12/22 14:55 Received: 05/13/22 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	**0.510 ± 0.338 (0.154) C:NA T:86%**	pCi/L	07/01/22 15:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.280 ± 0.282 (0.575) C:78% T:86%**	pCi/L	06/24/22 14:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.790 ± 0.620 (0.729)**	pCi/L	07/01/22 17:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: DUP 2 **Lab ID: 50316448006** Collected: 05/12/22 08:00 Received: 05/13/22 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	**0.104 ± 0.237 (0.381) C:NA T:96%**	pCi/L	07/01/22 15:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.08 ± 0.382 (0.518) C:82% T:96%**	pCi/L	06/24/22 14:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.18 ± 0.619 (0.899)**	pCi/L	07/01/22 17:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Sample: FIELD BLANK 2 **Lab ID: 50316448007** Collected: 05/12/22 16:10 Received: 05/13/22 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	**-0.228 ± 0.354 (0.856) C:NA T:88%**	pCi/L	07/01/22 15:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.565 ± 0.339 (0.619) C:80% T:88%**	pCi/L	06/24/22 14:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.565 ± 0.693 (1.48)**	pCi/L	07/01/22 17:37	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

QC Batch: 510534
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

METHOD BLANK: 2474553 Matrix: Water
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.879 ± 0.385 (0.617) C:78% T:86%	pCi/L	06/24/22 11:25	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

QC Batch: 510532 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: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

METHOD BLANK: 2474548 Matrix: Water
Associated Lab Samples: 50316448001, 50316448002, 50316448003, 50316448004, 50316448005, 50316448006, 50316448007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0616 ± 0.281 (0.572) C:NA T:86%	pCi/L	07/01/22 15:05	

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QUALIFIERS

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

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

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.
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.
R1	RPD value was outside control limits.

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316448001	**AP-1R**	EPA 9056	678022		
50316448002	**AP-2A**	EPA 9056	678022		
50316448003	**AP-2BO**	EPA 9056	678022		
50316448004	**AP-7**	EPA 9056	678022		
50316448005	**AP-8**	EPA 9056	678022		
50316448006	**DUP 2**	EPA 9056	678022		
50316448007	**FIELD BLANK 2**	EPA 9056	678022		
50316448001	**AP-1R**	EPA 3010	677582	EPA 6010	678237
50316448002	**AP-2A**	EPA 3010	677582	EPA 6010	678237
50316448003	**AP-2BO**	EPA 3010	677582	EPA 6010	678237
50316448004	**AP-7**	EPA 3010	677582	EPA 6010	678237
50316448005	**AP-8**	EPA 3010	677582	EPA 6010	678237
50316448006	**DUP 2**	EPA 3010	677582	EPA 6010	678237
50316448007	**FIELD BLANK 2**	EPA 3010	677582	EPA 6010	678237
50316448001	**AP-1R**	EPA 200.2	676953	EPA 6020	677122
50316448002	**AP-2A**	EPA 200.2	676953	EPA 6020	677122
50316448003	**AP-2BO**	EPA 200.2	676953	EPA 6020	677122
50316448004	**AP-7**	EPA 200.2	676953	EPA 6020	677122
50316448005	**AP-8**	EPA 200.2	676953	EPA 6020	677122
50316448006	**DUP 2**	EPA 200.2	676953	EPA 6020	677122
50316448007	**FIELD BLANK 2**	EPA 200.2	676953	EPA 6020	677122
50316448001	**AP-1R**	EPA 7470	677005	EPA 7470	677299
50316448002	**AP-2A**	EPA 7470	677005	EPA 7470	677299
50316448003	**AP-2BO**	EPA 7470	677005	EPA 7470	677299
50316448004	**AP-7**	EPA 7470	677005	EPA 7470	677299
50316448005	**AP-8**	EPA 7470	677005	EPA 7470	677299
50316448006	**DUP 2**	EPA 7470	677005	EPA 7470	677299
50316448007	**FIELD BLANK 2**	EPA 7470	677141	EPA 7470	677300
50316448001	**AP-1R**	EPA 903.1	510532		
50316448002	**AP-2A**	EPA 903.1	510532		
50316448003	**AP-2BO**	EPA 903.1	510532		
50316448004	**AP-7**	EPA 903.1	510532		
50316448005	**AP-8**	EPA 903.1	510532		
50316448006	**DUP 2**	EPA 903.1	510532		
50316448007	**FIELD BLANK 2**	EPA 903.1	510532		
50316448001	**AP-1R**	EPA 904.0	510534		
50316448002	**AP-2A**	EPA 904.0	510534		
50316448003	**AP-2BO**	EPA 904.0	510534		
50316448004	**AP-7**	EPA 904.0	510534		
50316448005	**AP-8**	EPA 904.0	510534		
50316448006	**DUP 2**	EPA 904.0	510534		
50316448007	**FIELD BLANK 2**	EPA 904.0	510534		
50316448001	**AP-1R**	Total Radium Calculation	515968		
50316448002	**AP-2A**	Total Radium Calculation	515968		
50316448003	**AP-2BO**	Total Radium Calculation	515968		

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersurg Profile 2 Report 4
Pace Project No.: 50316448

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316448004	**AP-7**	Total Radium Calculation	515968		
50316448005	**AP-8**	Total Radium Calculation	515968		
50316448006	**DUP 2**	Total Radium Calculation	515968		
50316448007	**FIELD BLANK 2**	Total Radium Calculation	515968		
50316448001	**AP-1R**	SM 2540C	676823		
50316448002	**AP-2A**	SM 2540C	677048		
50316448003	**AP-2BO**	SM 2540C	677048		
50316448004	**AP-7**	SM 2540C	677048		
50316448005	**AP-8**	SM 2540C	677048		
50316448006	**DUP 2**	SM 2540C	677048		
50316448007	**FIELD BLANK 2**	SM 2540C	677048		
50316448001	**AP-1R**	SM 4500-H+B	685685		
50316448002	**AP-2A**	SM 4500-H+B	685685		
50316448003	**AP-2BO**	SM 4500-H+B	685685		
50316448004	**AP-7**	SM 4500-H+B	685685		
50316448005	**AP-8**	SM 4500-H+B	685685		
50316448006	**DUP 2**	SM 4500-H+B	685685		
50316448007	**FIELD BLANK 2**	SM 4500-H+B	685685		

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 2 Report 4 App III/IV	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/11

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS	(Cl, F, SO4) IC	Metals, Total*	Rad-228	Rad-226	Residual Chlorine (Y/N)	
1	AP-1R	WT		5/12	1150				5	2		3						X	X	X		X	X		-001
2	AP-2A	WT		5/12	1255				5	2		3						X	X	X		X	X		-002
3	AP-2BO	WT		5/12	1400				5	2		3						X	X	X		X	X		-003
4	AP-3	WT							5	2		3						X	X	X		X	X		
5	AP-3A	WT							5	2		3						X	X	X		X	X		
6	AP-4A	WT							5	2		3						X	X	X		X	X		
7	AP-4I	WT							5	2		3						X	X	X		X	X		
8	AP-4B	WT							5	2		3						X	X	X		X	X		
9	AP-5	WT							5	2		3						X	X	X		X	X		
10	AP-5A	WT							5	2		3						X	X	X		X	X		
11	AP-6A	WT							5	2		3						X	X	X		X	X		
12	AP-6B	WT							5	2		3						X	X	X		X	X		

MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (B, Ca, Li)	Nick Walton	5-13	0835	Jay Williams	5/13	8:26				
6020 (Be, Ba, Cr, Co, As, Se, Pb, Mo, Cd, Tl, Sb): 7470 Hg	Jay Williams	5-13	11:00		5/13/22	1100	See Sum	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:	NICK WALTON					
SIGNATURE of SAMPLER:	Nick Walton	DATE Signed: 5-12-22				

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CHAIN-OF-CUSTODY / Analy

The Chain-of-Custody is a LEGAL DOCUMEN

WO# : 50316448

50316448

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Atlas Indianapolis	Report To: Mark Breting	Attention: Accounts Payable - Paula Sedam
Address: 7988 Centerpoint Drive Suite 100	Copy To:	Company Name: Atlas Indianapolis
Indianapolis, IN 46256		Address:
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:
Phone: (317)579-4082 Fax:	Project Name: Profile 2 Report 4 App III/IV	Pace Project Manager: Hayden Putt
Requested Due Date:	Project #:	Pace Profile #: 10498/11

Regulatory Agency	State / Location
	IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: TDS	(Cl, F, SO4) IC	Metals, Total*	Rad-228	Rad-226	Residual Chlorine (Y/N)	
13	AP-7	WT		5/12	1725				5	2		3							X	X	X		X	X		-004
14	AP-8	WT		5/12	1455				5	2		3							X	X	X		X	X		
15	DUP 2	WT							5	2		3							X	X	X		X	X		-005
16	FIELD BLANK 2	WT		5-12	1610				5	2		3							X	X	X		X	X		-006
17																										
18																										
19																										
20																										
21																										
22																										
23																										
24																										

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (B, Ca, Li)	Nick Walton	5-13	0835	Jay Williams	5/13	8:36				
6020 (Be, Ba, Cr, Co, As, Se, Pb, Mo, Cd, Tl, Sb): 7470 Hg	Jay Williams	5-13	11:00	[illegible]	5/13/22	1100	See Cmts	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:	NICK WALTON					
SIGNATURE of SAMPLER:	Nick Walton	DATE Signed: 5-12-22				

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 5/13/22 1300

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(s):** (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

3.6/3.6	1.5/1.5	1.5/1.5	1.8/1.8

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** Circle: **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS: #5 2.2/2.2°C (MCS 5/13/22) / Received sample point "DUP2." 5/12/22 @ 1610 (MCS 5/13/22)

COC PAGE 1 of 2

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																2		2	1									WT	✓		
2																↓		↓	↓									↓	↓		
3																↓		↓	↓									↓	↓		
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

COC PAGE 2 of 2

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																2		2	1									WS	✓		
2																↓		↓	↓									↓	↓		
3																				5/12/22 @ 1610											
4																↓		↓	↓												
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 03, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 16, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Indianapolis

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

Sincerely,

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50316560001	**AP-3**	Water	05/15/22 08:55	05/16/22 10:30
50316560002	**AP-3A**	Water	05/15/22 09:45	05/16/22 10:30
50316560003	**AP-4A**	Water	05/15/22 10:50	05/16/22 10:30
50316560004	**AP-4I**	Water	05/15/22 12:30	05/16/22 10:30
50316560005	**AP-4B**	Water	05/15/22 13:15	05/16/22 10:30
50316560006	**AP-5**	Water	05/15/22 14:10	05/16/22 10:30
50316560007	**AP-5A**	Water	05/15/22 15:35	05/16/22 10:30
50316560008	**AP-6A**	Water	05/15/22 16:30	05/16/22 10:30
50316560009	**AP-6B**	Water	05/15/22 17:25	05/16/22 10:30

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50316560001	**AP-3**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50316560002	**AP-3A**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50316560003	**AP-4A**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50316560004	**AP-4I**	EPA 9056	BK1	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50316560005	**AP-4B**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50316560006	**AP-5**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50316560007	**AP-5A**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	7	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50316560008	**AP-6A**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50316560009	**AP-6B**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	2	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I

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REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316560001	**AP-3**					
EPA 9056	Chloride	12.3	mg/L	2.5	05/27/22 15:15	
EPA 9056	Fluoride	0.13	mg/L	0.10	05/27/22 14:57	
EPA 9056	Sulfate	183	mg/L	2.5	05/27/22 15:15	
EPA 6010	Magnesium	42600	ug/L	1000	05/27/22 10:25	
EPA 6010	Manganese	40.6	ug/L	10.0	05/27/22 10:25	
EPA 6010	Silica	14500	ug/L	450	05/27/22 10:25	N2
EPA 6010	Sodium	11100	ug/L	1000	05/27/22 10:25	
SM 2320B	Alkalinity, Total as CaCO3	421	mg/L	2.0	05/21/22 13:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	421	mg/L	2.0	05/21/22 13:35	
SM 2540C	Total Dissolved Solids	747	mg/L	10.0	05/19/22 15:33	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/21/22 08:56	H3
EPA 353.2	Nitrogen, Nitrate	5.4	mg/L	0.20	05/16/22 21:31	
SM 5310C	Dissolved Organic Carbon	2.3	mg/L	1.0	05/26/22 23:37	
50316560002	**AP-3A**					
EPA 9056	Chloride	158	mg/L	25.0	05/27/22 16:29	
EPA 9056	Fluoride	0.15	mg/L	0.10	05/27/22 15:52	
EPA 9056	Sulfate	1740	mg/L	25.0	05/27/22 16:29	
EPA 6010	Iron	8050	ug/L	100	05/27/22 10:27	
EPA 6010	Magnesium	46300	ug/L	1000	05/27/22 10:27	
EPA 6010	Manganese	2920	ug/L	10.0	05/27/22 10:27	
EPA 6010	Potassium	16600	ug/L	1000	05/27/22 10:27	
EPA 6010	Silica	13200	ug/L	450	05/27/22 10:27	N2
EPA 6010	Sodium	51400	ug/L	1000	05/27/22 10:27	
EPA 6010	Manganese, Dissolved	2790	ug/L	10.0	05/26/22 01:06	
EPA 6010	Molybdenum, Dissolved	632	ug/L	10.0	05/26/22 01:06	
SM 2320B	Alkalinity, Total as CaCO3	76.3	mg/L	2.0	05/21/22 13:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	76.3	mg/L	2.0	05/21/22 13:35	
SM 2540C	Total Dissolved Solids	2880	mg/L	40.0	05/19/22 15:34	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/21/22 08:56	H3
HACH 8146	Iron, Ferrous	0.23	mg/L	0.20	05/25/22 22:48	H3,N2
SM 5310C	Total Organic Carbon	2.4	mg/L	1.0	05/25/22 23:31	
SM 5310C	Dissolved Organic Carbon	3.2	mg/L	1.0	05/26/22 23:50	
50316560003	**AP-4A**					
EPA 9056	Chloride	128	mg/L	25.0	05/27/22 18:01	
EPA 9056	Fluoride	0.13	mg/L	0.10	05/27/22 17:24	
EPA 9056	Sulfate	1790	mg/L	25.0	05/27/22 18:01	
EPA 6010	Iron	5460	ug/L	100	05/27/22 10:29	
EPA 6010	Magnesium	82200	ug/L	1000	05/27/22 10:29	
EPA 6010	Manganese	3400	ug/L	10.0	05/27/22 10:29	
EPA 6010	Potassium	17800	ug/L	1000	05/27/22 10:29	
EPA 6010	Silica	11900	ug/L	450	05/27/22 10:29	N2
EPA 6010	Sodium	53700	ug/L	1000	05/27/22 10:29	
EPA 6010	Manganese, Dissolved	3290	ug/L	10.0	05/26/22 01:08	
EPA 6010	Molybdenum, Dissolved	195	ug/L	10.0	05/26/22 01:08	
SM 2320B	Alkalinity, Total as CaCO3	141	mg/L	2.0	05/21/22 13:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	141	mg/L	2.0	05/21/22 13:35	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316560003	**AP-4A**					
SM 2540C	Total Dissolved Solids	2880	mg/L	40.0	05/19/22 15:34	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/21/22 08:57	H3
EPA 353.2	Nitrogen, Nitrate	0.39	mg/L	0.10	05/16/22 20:54	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	05/25/22 23:51	
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	05/27/22 00:02	
50316560004	**AP-4I**					
EPA 9056	Chloride	88.0	mg/L	2.5	05/27/22 18:38	
EPA 9056	Fluoride	0.25	mg/L	0.10	05/27/22 18:19	
EPA 9056	Sulfate	1730	mg/L	25.0	05/27/22 18:56	
EPA 6010	Iron	1050	ug/L	100	05/27/22 10:32	
EPA 6010	Magnesium	68300	ug/L	1000	05/27/22 10:32	
EPA 6010	Manganese	5550	ug/L	10.0	05/27/22 10:32	
EPA 6010	Potassium	5500	ug/L	1000	05/27/22 10:32	
EPA 6010	Silica	12900	ug/L	450	05/27/22 10:32	N2
EPA 6010	Sodium	29800	ug/L	1000	05/27/22 10:32	
EPA 6010	Manganese, Dissolved	5300	ug/L	10.0	05/26/22 01:14	
EPA 6010	Molybdenum, Dissolved	55.8	ug/L	10.0	05/26/22 01:14	
SM 2320B	Alkalinity, Total as CaCO3	183	mg/L	2.0	05/21/22 13:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	183	mg/L	2.0	05/21/22 13:35	
SM 2540C	Total Dissolved Solids	2700	mg/L	40.0	05/19/22 15:34	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/21/22 08:58	H3
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/26/22 00:10	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	05/27/22 00:12	
50316560005	**AP-4B**					
EPA 9056	Chloride	11.7	mg/L	2.5	05/27/22 19:33	
EPA 9056	Fluoride	0.11	mg/L	0.10	05/27/22 19:14	
EPA 9056	Sulfate	103	mg/L	2.5	05/27/22 19:33	
EPA 6010	Magnesium	32000	ug/L	1000	05/27/22 10:34	
EPA 6010	Silica	9990	ug/L	450	05/27/22 10:34	N2
EPA 6010	Sodium	12000	ug/L	1000	05/27/22 10:34	
SM 2320B	Alkalinity, Total as CaCO3	393	mg/L	2.0	05/21/22 13:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	393	mg/L	2.0	05/21/22 13:35	
SM 2540C	Total Dissolved Solids	640	mg/L	10.0	05/19/22 15:34	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/21/22 09:00	H3
EPA 353.2	Nitrogen, Nitrate	15.2	mg/L	1.0	05/16/22 21:35	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	05/26/22 00:36	
SM 5310C	Dissolved Organic Carbon	1.8	mg/L	1.0	05/27/22 00:23	
50316560006	**AP-5**					
EPA 9056	Chloride	8.5	mg/L	0.25	05/27/22 20:47	
EPA 9056	Fluoride	0.19	mg/L	0.10	05/27/22 20:47	
EPA 9056	Sulfate	216	mg/L	2.5	05/27/22 21:05	
EPA 6010	Magnesium	25400	ug/L	1000	05/27/22 10:36	
EPA 6010	Manganese	389	ug/L	10.0	05/27/22 10:36	
EPA 6010	Potassium	3320	ug/L	1000	05/27/22 10:36	
EPA 6010	Silica	12700	ug/L	450	05/27/22 10:36	N2
EPA 6010	Sodium	8250	ug/L	1000	05/27/22 10:36	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316560006	**AP-5**					
EPA 6010	Manganese, Dissolved	132	ug/L	10.0	05/26/22 01:18	
EPA 6010	Molybdenum, Dissolved	39.2	ug/L	10.0	05/26/22 01:18	
SM 2320B	Alkalinity, Total as CaCO3	297	mg/L	2.0	05/21/22 13:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	297	mg/L	2.0	05/21/22 13:35	
SM 2540C	Total Dissolved Solids	602	mg/L	10.0	05/19/22 15:35	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/21/22 09:00	H3
EPA 353.2	Nitrogen, Nitrate	4.0	mg/L	0.10	05/16/22 21:41	
EPA 365.1	Phosphate as P04	0.18	mg/L	0.15	05/21/22 11:07	
SM 5310C	Dissolved Organic Carbon	1.2	mg/L	1.0	05/27/22 00:33	
50316560007	**AP-5A**					
EPA 9056	Chloride	46.8	mg/L	2.5	05/27/22 22:00	
EPA 9056	Fluoride	0.11	mg/L	0.10	05/27/22 21:42	
EPA 9056	Sulfate	1140	mg/L	25.0	05/27/22 22:19	
EPA 6010	Iron	11400	ug/L	100	05/27/22 10:39	
EPA 6010	Magnesium	47900	ug/L	1000	05/27/22 10:39	
EPA 6010	Manganese	1780	ug/L	10.0	05/27/22 10:39	
EPA 6010	Potassium	3610	ug/L	1000	05/27/22 10:39	
EPA 6010	Silica	15200	ug/L	450	05/27/22 10:39	N2
EPA 6010	Sodium	58400	ug/L	1000	05/27/22 10:39	
EPA 6010	Manganese, Dissolved	1690	ug/L	10.0	05/26/22 01:20	
EPA 6010	Molybdenum, Dissolved	212	ug/L	10.0	05/26/22 01:20	
SM 2320B	Alkalinity, Total as CaCO3	108	mg/L	2.0	05/21/22 13:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	108	mg/L	2.0	05/21/22 13:35	
SM 2540C	Total Dissolved Solids	2690	mg/L	40.0	05/19/22 15:35	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/21/22 09:34	H3
EPA 365.1	Phosphate as P04	0.29	mg/L	0.15	05/21/22 11:08	
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	05/26/22 01:27	
SM 5310C	Dissolved Organic Carbon	2.5	mg/L	1.0	05/27/22 00:44	
50316560008	**AP-6A**					
EPA 9056	Chloride	16.9	mg/L	2.5	05/27/22 22:56	
EPA 9056	Sulfate	703	mg/L	25.0	05/27/22 23:14	
EPA 6010	Iron	10200	ug/L	100	05/27/22 10:41	
EPA 6010	Magnesium	77600	ug/L	1000	05/27/22 10:41	
EPA 6010	Manganese	973	ug/L	10.0	05/27/22 10:41	
EPA 6010	Potassium	2430	ug/L	1000	05/27/22 10:41	
EPA 6010	Silica	13400	ug/L	450	05/27/22 10:41	N2
EPA 6010	Sodium	15000	ug/L	1000	05/27/22 10:41	
EPA 6010	Manganese, Dissolved	937	ug/L	10.0	05/26/22 01:23	
SM 2320B	Alkalinity, Total as CaCO3	368	mg/L	2.0	05/21/22 13:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	368	mg/L	2.0	05/21/22 13:35	
SM 2540C	Total Dissolved Solids	1470	mg/L	20.0	05/19/22 15:35	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/21/22 09:36	H3
EPA 365.1	Phosphate as P04	0.31	mg/L	0.15	05/21/22 11:09	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/26/22 02:25	
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	05/27/22 00:55	

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SUMMARY OF DETECTION

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316560009	**AP-6B**					
EPA 9056	Chloride	9.3	mg/L	0.25	05/28/22 00:09	
EPA 9056	Fluoride	0.15	mg/L	0.10	05/28/22 00:09	
EPA 9056	Sulfate	317	mg/L	25.0	05/28/22 00:46	
EPA 6010	Aluminum	627	ug/L	200	05/27/22 10:49	
EPA 6010	Iron	1210	ug/L	100	05/27/22 10:49	
EPA 6010	Magnesium	41000	ug/L	1000	05/27/22 10:49	
EPA 6010	Manganese	67.5	ug/L	10.0	05/27/22 10:49	
EPA 6010	Silica	14700	ug/L	450	05/27/22 10:49	N2
EPA 6010	Sodium	12200	ug/L	1000	05/27/22 10:49	
SM 2320B	Alkalinity, Total as CaCO3	328	mg/L	2.0	05/21/22 13:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	328	mg/L	2.0	05/21/22 13:35	
SM 2540C	Total Dissolved Solids	847	mg/L	10.0	05/19/22 15:35	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/21/22 09:37	H3
EPA 353.2	Nitrogen, Nitrate	3.8	mg/L	0.10	05/16/22 21:13	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	05/27/22 01:29	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-3 **Lab ID: 50316560001** Collected: 05/15/22 08:55 Received: 05/16/22 10:30 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	**12.3**	mg/L	2.5	10		05/27/22 15:15	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		05/27/22 14:57	16984-48-8	
Sulfate	**183**	mg/L	2.5	10		05/27/22 15:15	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/25/22 16:16	05/27/22 10:25	7429-90-5	
Iron	ND	ug/L	100	1	05/25/22 16:16	05/27/22 10:25	7439-89-6	
Magnesium	**42600**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:25	7439-95-4	
Manganese	**40.6**	ug/L	10.0	1	05/25/22 16:16	05/27/22 10:25	7439-96-5	
Potassium	ND	ug/L	1000	1	05/25/22 16:16	05/27/22 10:25	7440-09-7	
Silica	**14500**	ug/L	450	1	05/25/22 16:16	05/27/22 10:25	7631-86-9	N2
Sodium	**11100**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:25	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	05/24/22 09:09	05/26/22 01:04	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:04	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**421**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Bicarbonate (CaCO3)	**421**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/21/22 13:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**747**	mg/L	10.0	1		05/19/22 15:33		
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		05/21/22 08:56		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 09:54	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:48	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**5.4**	mg/L	0.20	2		05/16/22 21:31	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.20	2		05/16/22 21:31	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-3 **Lab ID: 50316560001** Collected: 05/15/22 08:55 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/18/22 06:00	05/21/22 11:03		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/25/22 23:11	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		05/26/22 23:37		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-3A **Lab ID: 50316560002** Collected: 05/15/22 09:45 Received: 05/16/22 10:30 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	**158**	mg/L	25.0	100		05/27/22 16:29	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		05/27/22 15:52	16984-48-8	
Sulfate	**1740**	mg/L	25.0	100		05/27/22 16:29	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/25/22 16:16	05/27/22 10:27	7429-90-5	
Iron	**8050**	ug/L	100	1	05/25/22 16:16	05/27/22 10:27	7439-89-6	
Magnesium	**46300**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:27	7439-95-4	
Manganese	**2920**	ug/L	10.0	1	05/25/22 16:16	05/27/22 10:27	7439-96-5	
Potassium	**16600**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:27	7440-09-7	
Silica	**13200**	ug/L	450	1	05/25/22 16:16	05/27/22 10:27	7631-86-9	N2
Sodium	**51400**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:27	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2790**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:06	7439-96-5	
Molybdenum, Dissolved	**632**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:06	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**76.3**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Bicarbonate (CaCO3)	**76.3**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/21/22 13:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2880**	mg/L	40.0	1		05/19/22 15:34		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		05/21/22 08:56		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 09:54	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.23**	mg/L	0.20	1		05/25/22 22:48	15438-31-0	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		05/16/22 21:33	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/16/22 21:33	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-3A **Lab ID: 50316560002** Collected: 05/15/22 09:45 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/18/22 06:00	05/21/22 11:03		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.4**	mg/L	1.0	1		05/25/22 23:31	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.2**	mg/L	1.0	1		05/26/22 23:50		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-4A **Lab ID: 50316560003** Collected: 05/15/22 10:50 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**128**	mg/L	25.0	100		05/27/22 18:01	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		05/27/22 17:24	16984-48-8	
Sulfate	**1790**	mg/L	25.0	100		05/27/22 18:01	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/25/22 16:16	05/27/22 10:29	7429-90-5	
Iron	**5460**	ug/L	100	1	05/25/22 16:16	05/27/22 10:29	7439-89-6	
Magnesium	**82200**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:29	7439-95-4	
Manganese	**3400**	ug/L	10.0	1	05/25/22 16:16	05/27/22 10:29	7439-96-5	
Potassium	**17800**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:29	7440-09-7	
Silica	**11900**	ug/L	450	1	05/25/22 16:16	05/27/22 10:29	7631-86-9	N2
Sodium	**53700**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:29	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**3290**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:08	7439-96-5	
Molybdenum, Dissolved	**195**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:08	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**141**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Bicarbonate (CaCO3)	**141**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/21/22 13:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2880**	mg/L	40.0	1		05/19/22 15:34		
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		05/21/22 08:57		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 09:54	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:48	15438-31-0	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		05/16/22 20:54	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/16/22 20:54	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-4A **Lab ID: 50316560003** Collected: 05/15/22 10:50 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/18/22 06:00	05/21/22 11:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.8**	mg/L	1.0	1		05/25/22 23:51	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.1**	mg/L	1.0	1		05/27/22 00:02		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-4I **Lab ID: 50316560004** Collected: 05/15/22 12:30 Received: 05/16/22 10:30 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	**88.0**	mg/L	2.5	10		05/27/22 18:38	16887-00-6	
Fluoride	**0.25**	mg/L	0.10	1		05/27/22 18:19	16984-48-8	
Sulfate	**1730**	mg/L	25.0	100		05/27/22 18:56	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/25/22 16:16	05/27/22 10:32	7429-90-5	
Iron	**1050**	ug/L	100	1	05/25/22 16:16	05/27/22 10:32	7439-89-6	
Magnesium	**68300**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:32	7439-95-4	
Manganese	**5550**	ug/L	10.0	1	05/25/22 16:16	05/27/22 10:32	7439-96-5	
Potassium	**5500**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:32	7440-09-7	
Silica	**12900**	ug/L	450	1	05/25/22 16:16	05/27/22 10:32	7631-86-9	N2
Sodium	**29800**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:32	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**5300**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:14	7439-96-5	
Molybdenum, Dissolved	**55.8**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:14	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**183**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Bicarbonate (CaCO3)	**183**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/21/22 13:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2700**	mg/L	40.0	1		05/19/22 15:34		
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		05/21/22 08:58		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 09:54	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:48	15438-31-0	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		05/16/22 20:56	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/16/22 20:56	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-4I **Lab ID: 50316560004** Collected: 05/15/22 12:30 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/18/22 06:00	05/21/22 11:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		05/26/22 00:10	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.5**	mg/L	1.0	1		05/27/22 00:12		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-4B **Lab ID: 50316560005** Collected: 05/15/22 13:15 Received: 05/16/22 10:30 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	**11.7**	mg/L	2.5	10		05/27/22 19:33	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		05/27/22 19:14	16984-48-8	
Sulfate	**103**	mg/L	2.5	10		05/27/22 19:33	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/25/22 16:16	05/27/22 10:34	7429-90-5	
Iron	ND	ug/L	100	1	05/25/22 16:16	05/27/22 10:34	7439-89-6	
Magnesium	**32000**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:34	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/25/22 16:16	05/27/22 10:34	7439-96-5	
Potassium	ND	ug/L	1000	1	05/25/22 16:16	05/27/22 10:34	7440-09-7	
Silica	**9990**	ug/L	450	1	05/25/22 16:16	05/27/22 10:34	7631-86-9	N2
Sodium	**12000**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:34	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	05/24/22 09:09	05/26/22 01:16	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:16	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**393**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Bicarbonate (CaCO3)	**393**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/21/22 13:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**640**	mg/L	10.0	1		05/19/22 15:34		
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		05/21/22 09:00		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 09:54	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:49	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**15.2**	mg/L	1.0	10		05/16/22 21:35	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	1.0	10		05/16/22 21:35	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-4B **Lab ID: 50316560005** Collected: 05/15/22 13:15 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/18/22 06:00	05/21/22 11:06		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.1**	mg/L	1.0	1		05/26/22 00:36	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.8**	mg/L	1.0	1		05/27/22 00:23		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-5 **Lab ID: 50316560006** Collected: 05/15/22 14:10 Received: 05/16/22 10:30 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	**8.5**	mg/L	0.25	1		05/27/22 20:47	16887-00-6	
Fluoride	**0.19**	mg/L	0.10	1		05/27/22 20:47	16984-48-8	
Sulfate	**216**	mg/L	2.5	10		05/27/22 21:05	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/25/22 16:16	05/27/22 10:36	7429-90-5	
Iron	ND	ug/L	100	1	05/25/22 16:16	05/27/22 10:36	7439-89-6	
Magnesium	**25400**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:36	7439-95-4	
Manganese	**389**	ug/L	10.0	1	05/25/22 16:16	05/27/22 10:36	7439-96-5	
Potassium	**3320**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:36	7440-09-7	
Silica	**12700**	ug/L	450	1	05/25/22 16:16	05/27/22 10:36	7631-86-9	N2
Sodium	**8250**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:36	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**132**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:18	7439-96-5	
Molybdenum, Dissolved	**39.2**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:18	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**297**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Bicarbonate (CaCO3)	**297**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/21/22 13:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**602**	mg/L	10.0	1		05/19/22 15:35		
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		05/21/22 09:00		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 09:54	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:49	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**4.0**	mg/L	0.10	1		05/16/22 21:41	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/16/22 21:41	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-5 **Lab ID: 50316560006** Collected: 05/15/22 14:10 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/18/22 06:00	05/21/22 11:07		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/26/22 01:01	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.2**	mg/L	1.0	1		05/27/22 00:33		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-5A **Lab ID: 50316560007** Collected: 05/15/22 15:35 Received: 05/16/22 10:30 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	**46.8**	mg/L	2.5	10		05/27/22 22:00	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		05/27/22 21:42	16984-48-8	
Sulfate	**1140**	mg/L	25.0	100		05/27/22 22:19	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/25/22 16:16	05/27/22 10:39	7429-90-5	
Iron	**11400**	ug/L	100	1	05/25/22 16:16	05/27/22 10:39	7439-89-6	
Magnesium	**47900**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:39	7439-95-4	
Manganese	**1780**	ug/L	10.0	1	05/25/22 16:16	05/27/22 10:39	7439-96-5	
Potassium	**3610**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:39	7440-09-7	
Silica	**15200**	ug/L	450	1	05/25/22 16:16	05/27/22 10:39	7631-86-9	N2
Sodium	**58400**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:39	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1690**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:20	7439-96-5	
Molybdenum, Dissolved	**212**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:20	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**108**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Bicarbonate (CaCO3)	**108**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/21/22 13:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2690**	mg/L	40.0	1		05/19/22 15:35		
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		05/21/22 09:34		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 09:54	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:49	15438-31-0	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		05/16/22 21:09	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/16/22 21:09	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-5A **Lab ID: 50316560007** Collected: 05/15/22 15:35 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.29**	mg/L	0.15	1	05/18/22 06:00	05/21/22 11:08		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.6**	mg/L	1.0	1		05/26/22 01:27	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.5**	mg/L	1.0	1		05/27/22 00:44		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-6A **Lab ID: 50316560008** Collected: 05/15/22 16:30 Received: 05/16/22 10:30 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	**16.9**	mg/L	2.5	10		05/27/22 22:56	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/27/22 22:37	16984-48-8	
Sulfate	**703**	mg/L	25.0	100		05/27/22 23:14	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/25/22 16:16	05/27/22 10:41	7429-90-5	
Iron	**10200**	ug/L	100	1	05/25/22 16:16	05/27/22 10:41	7439-89-6	
Magnesium	**77600**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:41	7439-95-4	
Manganese	**973**	ug/L	10.0	1	05/25/22 16:16	05/27/22 10:41	7439-96-5	
Potassium	**2430**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:41	7440-09-7	
Silica	**13400**	ug/L	450	1	05/25/22 16:16	05/27/22 10:41	7631-86-9	N2
Sodium	**15000**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:41	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**937**	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:23	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:23	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**368**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Bicarbonate (CaCO3)	**368**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/21/22 13:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1470**	mg/L	20.0	1		05/19/22 15:35		
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		05/21/22 09:36		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 09:54	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:50	15438-31-0	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		05/16/22 21:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/16/22 21:11	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-6A **Lab ID: 50316560008** Collected: 05/15/22 16:30 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.31**	mg/L	0.15	1	05/18/22 06:00	05/21/22 11:09		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		05/26/22 02:25	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.1**	mg/L	1.0	1		05/27/22 00:55		

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-6B **Lab ID: 50316560009** Collected: 05/15/22 17:25 Received: 05/16/22 10:30 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	**9.3**	mg/L	0.25	1		05/28/22 00:09	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		05/28/22 00:09	16984-48-8	
Sulfate	**317**	mg/L	25.0	100		05/28/22 00:46	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**627**	ug/L	200	1	05/25/22 16:16	05/27/22 10:49	7429-90-5	
Iron	**1210**	ug/L	100	1	05/25/22 16:16	05/27/22 10:49	7439-89-6	
Magnesium	**41000**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:49	7439-95-4	
Manganese	**67.5**	ug/L	10.0	1	05/25/22 16:16	05/27/22 10:49	7439-96-5	
Potassium	ND	ug/L	1000	1	05/25/22 16:16	05/27/22 10:49	7440-09-7	
Silica	**14700**	ug/L	450	1	05/25/22 16:16	05/27/22 10:49	7631-86-9	N2
Sodium	**12200**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:49	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	05/24/22 09:09	05/26/22 01:25	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/24/22 09:09	05/26/22 01:25	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**328**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Bicarbonate (CaCO3)	**328**	mg/L	2.0	1		05/21/22 13:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/21/22 13:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**847**	mg/L	10.0	1		05/19/22 15:35		
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		05/21/22 09:37		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/18/22 09:54	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/25/22 22:50	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**3.8**	mg/L	0.10	1		05/16/22 21:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/16/22 21:13	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Sample: AP-6B **Lab ID: 50316560009** Collected: 05/15/22 17:25 Received: 05/16/22 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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	05/18/22 06:00	05/21/22 11:09		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/26/22 02:51	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.0**	mg/L	1.0	1		05/27/22 01:29		

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 678196
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3122419 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/27/22 06:20	
Fluoride	mg/L	ND	0.10	05/27/22 06:20	
Sulfate	mg/L	ND	0.25	05/27/22 06:20	

LABORATORY CONTROL SAMPLE: 3122420

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	0.54	109	80-120	
Sulfate	mg/L	2.5	2.5	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122421 3122422

Parameter	Units	50316511002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	211	125	125	320	319	87	87	80-120	0	15	
Fluoride	mg/L	0.60	0.5	0.5	1.2	1.1	109	109	80-120	0	15	
Sulfate	mg/L	579	250	250	791	791	85	85	80-120	0	15	

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

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 677587
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3120361 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/27/22 09:56	
Iron	ug/L	ND	100	05/27/22 09:56	
Magnesium	ug/L	ND	1000	05/27/22 09:56	
Manganese	ug/L	ND	10.0	05/27/22 09:56	
Potassium	ug/L	ND	1000	05/27/22 09:56	
Silica	ug/L	ND	450	05/27/22 09:56	N2
Sodium	ug/L	ND	1000	05/27/22 09:56	

LABORATORY CONTROL SAMPLE: 3120362

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	80-120	
Iron	ug/L	10000	10100	101	80-120	
Magnesium	ug/L	10000	10000	100	80-120	
Manganese	ug/L	1000	999	100	80-120	
Potassium	ug/L	10000	10200	102	80-120	
Silica	ug/L	10700	11000	102	80-120	N2
Sodium	ug/L	10000	10400	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120363 3120364

Parameter	Units	50316511002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10600	10500	106	105	75-125	1	20	
Iron	ug/L	3270	10000	10000	13100	12800	98	95	75-125	2	20	
Magnesium	ug/L	58600	10000	10000	68700	67500	100	88	75-125	2	20	
Manganese	ug/L	230	1000	1000	1210	1190	98	96	75-125	2	20	
Potassium	ug/L	11900	10000	10000	23000	22800	111	108	75-125	1	20	
Silica	ug/L	12800	10700	10700	24000	23600	105	102	75-125	1	20	N2
Sodium	ug/L	156000	10000	10000	166000	164000	97	77	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 677438
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3119328 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/26/22 00:51	
Molybdenum, Dissolved	ug/L	ND	10.0	05/26/22 00:51	

LABORATORY CONTROL SAMPLE: 3119329

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	981	98	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119330 3119331

Parameter	Units	50316507001 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	19.1	1000	1000	938	973	92	95	75-125	4	20	
Molybdenum, Dissolved	ug/L	177	1000	1000	1170	1220	100	104	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 677430
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3119272 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/21/22 13:35	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/21/22 13:35	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/21/22 13:35	

LABORATORY CONTROL SAMPLE: 3119273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.4	105	90-110	

SAMPLE DUPLICATE: 3119274

Parameter	Units	50316511002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	260	264	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	260	264	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3119275

Parameter	Units	50316601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	339	348	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	339	348	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 677053
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3117336 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/19/22 15:32	

LABORATORY CONTROL SAMPLE: 3117337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	298	99	80-120	

SAMPLE DUPLICATE: 3117338

Parameter	Units	50316507001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1440	1440	0	10	

SAMPLE DUPLICATE: 3117339

Parameter	Units	50316511002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1490	1460	2	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 677510
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006

SAMPLE DUPLICATE: 3120004

Parameter	Units	50316478003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.2	1	2	H3

SAMPLE DUPLICATE: 3120005

Parameter	Units	50316511002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 677523
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560007, 50316560008, 50316560009

SAMPLE DUPLICATE: 3120051

Parameter	Units	50316560007 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.9	1	2	H3

SAMPLE DUPLICATE: 3120052

Parameter	Units	50316593001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.3	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 676796
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3116034 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/18/22 09:54	

LABORATORY CONTROL SAMPLE: 3116035

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: 3116036 3116037

Parameter	Units	50316507001 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	0.53	0.52	106	105	90-110	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3116038 3116039

Parameter	Units	50316511002 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	0.52	0.50	103	100	90-110	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 678397
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3123112 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/25/22 22:41	H3,N2

LABORATORY CONTROL SAMPLE: 3123113

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: 3123114 3123115

Parameter	Units	50316507001 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	0.97	0.96	97	96	90-110	1	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123116 3123117

Parameter	Units	50316511002 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	0.98	0.99	98	99	90-110	1	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 676528
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3114990 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/16/22 20:47	
Nitrogen, Nitrite	mg/L	ND	0.10	05/16/22 20:47	

LABORATORY CONTROL SAMPLE: 3114991

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.1	106	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114992 3114993

Parameter	Units	50316560005 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	15.2	10	10	24.8	24.8	96	96	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	10	10	10.1	10.0	101	100	90-110	0	20	

MATRIX SPIKE SAMPLE: 3114994

Parameter	Units	50316602002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.14	1	1.2	104	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	103	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 676782
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3115970 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/21/22 10:59	

LABORATORY CONTROL SAMPLE: 3115971

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

MATRIX SPIKE SAMPLE: 3115972

Parameter	Units	50316560006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.18		1.4			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3115973 3115974

Parameter	Units	50316593001 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	1.5				1		

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 678323 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3122828 Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/25/22 22:06	

LABORATORY CONTROL SAMPLE: 3122829

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: 3122830 3122831

Parameter	Units	50316593001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	0.62J	10	10	10.5	10.4	99	98	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122837 3122838

Parameter	Units	50316595006 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	9.5	10	10	18.6	18.7	90	92	80-120	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

QC Batch: 678548 — Analysis Method: SM 5310C
QC Batch Method: SM 5310C — Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

METHOD BLANK: 3123783 — Matrix: Water
Associated Lab Samples: 50316560001, 50316560002, 50316560003, 50316560004, 50316560005, 50316560006, 50316560007, 50316560008, 50316560009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/26/22 23:16	

LABORATORY CONTROL SAMPLE: 3123784

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: 3123785 3123786

Parameter	Units	50316593001 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	0.65J	10	10	10.4	10.5	98	99	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123787 3123788

Parameter	Units	50316595006 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	10.1	20	20	30.0	29.7	99	98	80-120	1	20	

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QUALIFIERS

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316560001	**AP-3**	EPA 9056	678196		
50316560002	**AP-3A**	EPA 9056	678196		
50316560003	**AP-4A**	EPA 9056	678196		
50316560004	**AP-4I**	EPA 9056	678196		
50316560005	**AP-4B**	EPA 9056	678196		
50316560006	**AP-5**	EPA 9056	678196		
50316560007	**AP-5A**	EPA 9056	678196		
50316560008	**AP-6A**	EPA 9056	678196		
50316560009	**AP-6B**	EPA 9056	678196		
50316560001	**AP-3**	EPA 3010	677587	EPA 6010	678791
50316560002	**AP-3A**	EPA 3010	677587	EPA 6010	678791
50316560003	**AP-4A**	EPA 3010	677587	EPA 6010	678791
50316560004	**AP-4I**	EPA 3010	677587	EPA 6010	678791
50316560005	**AP-4B**	EPA 3010	677587	EPA 6010	678791
50316560006	**AP-5**	EPA 3010	677587	EPA 6010	678791
50316560007	**AP-5A**	EPA 3010	677587	EPA 6010	678791
50316560008	**AP-6A**	EPA 3010	677587	EPA 6010	678791
50316560009	**AP-6B**	EPA 3010	677587	EPA 6010	678791
50316560001	**AP-3**	EPA 3010	677438	EPA 6010	678437
50316560002	**AP-3A**	EPA 3010	677438	EPA 6010	678437
50316560003	**AP-4A**	EPA 3010	677438	EPA 6010	678437
50316560004	**AP-4I**	EPA 3010	677438	EPA 6010	678437
50316560005	**AP-4B**	EPA 3010	677438	EPA 6010	678437
50316560006	**AP-5**	EPA 3010	677438	EPA 6010	678437
50316560007	**AP-5A**	EPA 3010	677438	EPA 6010	678437
50316560008	**AP-6A**	EPA 3010	677438	EPA 6010	678437
50316560009	**AP-6B**	EPA 3010	677438	EPA 6010	678437
50316560001	**AP-3**	SM 2320B	677430		
50316560002	**AP-3A**	SM 2320B	677430		
50316560003	**AP-4A**	SM 2320B	677430		
50316560004	**AP-4I**	SM 2320B	677430		
50316560005	**AP-4B**	SM 2320B	677430		
50316560006	**AP-5**	SM 2320B	677430		
50316560007	**AP-5A**	SM 2320B	677430		
50316560008	**AP-6A**	SM 2320B	677430		
50316560009	**AP-6B**	SM 2320B	677430		
50316560001	**AP-3**	SM 2540C	677053		
50316560002	**AP-3A**	SM 2540C	677053		
50316560003	**AP-4A**	SM 2540C	677053		
50316560004	**AP-4I**	SM 2540C	677053		
50316560005	**AP-4B**	SM 2540C	677053		
50316560006	**AP-5**	SM 2540C	677053		
50316560007	**AP-5A**	SM 2540C	677053		
50316560008	**AP-6A**	SM 2540C	677053		
50316560009	**AP-6B**	SM 2540C	677053		
50316560001	**AP-3**	SM 4500-H+B	677510		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316560002	**AP-3A**	SM 4500-H+B	677510		
50316560003	**AP-4A**	SM 4500-H+B	677510		
50316560004	**AP-4I**	SM 4500-H+B	677510		
50316560005	**AP-4B**	SM 4500-H+B	677510		
50316560006	**AP-5**	SM 4500-H+B	677510		
50316560007	**AP-5A**	SM 4500-H+B	677523		
50316560008	**AP-6A**	SM 4500-H+B	677523		
50316560009	**AP-6B**	SM 4500-H+B	677523		
50316560001	**AP-3**	SM 4500-S2-D	676796		
50316560002	**AP-3A**	SM 4500-S2-D	676796		
50316560003	**AP-4A**	SM 4500-S2-D	676796		
50316560004	**AP-4I**	SM 4500-S2-D	676796		
50316560005	**AP-4B**	SM 4500-S2-D	676796		
50316560006	**AP-5**	SM 4500-S2-D	676796		
50316560007	**AP-5A**	SM 4500-S2-D	676796		
50316560008	**AP-6A**	SM 4500-S2-D	676796		
50316560009	**AP-6B**	SM 4500-S2-D	676796		
50316560001	**AP-3**	HACH 8146	678397		
50316560002	**AP-3A**	HACH 8146	678397		
50316560003	**AP-4A**	HACH 8146	678397		
50316560004	**AP-4I**	HACH 8146	678397		
50316560005	**AP-4B**	HACH 8146	678397		
50316560006	**AP-5**	HACH 8146	678397		
50316560007	**AP-5A**	HACH 8146	678397		
50316560008	**AP-6A**	HACH 8146	678397		
50316560009	**AP-6B**	HACH 8146	678397		
50316560001	**AP-3**	EPA 353.2	676528		
50316560002	**AP-3A**	EPA 353.2	676528		
50316560003	**AP-4A**	EPA 353.2	676528		
50316560004	**AP-4I**	EPA 353.2	676528		
50316560005	**AP-4B**	EPA 353.2	676528		
50316560006	**AP-5**	EPA 353.2	676528		
50316560007	**AP-5A**	EPA 353.2	676528		
50316560008	**AP-6A**	EPA 353.2	676528		
50316560009	**AP-6B**	EPA 353.2	676528		
50316560001	**AP-3**	EPA 365.1	676782	EPA 365.1	677707
50316560002	**AP-3A**	EPA 365.1	676782	EPA 365.1	677707
50316560003	**AP-4A**	EPA 365.1	676782	EPA 365.1	677707
50316560004	**AP-4I**	EPA 365.1	676782	EPA 365.1	677707
50316560005	**AP-4B**	EPA 365.1	676782	EPA 365.1	677707
50316560006	**AP-5**	EPA 365.1	676782	EPA 365.1	677707
50316560007	**AP-5A**	EPA 365.1	676782	EPA 365.1	677707
50316560008	**AP-6A**	EPA 365.1	676782	EPA 365.1	677707
50316560009	**AP-6B**	EPA 365.1	676782	EPA 365.1	677707
50316560001	**AP-3**	SM 5310C	678323		
50316560002	**AP-3A**	SM 5310C	678323		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R8 Geochem Only
Pace Project No.: 50316560

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316560003	**AP-4A**	SM 5310C	678323		
50316560004	**AP-4I**	SM 5310C	678323		
50316560005	**AP-4B**	SM 5310C	678323		
50316560006	**AP-5**	SM 5310C	678323		
50316560007	**AP-5A**	SM 5310C	678323		
50316560008	**AP-6A**	SM 5310C	678323		
50316560009	**AP-6B**	SM 5310C	678323		
50316560001	**AP-3**	SM 5310C	678548		
50316560002	**AP-3A**	SM 5310C	678548		
50316560003	**AP-4A**	SM 5310C	678548		
50316560004	**AP-4I**	SM 5310C	678548		
50316560005	**AP-4B**	SM 5310C	678548		
50316560006	**AP-5**	SM 5310C	678548		
50316560007	**AP-5A**	SM 5310C	678548		
50316560008	**AP-6A**	SM 5310C	678548		
50316560009	**AP-6B**	SM 5310C	678548		

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Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Reque

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fiel

WO# : 50316560

50316560

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 2 Report 8	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/14

Regulatory Agency	State / Location
	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered** (Y)	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C (Y)	Sulfide	Phosphate	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Requested Analysis Filtered (Y/N)				Y			Y					
1	AP-1R	WT							9	3	3	2		1					X	X	X	X	X	X	X	X	X		
2	AP-2A	WT							9	3	3	2		1					X	X	X	X	X	X	X	X	X		
3	AP-2BO	WT							9	3	3	2		1					X	X	X	X	X	X	X	X	X		
4	AP-3	WT		5/15	0855				9	3	3	2		1					X	X	X	X	X	X	X	X	X		001
5	AP-3A	WT		5/15	0945				9	3	3	2		1					X	X	X	X	X	X	X	X	X		002
6	AP-4A	WT		5/15	1050				9	3	3	2		1					X	X	X	X	X	X	X	X	X		003
7	AP-4I	WT		5/15	1230				9	3	3	2		1					X	X	X	X	X	X	X	X	X		004
8	AP-4B	WT		5/15	1315				9	3	3	2		1					X	X	X	X	X	X	X	X	X		005
9	AP-5	WT		5/15	1410				9	3	3	2		1					X	X	X	X	X	X	X	X	X		006
10	AP-5A	WT		5/15	1535				9	3	3	2		1					X	X	X	X	X	X	X	X	X		007
11	AP-6A	WT		5/15	1630				9	3	3	2		1					X	X	X	X	X	X	X	X	X		008
12	AP-6B	WT		5/15	1725				9	3	3	2		1					X	X	X	X	X	X	X	X	X		009

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Mn, Mg, Na, K, SiO2)	Nick Walton	5/16	0810	Jay Williams	5-16	806	TS 5-16-22			
	Jay Williams	5-16	10-37	[illegible]	5-16-22	1030	T	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)							SEE ICE			
Alkalinity = (Total , Bicarb & Carb)										

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:	NICK WALTON					
SIGNATURE of SAMPLER:	Nick Walton	DATE Signed: 5-15-22				

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 5-16-22 1040 BS

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(s):** 1.5/1.7 | 1.2/1.4 | 1.8/2.0 | 2.4/2.6
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** Circle: **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** Nitrate/Nitrite	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1100		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

Cooler 5 temp: 1.0/1.2

COC PAGE ~~2~~ of ~~2~~ MRS 5/16/22

Sample Container Count

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	SBS / DI / MeOH (only) / BK / Kit 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																															
2																															
3																															
4												2					1	2	2		1	1						WT	✓	✓	
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

July 06, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 16, 2022. 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. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

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 #: 460198
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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(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50316561001	**AP-3**	Water	05/15/22 08:55	05/16/22 10:30
50316561002	**AP-3A**	Water	05/15/22 09:45	05/16/22 10:30
50316561003	**AP-4A**	Water	05/15/22 10:50	05/16/22 10:30
50316561004	**AP-4I**	Water	05/15/22 12:30	05/16/22 10:30
50316561005	**AP-4B**	Water	05/15/22 13:15	05/16/22 10:30
50316561006	**AP-5**	Water	05/15/22 14:10	05/16/22 10:30
50316561007	**AP-5A**	Water	05/15/22 15:35	05/16/22 10:30
50316561008	**AP-6A**	Water	05/15/22 16:30	05/16/22 10:30
50316561009	**AP-6B**	Water	05/15/22 17:25	05/16/22 10:30

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50316561001	**AP-3**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316561002	**AP-3A**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316561003	**AP-4A**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316561004	**AP-4I**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316561005	**AP-4B**	EPA 9056	BK1	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316561006	**AP-5**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316561007	**AP-5A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316561008	**AP-6A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316561009	**AP-6B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316561001	**AP-3**					
EPA 9056	Chloride	12.3	mg/L	2.5	05/28/22 01:23	
EPA 9056	Fluoride	0.13	mg/L	0.10	05/28/22 01:05	
EPA 9056	Sulfate	178	mg/L	2.5	05/28/22 01:23	
EPA 6010	Boron	1480	ug/L	100	05/27/22 10:51	
EPA 6010	Calcium	169000	ug/L	1000	05/27/22 10:51	
EPA 6020	Barium	18.2	ug/L	1.0	05/20/22 09:14	
EPA 6020	Molybdenum	1.1	ug/L	1.0	05/20/22 09:14	
EPA 6020	Selenium	2.9	ug/L	1.0	05/20/22 09:14	
EPA 903.1	Radium-226	-0.0868 ± 0.198 (0.467) C:NA T:94%	pCi/L		06/27/22 11:31	
EPA 904.0	Radium-228	0.296 ± 0.323 (0.670) C:73% T:94%	pCi/L		06/21/22 14:44	
Total Radium Calculation	Total Radium	0.296 ± 0.521 (1.14)	pCi/L		06/27/22 17:40	
SM 2540C	Total Dissolved Solids	731	mg/L	10.0	05/19/22 15:36	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/21/22 09:38	H3
50316561002	**AP-3A**					
EPA 9056	Chloride	160	mg/L	25.0	05/28/22 02:37	
EPA 9056	Fluoride	0.15	mg/L	0.10	05/28/22 02:00	
EPA 9056	Sulfate	1780	mg/L	25.0	05/28/22 02:37	
EPA 6010	Boron	26900	ug/L	100	05/27/22 10:53	
EPA 6010	Calcium	694000	ug/L	5000	05/27/22 12:27	
EPA 6020	Arsenic	1.4	ug/L	1.0	05/20/22 09:18	
EPA 6020	Barium	34.6	ug/L	1.0	05/20/22 09:18	
EPA 6020	Molybdenum	639	ug/L	5.0	05/23/22 02:52	
EPA 903.1	Radium-226	0.314 ± 0.364 (0.588) C:NA T:90%	pCi/L		06/27/22 11:31	
EPA 904.0	Radium-228	0.667 ± 0.412 (0.765) C:71% T:90%	pCi/L		06/21/22 14:44	
Total Radium Calculation	Total Radium	0.981 ± 0.776 (1.35)	pCi/L		06/27/22 17:40	
SM 2540C	Total Dissolved Solids	2950	mg/L	40.0	05/19/22 15:36	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/21/22 09:38	H3
50316561003	**AP-4A**					
EPA 9056	Chloride	127	mg/L	25.0	05/28/22 04:09	
EPA 9056	Fluoride	0.15	mg/L	0.10	05/28/22 03:32	
EPA 9056	Sulfate	1800	mg/L	25.0	05/28/22 04:09	
EPA 6010	Boron	22300	ug/L	100	05/27/22 10:55	

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SUMMARY OF DETECTION

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316561003	**AP-4A**					
EPA 6010	Calcium	654000	ug/L	5000	05/27/22 12:33	
EPA 6010	Lithium	45.2	ug/L	20.0	05/27/22 10:55	
EPA 6020	Barium	26.8	ug/L	1.0	05/20/22 09:22	
EPA 6020	Molybdenum	183	ug/L	1.0	05/20/22 09:22	
EPA 903.1	Radium-226	0.0904 ± 0.251 (0.487) C:NA T:91%	pCi/L		06/27/22 11:31	
EPA 904.0	Radium-228	0.365 ± 0.405 (0.847) C:70% T:91%	pCi/L		06/21/22 14:44	
Total Radium Calculation	Total Radium	0.455 ± 0.656 (1.33)	pCi/L		06/27/22 17:40	
SM 2540C	Total Dissolved Solids	2890	mg/L	40.0	05/19/22 15:36	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/21/22 09:39	H3
50316561004	**AP-4I**					
EPA 9056	Chloride	86.2	mg/L	2.5	05/28/22 04:46	
EPA 9056	Fluoride	0.25	mg/L	0.10	05/28/22 04:27	
EPA 9056	Sulfate	1660	mg/L	25.0	05/28/22 05:04	
EPA 6010	Boron	7900	ug/L	100	05/27/22 10:58	
EPA 6010	Calcium	640000	ug/L	5000	05/27/22 12:35	
EPA 6020	Barium	21.8	ug/L	1.0	05/20/22 09:26	
EPA 6020	Cobalt	2.7	ug/L	1.0	05/20/22 09:26	
EPA 6020	Molybdenum	56.7	ug/L	1.0	05/20/22 09:26	
EPA 903.1	Radium-226	0.127 ± 0.193 (0.311) C:NA T:97%	pCi/L		06/27/22 11:53	
EPA 904.0	Radium-228	0.736 ± 0.382 (0.663) C:73% T:97%	pCi/L		06/21/22 14:44	
Total Radium Calculation	Total Radium	0.863 ± 0.575 (0.974)	pCi/L		06/27/22 17:40	
SM 2540C	Total Dissolved Solids	2630	mg/L	40.0	05/19/22 15:36	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/21/22 09:40	H3
50316561005	**AP-4B**					
EPA 9056	Chloride	11.7	mg/L	2.5	05/28/22 05:41	
EPA 9056	Fluoride	0.11	mg/L	0.10	05/28/22 05:23	
EPA 9056	Sulfate	104	mg/L	2.5	05/28/22 05:41	
EPA 6010	Boron	545	ug/L	100	05/27/22 11:00	
EPA 6010	Calcium	156000	ug/L	1000	05/27/22 11:00	
EPA 6020	Barium	97.5	ug/L	1.0	05/20/22 09:39	
EPA 6020	Selenium	14.4	ug/L	1.0	05/20/22 09:39	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316561005	**AP-4B**					
EPA 903.1	Radium-226	0.138 ± 0.270 (0.494) C:NA T:91%	pCi/L		06/27/22 11:53	
EPA 904.0	Radium-228	0.370 ± 0.334 (0.674) C:74% T:91%	pCi/L		06/21/22 14:44	
Total Radium Calculation	Total Radium	0.508 ± 0.604 (1.17)	pCi/L		06/27/22 17:40	
SM 2540C	Total Dissolved Solids	648	mg/L	10.0	05/19/22 15:36	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/21/22 09:40	H3
50316561006	**AP-5**					
EPA 9056	Chloride	5.3	mg/L	0.25	05/28/22 06:55	
EPA 9056	Fluoride	0.18	mg/L	0.10	05/28/22 06:55	
EPA 9056	Sulfate	127	mg/L	2.5	05/28/22 07:13	
EPA 6010	Boron	886	ug/L	100	05/27/22 11:07	
EPA 6010	Calcium	130000	ug/L	1000	05/27/22 11:07	
EPA 6020	Barium	29.3	ug/L	1.0	05/20/22 09:43	
EPA 6020	Cobalt	1.7	ug/L	1.0	05/23/22 03:01	
EPA 6020	Molybdenum	27.6	ug/L	1.0	05/23/22 03:01	
EPA 6020	Selenium	4.2	ug/L	1.0	05/20/22 09:43	
EPA 903.1	Radium-226	0.0898 ± 0.352 (0.674) C:NA T:91%	pCi/L		06/27/22 11:53	
EPA 904.0	Radium-228	0.794 ± 0.442 (0.796) C:71% T:91%	pCi/L		06/21/22 14:44	
Total Radium Calculation	Total Radium	0.884 ± 0.794 (1.47)	pCi/L		06/27/22 17:40	
SM 2540C	Total Dissolved Solids	527	mg/L	10.0	05/19/22 15:37	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/21/22 09:41	H3
50316561007	**AP-5A**					
EPA 9056	Chloride	48.0	mg/L	2.5	05/27/22 03:41	
EPA 9056	Sulfate	1760	mg/L	25.0	05/27/22 04:32	
EPA 6010	Boron	12800	ug/L	100	05/27/22 11:09	
EPA 6010	Calcium	641000	ug/L	5000	05/27/22 13:14	
EPA 6020	Barium	23.5	ug/L	1.0	05/20/22 09:47	
EPA 6020	Molybdenum	210	ug/L	2.0	05/25/22 03:29	
EPA 903.1	Radium-226	0.0436 ± 0.226 (0.470) C:NA T:92%	pCi/L		06/27/22 11:53	

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SUMMARY OF DETECTION

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316561007	**AP-5A**					
EPA 904.0	Radium-228	1.24 ± 0.475 (0.695) C:71% T:92%	pCi/L		06/21/22 14:44	
Total Radium Calculation	Total Radium	1.28 ± 0.701 (1.17)	pCi/L		06/27/22 17:40	
SM 2540C	Total Dissolved Solids	2620	mg/L	40.0	05/19/22 15:37	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/21/22 09:43	H3
50316561008	**AP-6A**					
EPA 9056	Chloride	16.7	mg/L	2.5	05/27/22 06:13	
EPA 9056	Sulfate	700	mg/L	25.0	05/27/22 06:30	
EPA 6010	Boron	3570	ug/L	100	05/27/22 11:16	
EPA 6010	Calcium	308000	ug/L	2000	05/27/22 13:17	
EPA 6020	Barium	22.6	ug/L	1.0	05/20/22 09:51	
EPA 903.1	Radium-226	0.0994 ± 0.390 (0.746) C:NA T:90%	pCi/L		06/27/22 11:53	
EPA 904.0	Radium-228	0.318 ± 0.320 (0.653) C:69% T:90%	pCi/L		06/21/22 14:44	
Total Radium Calculation	Total Radium	0.417 ± 0.710 (1.40)	pCi/L		06/27/22 17:40	
SM 2540C	Total Dissolved Solids	1450	mg/L	20.0	05/19/22 15:37	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/21/22 09:44	H3
50316561009	**AP-6B**					
EPA 9056	Chloride	9.3	mg/L	0.25	05/27/22 06:47	
EPA 9056	Sulfate	315	mg/L	25.0	05/27/22 07:21	
EPA 6010	Boron	970	ug/L	100	05/27/22 11:18	
EPA 6010	Calcium	195000	ug/L	1000	05/27/22 11:18	
EPA 6020	Barium	30.5	ug/L	1.0	05/20/22 09:55	
EPA 6020	Chromium	2.0	ug/L	2.0	05/23/22 03:13	
EPA 6020	Selenium	3.1	ug/L	1.0	05/20/22 09:55	
EPA 903.1	Radium-226	0.0451 ± 0.206 (0.332) C:NA T:94%	pCi/L		06/27/22 11:53	
EPA 904.0	Radium-228	0.0689 ± 0.280 (0.642) C:73% T:94%	pCi/L		06/21/22 14:45	
Total Radium Calculation	Total Radium	0.114 ± 0.486 (0.974)	pCi/L		06/27/22 17:40	
SM 2540C	Total Dissolved Solids	798	mg/L	10.0	05/20/22 08:25	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316561009	**AP-6B**					
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/21/22 09:44	H3

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ANALYTICAL RESULTS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-3 **Lab ID: 50316561001** Collected: 05/15/22 08:55 Received: 05/16/22 10:30 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	**12.3**	mg/L	2.5	10		05/28/22 01:23	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		05/28/22 01:05	16984-48-8	
Sulfate	**178**	mg/L	2.5	10		05/28/22 01:23	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1480**	ug/L	100	1	05/25/22 16:16	05/27/22 10:51	7440-42-8	
Calcium	**169000**	ug/L	1000	1	05/25/22 16:16	05/27/22 10:51	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/25/22 16:16	05/27/22 10:51	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:14	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:14	7440-38-2	
Barium	**18.2**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:14	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/20/22 09:14	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 15:10	05/20/22 09:14	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 15:10	05/20/22 09:14	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:14	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:14	7439-92-1	
Molybdenum	**1.1**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:14	7439-98-7	
Selenium	**2.9**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:14	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/24/22 17:25	05/25/22 07:42	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**731**	mg/L	10.0	1		05/19/22 15:36		
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		05/21/22 09:38		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-3A **Lab ID: 50316561002** Collected: 05/15/22 09:45 Received: 05/16/22 10:30 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	**160**	mg/L	25.0	100		05/28/22 02:37	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		05/28/22 02:00	16984-48-8	
Sulfate	**1780**	mg/L	25.0	100		05/28/22 02:37	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**26900**	ug/L	100	1	05/25/22 16:16	05/27/22 10:53	7440-42-8	
Calcium	**694000**	ug/L	5000	5	05/25/22 16:16	05/27/22 12:27	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/25/22 16:16	05/27/22 10:53	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:18	7440-36-0	
Arsenic	**1.4**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:18	7440-38-2	
Barium	**34.6**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:18	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/20/22 09:18	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 15:10	05/20/22 09:18	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 15:10	05/20/22 09:18	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:18	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:18	7439-92-1	
Molybdenum	**639**	ug/L	5.0	5	05/19/22 15:10	05/23/22 02:52	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:18	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/24/22 17:25	05/25/22 07:44	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2950**	mg/L	40.0	1		05/19/22 15:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		05/21/22 09:38		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-4A **Lab ID: 50316561003** Collected: 05/15/22 10:50 Received: 05/16/22 10:30 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	**127**	mg/L	25.0	100		05/28/22 04:09	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		05/28/22 03:32	16984-48-8	
Sulfate	**1800**	mg/L	25.0	100		05/28/22 04:09	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**22300**	ug/L	100	1	05/25/22 16:16	05/27/22 10:55	7440-42-8	
Calcium	**654000**	ug/L	5000	5	05/25/22 16:16	05/27/22 12:33	7440-70-2	
Lithium	**45.2**	ug/L	20.0	1	05/25/22 16:16	05/27/22 10:55	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:22	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:22	7440-38-2	
Barium	**26.8**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:22	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/20/22 09:22	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 15:10	05/20/22 09:22	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 15:10	05/20/22 09:22	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:22	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:22	7439-92-1	
Molybdenum	**183**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:22	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:22	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:22	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/24/22 17:25	05/25/22 07:46	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2890**	mg/L	40.0	1		05/19/22 15:36		
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		05/21/22 09:39		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-4I **Lab ID: 50316561004** Collected: 05/15/22 12:30 Received: 05/16/22 10:30 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	**86.2**	mg/L	2.5	10		05/28/22 04:46	16887-00-6	
Fluoride	**0.25**	mg/L	0.10	1		05/28/22 04:27	16984-48-8	
Sulfate	**1660**	mg/L	25.0	100		05/28/22 05:04	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**7900**	ug/L	100	1	05/25/22 16:16	05/27/22 10:58	7440-42-8	
Calcium	**640000**	ug/L	5000	5	05/25/22 16:16	05/27/22 12:35	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/25/22 16:16	05/27/22 10:58	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:26	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:26	7440-38-2	
Barium	**21.8**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:26	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/20/22 09:26	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 15:10	05/20/22 09:26	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 15:10	05/20/22 09:26	7440-47-3	
Cobalt	**2.7**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:26	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:26	7439-92-1	
Molybdenum	**56.7**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:26	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:26	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/24/22 17:25	05/25/22 07:49	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2630**	mg/L	40.0	1		05/19/22 15:36		
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		05/21/22 09:40		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-4B **Lab ID: 50316561005** Collected: 05/15/22 13:15 Received: 05/16/22 10:30 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	**11.7**	mg/L	2.5	10		05/28/22 05:41	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		05/28/22 05:23	16984-48-8	
Sulfate	**104**	mg/L	2.5	10		05/28/22 05:41	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**545**	ug/L	100	1	05/25/22 16:16	05/27/22 11:00	7440-42-8	
Calcium	**156000**	ug/L	1000	1	05/25/22 16:16	05/27/22 11:00	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/25/22 16:16	05/27/22 11:00	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 02:57	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:39	7440-38-2	
Barium	**97.5**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:39	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 02:57	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 02:57	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 15:10	05/23/22 02:57	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 02:57	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:39	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 02:57	7439-98-7	
Selenium	**14.4**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:39	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:39	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/24/22 17:25	05/25/22 07:51	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**648**	mg/L	10.0	1		05/19/22 15:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		05/21/22 09:40		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-5 **Lab ID: 50316561006** Collected: 05/15/22 14:10 Received: 05/16/22 10:30 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	**5.3**	mg/L	0.25	1		05/28/22 06:55	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	1		05/28/22 06:55	16984-48-8	
Sulfate	**127**	mg/L	2.5	10		05/28/22 07:13	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**886**	ug/L	100	1	05/25/22 15:37	05/27/22 11:07	7440-42-8	
Calcium	**130000**	ug/L	1000	1	05/25/22 15:37	05/27/22 11:07	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/25/22 15:37	05/27/22 11:07	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:01	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:43	7440-38-2	
Barium	**29.3**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:43	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 03:01	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 03:01	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 15:10	05/23/22 03:01	7440-47-3	
Cobalt	**1.7**	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:01	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:43	7439-92-1	
Molybdenum	**27.6**	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:01	7439-98-7	
Selenium	**4.2**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:43	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:43	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/24/22 17:25	05/25/22 07:54	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**527**	mg/L	10.0	1		05/19/22 15:37		
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		05/21/22 09:41		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-5A **Lab ID: 50316561007** Collected: 05/15/22 15:35 Received: 05/16/22 10:30 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	**48.0**	mg/L	2.5	10		05/27/22 03:41	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/27/22 02:50	16984-48-8	
Sulfate	**1760**	mg/L	25.0	100		05/27/22 04:32	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**12800**	ug/L	100	1	05/25/22 15:37	05/27/22 11:09	7440-42-8	
Calcium	**641000**	ug/L	5000	5	05/25/22 15:37	05/27/22 13:14	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/25/22 15:37	05/27/22 11:09	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:05	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:47	7440-38-2	
Barium	**23.5**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:47	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 03:05	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 03:05	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 15:10	05/23/22 03:05	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:05	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:47	7439-92-1	
Molybdenum	**210**	ug/L	2.0	2	05/19/22 15:10	05/25/22 03:29	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:47	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:47	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/24/22 17:25	05/25/22 08:04	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2620**	mg/L	40.0	1		05/19/22 15:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		05/21/22 09:43		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-6A **Lab ID: 50316561008** Collected: 05/15/22 16:30 Received: 05/16/22 10:30 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	**16.7**	mg/L	2.5	10		05/27/22 06:13	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/27/22 05:56	16984-48-8	
Sulfate	**700**	mg/L	25.0	100		05/27/22 06:30	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**3570**	ug/L	100	1	05/25/22 15:37	05/27/22 11:16	7440-42-8	
Calcium	**308000**	ug/L	2000	2	05/25/22 15:37	05/27/22 13:17	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/25/22 15:37	05/27/22 11:16	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:09	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:51	7440-38-2	
Barium	**22.6**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:51	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 03:09	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 03:09	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/19/22 15:10	05/23/22 03:09	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:09	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:51	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:09	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:51	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/24/22 17:25	05/25/22 08:06	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1450**	mg/L	20.0	1		05/19/22 15:37		
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		05/21/22 09:44		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-6B **Lab ID: 50316561009** Collected: 05/15/22 17:25 Received: 05/16/22 10:30 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	**9.3**	mg/L	0.25	1		05/27/22 06:47	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/27/22 06:47	16984-48-8	
Sulfate	**315**	mg/L	25.0	100		05/27/22 07:21	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**970**	ug/L	100	1	05/25/22 15:37	05/27/22 11:18	7440-42-8	
Calcium	**195000**	ug/L	1000	1	05/25/22 15:37	05/27/22 11:18	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/25/22 15:37	05/27/22 11:18	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:13	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:55	7440-38-2	
Barium	**30.5**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:55	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 03:13	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 03:13	7440-43-9	
Chromium	**2.0**	ug/L	2.0	1	05/19/22 15:10	05/23/22 03:13	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:13	7440-48-4	
Lead	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:55	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:13	7439-98-7	
Selenium	**3.1**	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:55	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 09:55	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/24/22 17:25	05/25/22 08:08	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**798**	mg/L	10.0	1		05/20/22 08:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		05/21/22 09:44		H3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 678196 | Analysis Method: EPA 9056
QC Batch Method: EPA 9056 | Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006

METHOD BLANK: 3122419 Matrix: Water
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/27/22 06:20	
Fluoride	mg/L	ND	0.10	05/27/22 06:20	
Sulfate	mg/L	ND	0.25	05/27/22 06:20	

LABORATORY CONTROL SAMPLE: 3122420

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	0.54	109	80-120	
Sulfate	mg/L	2.5	2.5	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122421 3122422

Parameter	Units	50316511002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	211	125	125	320	319	87	87	80-120	0	15	
Fluoride	mg/L	0.60	0.5	0.5	1.2	1.1	109	109	80-120	0	15	
Sulfate	mg/L	579	250	250	791	791	85	85	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 678197
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316561007, 50316561008, 50316561009

METHOD BLANK: 3122423 Matrix: Water
Associated Lab Samples: 50316561007, 50316561008, 50316561009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/28/22 13:55	
Fluoride	mg/L	ND	0.10	05/28/22 13:55	
Sulfate	mg/L	ND	0.25	05/28/22 13:55	

LABORATORY CONTROL SAMPLE: 3122424

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	91	80-120	
Fluoride	mg/L	0.5	0.48	97	80-120	
Sulfate	mg/L	2.5	2.5	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122425 3122426

Parameter	Units	50316561007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	48.0	12.5	12.5	59.5	57.5	92	77	80-120	3	15	M0
Fluoride	mg/L	ND	0.5	0.5	0.53	0.52	93	92	80-120	1	15	
Sulfate	mg/L	1760	250	250	1880	1840	49	30	80-120	2	15	M0

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 677447
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008, 50316561009

METHOD BLANK: 3119386 Matrix: Water
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008, 50316561009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/25/22 07:02	

LABORATORY CONTROL SAMPLE: 3119387

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119388 3119389

Parameter	Units	50316478003 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	100	103	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 677587
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005

METHOD BLANK: 3120361 Matrix: Water
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	05/27/22 09:56	
Calcium	ug/L	ND	1000	05/27/22 09:56	
Lithium	ug/L	ND	20.0	05/27/22 09:56	

LABORATORY CONTROL SAMPLE: 3120362

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	1020	102	80-120	
Calcium	ug/L	10000	10500	105	80-120	
Lithium	ug/L	1000	1090	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120363 3120364

Parameter	Units	50316511002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	6770	1000	1000	7890	7730	111	95	75-125	2	20	
Calcium	ug/L	232000	10000	10000	252000	247000	206	152	75-125	2	20	P6
Lithium	ug/L	81.1	1000	1000	1250	1230	117	115	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 677592
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316561006, 50316561007, 50316561008, 50316561009

METHOD BLANK: 3120381 Matrix: Water
Associated Lab Samples: 50316561006, 50316561007, 50316561008, 50316561009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	05/27/22 11:02	
Calcium	ug/L	ND	1000	05/27/22 11:02	
Lithium	ug/L	ND	20.0	05/27/22 11:02	

LABORATORY CONTROL SAMPLE: 3120382

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	994	99	80-120	
Calcium	ug/L	10000	9920	99	80-120	
Lithium	ug/L	1000	995	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120383 3120384

Parameter	Units	50316700001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	136	1000	1000	1050	1090	91	95	75-125	4	20	
Calcium	ug/L	85700	10000	10000	91700	96100	59	103	75-125	5	20	P6
Lithium	ug/L	ND	1000	1000	1030	1070	103	106	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 677057
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008, 50316561009

METHOD BLANK: 3117353 Matrix: Water
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008, 50316561009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/20/22 07:43	
Arsenic	ug/L	ND	1.0	05/20/22 07:43	
Barium	ug/L	ND	1.0	05/20/22 07:43	
Beryllium	ug/L	ND	0.20	05/20/22 07:43	
Cadmium	ug/L	ND	0.20	05/20/22 07:43	
Chromium	ug/L	ND	2.0	05/20/22 07:43	
Cobalt	ug/L	ND	1.0	05/20/22 07:43	
Lead	ug/L	ND	1.0	05/20/22 07:43	
Molybdenum	ug/L	ND	1.0	05/20/22 07:43	
Selenium	ug/L	ND	1.0	05/20/22 07:43	
Thallium	ug/L	ND	1.0	05/20/22 07:43	

LABORATORY CONTROL SAMPLE: 3117354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.2	105	80-120	
Arsenic	ug/L	40	39.7	99	80-120	
Barium	ug/L	40	38.9	97	80-120	
Beryllium	ug/L	40	39.7	99	80-120	
Cadmium	ug/L	40	39.1	98	80-120	
Chromium	ug/L	40	41.3	103	80-120	
Cobalt	ug/L	40	41.2	103	80-120	
Lead	ug/L	40	40.7	102	80-120	
Molybdenum	ug/L	40	40.2	101	80-120	
Selenium	ug/L	40	39.3	98	80-120	
Thallium	ug/L	40	40.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3117355 3117356

Parameter	Units	50316511002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	43.7	43.5	109	109	75-125	0	20	
Arsenic	ug/L	81.3	40	40	121	122	99	102	75-125	1	20	
Barium	ug/L	54.0	40	40	96.9	96.6	107	106	75-125	0	20	
Beryllium	ug/L	ND	40	40	39.0	38.2	97	96	75-125	2	20	
Cadmium	ug/L	ND	40	40	37.7	37.8	94	95	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3117355 3117356

Parameter	Units	50316511002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	ND	40	40	39.2	39.1	97	97	75-125	0	20	
Cobalt	ug/L	ND	40	40	38.4	38.0	95	94	75-125	1	20	
Lead	ug/L	ND	40	40	41.3	40.9	103	102	75-125	1	20	
Molybdenum	ug/L	143	40	40	184	188	102	112	75-125	2	20	
Selenium	ug/L	ND	40	40	44.5	41.5	111	103	75-125	7	20	
Thallium	ug/L	ND	40	40	41.8	40.9	105	102	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 677053 — Analysis Method: SM 2540C
QC Batch Method: SM 2540C — Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008

METHOD BLANK: 3117336 — Matrix: Water
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/19/22 15:32	

LABORATORY CONTROL SAMPLE: 3117337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	298	99	80-120	

SAMPLE DUPLICATE: 3117338

Parameter	Units	50316507001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1440	1440	0	10	

SAMPLE DUPLICATE: 3117339

Parameter	Units	50316511002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1490	1460	2	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 677259
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316561009

METHOD BLANK: 3118384 Matrix: Water
Associated Lab Samples: 50316561009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/20/22 08:24	

LABORATORY CONTROL SAMPLE: 3118385

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	288	96	80-120	

SAMPLE DUPLICATE: 3118386

Parameter	Units	50316593001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	509	432	16	10	R1

SAMPLE DUPLICATE: 3118387

Parameter	Units	50316595006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	874	962	10	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 677523
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008, 50316561009

SAMPLE DUPLICATE: 3120051

Parameter	Units	50316560007 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.9	1	2	H3

SAMPLE DUPLICATE: 3120052

Parameter	Units	50316593001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.3	1	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-3 **Lab ID: 50316561001** Collected: 05/15/22 08:55 Received: 05/16/22 10:30 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	**-0.0868 ± 0.198 (0.467) C:NA T:94%**	pCi/L	06/27/22 11:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.296 ± 0.323 (0.670) C:73% T:94%**	pCi/L	06/21/22 14:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.296 ± 0.521 (1.14)**	pCi/L	06/27/22 17:40	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-3A **Lab ID: 50316561002** Collected: 05/15/22 09:45 Received: 05/16/22 10:30 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	**0.314 ± 0.364 (0.588) C:NA T:90%**	pCi/L	06/27/22 11:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.667 ± 0.412 (0.765) C:71% T:90%**	pCi/L	06/21/22 14:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.981 ± 0.776 (1.35)**	pCi/L	06/27/22 17:40	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-4A **Lab ID: 50316561003** Collected: 05/15/22 10:50 Received: 05/16/22 10:30 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	**0.0904 ± 0.251 (0.487) C:NA T:91%**	pCi/L	06/27/22 11:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.365 ± 0.405 (0.847) C:70% T:91%**	pCi/L	06/21/22 14:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.455 ± 0.656 (1.33)**	pCi/L	06/27/22 17:40	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-4I **Lab ID: 50316561004** Collected: 05/15/22 12:30 Received: 05/16/22 10:30 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	**0.127 ± 0.193 (0.311) C:NA T:97%**	pCi/L	06/27/22 11:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.736 ± 0.382 (0.663) C:73% T:97%**	pCi/L	06/21/22 14:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.863 ± 0.575 (0.974)**	pCi/L	06/27/22 17:40	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-4B **Lab ID: 50316561005** Collected: 05/15/22 13:15 Received: 05/16/22 10:30 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	**0.138 ± 0.270 (0.494) C:NA T:91%**	pCi/L	06/27/22 11:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.370 ± 0.334 (0.674) C:74% T:91%**	pCi/L	06/21/22 14:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.508 ± 0.604 (1.17)**	pCi/L	06/27/22 17:40	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-5 **Lab ID: 50316561006** Collected: 05/15/22 14:10 Received: 05/16/22 10:30 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	**0.0898 ± 0.352 (0.674) C:NA T:91%**	pCi/L	06/27/22 11:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.794 ± 0.442 (0.796) C:71% T:91%**	pCi/L	06/21/22 14:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.884 ± 0.794 (1.47)**	pCi/L	06/27/22 17:40	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-5A **Lab ID: 50316561007** Collected: 05/15/22 15:35 Received: 05/16/22 10:30 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	**0.0436 ± 0.226 (0.470) C:NA T:92%**	pCi/L	06/27/22 11:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.24 ± 0.475 (0.695) C:71% T:92%**	pCi/L	06/21/22 14:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.28 ± 0.701 (1.17)**	pCi/L	06/27/22 17:40	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-6A **Lab ID: 50316561008** Collected: 05/15/22 16:30 Received: 05/16/22 10:30 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	**0.0994 ± 0.390 (0.746) C:NA T:90%**	pCi/L	06/27/22 11:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.318 ± 0.320 (0.653) C:69% T:90%**	pCi/L	06/21/22 14:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.417 ± 0.710 (1.40)**	pCi/L	06/27/22 17:40	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Sample: AP-6B **Lab ID: 50316561009** Collected: 05/15/22 17:25 Received: 05/16/22 10:30 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	**0.0451 ± 0.206 (0.332) C:NA T:94%**	pCi/L	06/27/22 11:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0689 ± 0.280 (0.642) C:73% T:94%**	pCi/L	06/21/22 14:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.114 ± 0.486 (0.974)**	pCi/L	06/27/22 17:40	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 510549 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: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008, 50316561009

METHOD BLANK: 2474573 Matrix: Water
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008, 50316561009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0450 ± 0.265 (0.590) C:NA T:95%	pCi/L	06/27/22 11:09	

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: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

QC Batch: 510550 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: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008, 50316561009

METHOD BLANK: 2474574 Matrix: Water
Associated Lab Samples: 50316561001, 50316561002, 50316561003, 50316561004, 50316561005, 50316561006, 50316561007, 50316561008, 50316561009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.144 ± 0.223 (0.568) C:75% T:95%	pCi/L	06/21/22 11:42	

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

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QUALIFIERS

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

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.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316561001	**AP-3**	EPA 9056	678196		
50316561002	**AP-3A**	EPA 9056	678196		
50316561003	**AP-4A**	EPA 9056	678196		
50316561004	**AP-4I**	EPA 9056	678196		
50316561005	**AP-4B**	EPA 9056	678196		
50316561006	**AP-5**	EPA 9056	678196		
50316561007	**AP-5A**	EPA 9056	678197		
50316561008	**AP-6A**	EPA 9056	678197		
50316561009	**AP-6B**	EPA 9056	678197		
50316561001	**AP-3**	EPA 3010	677587	EPA 6010	678791
50316561002	**AP-3A**	EPA 3010	677587	EPA 6010	678791
50316561003	**AP-4A**	EPA 3010	677587	EPA 6010	678791
50316561004	**AP-4I**	EPA 3010	677587	EPA 6010	678791
50316561005	**AP-4B**	EPA 3010	677587	EPA 6010	678791
50316561006	**AP-5**	EPA 3010	677592	EPA 6010	678794
50316561007	**AP-5A**	EPA 3010	677592	EPA 6010	678794
50316561008	**AP-6A**	EPA 3010	677592	EPA 6010	678794
50316561009	**AP-6B**	EPA 3010	677592	EPA 6010	678794
50316561001	**AP-3**	EPA 200.2	677057	EPA 6020	677279
50316561002	**AP-3A**	EPA 200.2	677057	EPA 6020	677279
50316561003	**AP-4A**	EPA 200.2	677057	EPA 6020	677279
50316561004	**AP-4I**	EPA 200.2	677057	EPA 6020	677279
50316561005	**AP-4B**	EPA 200.2	677057	EPA 6020	677279
50316561006	**AP-5**	EPA 200.2	677057	EPA 6020	677279
50316561007	**AP-5A**	EPA 200.2	677057	EPA 6020	677279
50316561008	**AP-6A**	EPA 200.2	677057	EPA 6020	677279
50316561009	**AP-6B**	EPA 200.2	677057	EPA 6020	677279
50316561001	**AP-3**	EPA 7470	677447	EPA 7470	678213
50316561002	**AP-3A**	EPA 7470	677447	EPA 7470	678213
50316561003	**AP-4A**	EPA 7470	677447	EPA 7470	678213
50316561004	**AP-4I**	EPA 7470	677447	EPA 7470	678213
50316561005	**AP-4B**	EPA 7470	677447	EPA 7470	678213
50316561006	**AP-5**	EPA 7470	677447	EPA 7470	678213
50316561007	**AP-5A**	EPA 7470	677447	EPA 7470	678213
50316561008	**AP-6A**	EPA 7470	677447	EPA 7470	678213
50316561009	**AP-6B**	EPA 7470	677447	EPA 7470	678213
50316561001	**AP-3**	EPA 903.1	510549		
50316561002	**AP-3A**	EPA 903.1	510549		
50316561003	**AP-4A**	EPA 903.1	510549		
50316561004	**AP-4I**	EPA 903.1	510549		
50316561005	**AP-4B**	EPA 903.1	510549		
50316561006	**AP-5**	EPA 903.1	510549		
50316561007	**AP-5A**	EPA 903.1	510549		
50316561008	**AP-6A**	EPA 903.1	510549		
50316561009	**AP-6B**	EPA 903.1	510549		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R4 App III/IV
Pace Project No.: 50316561

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316561001	**AP-3**	EPA 904.0	510550		
50316561002	**AP-3A**	EPA 904.0	510550		
50316561003	**AP-4A**	EPA 904.0	510550		
50316561004	**AP-4I**	EPA 904.0	510550		
50316561005	**AP-4B**	EPA 904.0	510550		
50316561006	**AP-5**	EPA 904.0	510550		
50316561007	**AP-5A**	EPA 904.0	510550		
50316561008	**AP-6A**	EPA 904.0	510550		
50316561009	**AP-6B**	EPA 904.0	510550		
50316561001	**AP-3**	Total Radium Calculation	514741		
50316561002	**AP-3A**	Total Radium Calculation	514741		
50316561003	**AP-4A**	Total Radium Calculation	514741		
50316561004	**AP-4I**	Total Radium Calculation	514741		
50316561005	**AP-4B**	Total Radium Calculation	514741		
50316561006	**AP-5**	Total Radium Calculation	514741		
50316561007	**AP-5A**	Total Radium Calculation	514741		
50316561008	**AP-6A**	Total Radium Calculation	514741		
50316561009	**AP-6B**	Total Radium Calculation	514741		
50316561001	**AP-3**	SM 2540C	677053		
50316561002	**AP-3A**	SM 2540C	677053		
50316561003	**AP-4A**	SM 2540C	677053		
50316561004	**AP-4I**	SM 2540C	677053		
50316561005	**AP-4B**	SM 2540C	677053		
50316561006	**AP-5**	SM 2540C	677053		
50316561007	**AP-5A**	SM 2540C	677053		
50316561008	**AP-6A**	SM 2540C	677053		
50316561009	**AP-6B**	SM 2540C	677259		
50316561001	**AP-3**	SM 4500-H+B	677523		
50316561002	**AP-3A**	SM 4500-H+B	677523		
50316561003	**AP-4A**	SM 4500-H+B	677523		
50316561004	**AP-4I**	SM 4500-H+B	677523		
50316561005	**AP-4B**	SM 4500-H+B	677523		
50316561006	**AP-5**	SM 4500-H+B	677523		
50316561007	**AP-5A**	SM 4500-H+B	677523		
50316561008	**AP-6A**	SM 4500-H+B	677523		
50316561009	**AP-6B**	SM 4500-H+B	677523		

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The Chain-of-Custody is a LEGAL DOCUMENT. All releva

WO# : 50316561

50316561

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 2 Report 4 App III/IV	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/11

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS	(Cl, F, SO4) IC	Metals, Total*	Rad-228	Rad-226	Residual Chlorine (Y/N)	
1	AP-1R	WT							5	2		3							X	X	X		X	X		
2	AP-2A	WT							5	2		3							X	X	X		X	X		
3	AP-2BO	WT							5	2		3							X	X	X		X	X		
4	AP-3	WT		5/15	0855				5	2		3							X	X	X		X	X		001
5	AP-3A	WT		5/15	0945				5	2		3							X	X	X		X	X		002
6	AP-4A	WT		5/15	1050				5	2		3														003
7	AP-4I	WT		5/15	1230				5	2		3							X							004
8	AP-4B	WT		5/15	1315				5	2		3														005
9	AP-5	WT		5/15	1410				5	2		3												X		006
10	AP-5A	WT		5/15	1535				5	2		3							X	X	X		X	X		007
11	AP-6A	WT		5/15	1630				5	2		3							X	X	X		X	X		008
12	AP-6B	WT		5/15	1725				5	2		3							X	X	X		X	X		009

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (B, Ca, Li)	Nick Walton	5-16	0810	Jay Wellons	5-16	8:05				
6020 (Be, Ba, Cr, Co, As, Se, Pb, Mo, Cd, Tl, Sb): 7470 Hg	Jay Wellons	5-11	1630	Burkhart	5-16-22	1030	Ice/Cool	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick WALTON

SIGNATURE of SAMPLER: Nick Walton DATE Signed: 5-15-22

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

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BS 5-16-22 1040

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(s):** 1.5/1.7 | 1.2/1.4 | 1.8/2.0 | 2.4/2.6

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** Circle: **HNO3 (<2)** **H2SO4 (<2)** **NaOH (>10)** **NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (SVOC 625 Pest/PCB 608)			
Custody Signatures Present?	✓		Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Containers Intact?:	✓		Headspace Wisconsin Sulfide?			✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Extra labels on Terracore Vials? (soils only)			Trip Blank Present?		✓	
			Trip Blank Custody Seals?:			✓

COMMENTS:

Cooler 5 temp - 1.0/1.2

COC PAGE 1 of 2 mcs 5/16/22

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																													
2																													
3																													
4																2		2	1							WT	✓	✓	
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

BS 5-10-22

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic / Misc.

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 03, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 17, 2022. 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. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

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 #: 460198
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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(317)228-3100

SAMPLE SUMMARY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50316626001	**AP-9A**	Water	05/16/22 11:30	05/17/22 10:30

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50316626001	**AP-9A**	EPA 9056	BK1	3	PASI-I
		EPA 6010	MTM	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	WDB	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316626001	**AP-9A**					
EPA 9056	Chloride	255	mg/L	25.0	05/31/22 13:39	
EPA 9056	Fluoride	0.24	mg/L	0.10	05/28/22 23:33	
EPA 9056	Sulfate	1830	mg/L	25.0	05/31/22 13:39	
EPA 6010	Barium	41.2	ug/L	10.0	05/27/22 11:34	
EPA 6010	Boron	32700	ug/L	100	05/27/22 11:34	
EPA 6010	Calcium	93100	ug/L	5000	05/27/22 13:26	
EPA 6010	Iron	5900	ug/L	100	05/27/22 11:34	
EPA 6010	Lithium	30.2	ug/L	20.0	05/27/22 11:34	
EPA 6010	Magnesium	17500	ug/L	1000	05/27/22 11:34	
EPA 6010	Manganese	1580	ug/L	10.0	05/27/22 11:34	
EPA 6010	Molybdenum	2040	ug/L	10.0	05/27/22 11:34	
EPA 6010	Potassium	34000	ug/L	1000	05/27/22 11:34	
EPA 6010	Silica	13900	ug/L	450	05/27/22 11:34	N2
EPA 6010	Sodium	44200	ug/L	1000	05/27/22 11:34	
EPA 6010	Manganese, Dissolved	1560	ug/L	10.0	05/28/22 23:30	
EPA 6010	Molybdenum, Dissolved	2020	ug/L	10.0	05/28/22 23:30	
EPA 6020	Arsenic	1.0	ug/L	1.0	05/20/22 10:16	
EPA 903.1	Radium-226	0.227 ± 0.367 (0.639) C:NA T:93%	pCi/L		06/28/22 16:03	
EPA 904.0	Radium-228	0.588 ± 0.382 (0.710) C:69% T:93%	pCi/L		06/22/22 15:48	
Total Radium Calculation	Total Radium	0.815 ± 0.749 (1.35)	pCi/L		07/01/22 17:40	
SM 2320B	Alkalinity, Total as CaCO3	56.4	mg/L	2.0	05/22/22 11:36	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	56.4	mg/L	2.0	05/22/22 11:36	
SM 2540C	Total Dissolved Solids	2900	mg/L	40.0	05/20/22 08:58	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/21/22 10:55	H3
HACH 8146	Iron, Ferrous	0.81	mg/L	0.20	05/25/22 22:50	H3,N2
EPA 365.1	Phosphate as P04	0.62	mg/L	0.15	05/21/22 11:32	
SM 5310C	Total Organic Carbon	1.7	mg/L	1.0	05/27/22 06:46	
SM 5310C	Dissolved Organic Carbon	2.5	mg/L	1.0	05/27/22 06:24	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

Sample: AP-9A **Lab ID: 50316626001** Collected: 05/16/22 11:30 Received: 05/17/22 10:30 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	**255**	mg/L	25.0	100		05/31/22 13:39	16887-00-6	
Fluoride	**0.24**	mg/L	0.10	1		05/28/22 23:33	16984-48-8	
Sulfate	**1830**	mg/L	25.0	100		05/31/22 13:39	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/25/22 15:37	05/27/22 11:34	7429-90-5	
Barium	**41.2**	ug/L	10.0	1	05/25/22 15:37	05/27/22 11:34	7440-39-3	
Boron	**32700**	ug/L	100	1	05/25/22 15:37	05/27/22 11:34	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/25/22 15:37	05/27/22 11:34	7440-43-9	
Calcium	**93100**	ug/L	5000	5	05/25/22 15:37	05/27/22 13:26	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/25/22 15:37	05/27/22 11:34	7440-47-3	
Iron	**5900**	ug/L	100	1	05/25/22 15:37	05/27/22 11:34	7439-89-6	
Lead	ND	ug/L	10.0	1	05/25/22 15:37	05/27/22 11:34	7439-92-1	
Lithium	**30.2**	ug/L	20.0	1	05/25/22 15:37	05/27/22 11:34	7439-93-2	
Magnesium	**17500**	ug/L	1000	1	05/25/22 15:37	05/27/22 11:34	7439-95-4	
Manganese	**1580**	ug/L	10.0	1	05/25/22 15:37	05/27/22 11:34	7439-96-5	
Molybdenum	**2040**	ug/L	10.0	1	05/25/22 15:37	05/27/22 11:34	7439-98-7	
Potassium	**34000**	ug/L	1000	1	05/25/22 15:37	05/27/22 11:34	7440-09-7	
Silica	**13900**	ug/L	450	1	05/25/22 15:37	05/27/22 11:34	7631-86-9	N2
Sodium	**44200**	ug/L	1000	1	05/25/22 15:37	05/27/22 11:34	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	05/26/22 08:21	05/28/22 23:30	7439-96-5	
Molybdenum, Dissolved	**2020**	ug/L	10.0	1	05/26/22 08:21	05/28/22 23:30	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:36	7440-36-0	
Arsenic	**1.0**	ug/L	1.0	1	05/19/22 15:10	05/20/22 10:16	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/19/22 15:10	05/23/22 03:36	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/19/22 15:10	05/23/22 03:36	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 10:16	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/19/22 15:10	05/20/22 10:16	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**56.4**	mg/L	2.0	1		05/22/22 11:36		
Alkalinity,Bicarbonate (CaCO3)	**56.4**	mg/L	2.0	1		05/22/22 11:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/22/22 11:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2900**	mg/L	40.0	1		05/20/22 08:58		

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

Sample: AP-9A **Lab ID: 50316626001** Collected: 05/16/22 11:30 Received: 05/17/22 10:30 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		05/21/22 10:55		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/23/22 18:58	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.81**	mg/L	0.20	1		05/25/22 22:50	15438-31-0	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		05/17/22 16:09	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/17/22 16:09	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.62**	mg/L	0.15	1	05/18/22 07:30	05/21/22 11:32		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.7**	mg/L	1.0	1		05/27/22 06:46	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.5**	mg/L	1.0	1		05/27/22 06:24		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 678514
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3123650 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/28/22 22:56	
Fluoride	mg/L	ND	0.10	05/28/22 22:56	
Sulfate	mg/L	ND	0.25	05/28/22 22:56	

LABORATORY CONTROL SAMPLE: 3123651

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	0.49	97	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123652 3123653

Parameter	Units	50317155007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	341	125	125	430	431	71	72	80-120	0	15	M0
Fluoride	mg/L	4.9	50	50	52.5	52.4	95	95	80-120	0	15	
Sulfate	mg/L	20.5	2.5	2.5	23.0	23.0	102	102	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 677592
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3120381 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/27/22 11:02	
Barium	ug/L	ND	10.0	05/27/22 11:02	
Boron	ug/L	ND	100	05/27/22 11:02	
Cadmium	ug/L	ND	2.0	05/27/22 11:02	
Calcium	ug/L	ND	1000	05/27/22 11:02	
Chromium	ug/L	ND	10.0	05/27/22 11:02	
Iron	ug/L	ND	100	05/27/22 11:02	
Lead	ug/L	ND	10.0	05/27/22 11:02	
Lithium	ug/L	ND	20.0	05/27/22 11:02	
Magnesium	ug/L	ND	1000	05/27/22 11:02	
Manganese	ug/L	ND	10.0	05/27/22 11:02	
Molybdenum	ug/L	ND	10.0	05/27/22 11:02	
Potassium	ug/L	ND	1000	05/27/22 11:02	
Silica	ug/L	ND	450	05/27/22 11:02	N2
Sodium	ug/L	ND	1000	05/27/22 11:02	

LABORATORY CONTROL SAMPLE: 3120382

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9700	97	80-120	
Barium	ug/L	1000	976	98	80-120	
Boron	ug/L	1000	994	99	80-120	
Cadmium	ug/L	1000	966	97	80-120	
Calcium	ug/L	10000	9920	99	80-120	
Chromium	ug/L	1000	998	100	80-120	
Iron	ug/L	10000	9440	94	80-120	
Lead	ug/L	1000	940	94	80-120	
Lithium	ug/L	1000	995	100	80-120	
Magnesium	ug/L	10000	9290	93	80-120	
Manganese	ug/L	1000	940	94	80-120	
Molybdenum	ug/L	1000	1010	101	80-120	
Potassium	ug/L	10000	9380	94	80-120	
Silica	ug/L	10700	10300	97	80-120	N2
Sodium	ug/L	10000	9650	96	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120383 3120384

Parameter	Units	50316700001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	9990	10400	99	102	75-125	4	20	
Barium	ug/L	39.6	1000	1000	1010	1050	97	101	75-125	4	20	
Boron	ug/L	136	1000	1000	1050	1090	91	95	75-125	4	20	
Cadmium	ug/L	ND	1000	1000	977	1010	98	101	75-125	3	20	
Calcium	ug/L	85700	10000	10000	91700	96100	59	103	75-125	5	20	P6
Chromium	ug/L	ND	1000	1000	993	1020	99	102	75-125	3	20	
Iron	ug/L	366	10000	10000	9690	10100	93	98	75-125	4	20	
Lead	ug/L	ND	1000	1000	918	944	92	94	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1030	1070	103	106	75-125	3	20	
Magnesium	ug/L	25400	10000	10000	33600	35200	82	98	75-125	4	20	
Manganese	ug/L	48.4	1000	1000	975	1020	93	97	75-125	4	20	
Molybdenum	ug/L	ND	1000	1000	1010	1050	101	104	75-125	3	20	
Potassium	ug/L	2600	10000	10000	12200	12600	96	100	75-125	3	20	
Silica	ug/L	18200	10700	10700	28200	29100	93	102	75-125	3	20	N2
Sodium	ug/L	8810	10000	10000	18300	19000	95	102	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 678125
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3122103 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/28/22 23:21	
Molybdenum, Dissolved	ug/L	ND	10.0	05/28/22 23:21	

LABORATORY CONTROL SAMPLE: 3122104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	929	93	80-120	
Molybdenum, Dissolved	ug/L	1000	989	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122105 3122106

Parameter	Units	50316690010 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	53.8	1000	1000	996	994	94	94	75-125	0	20	
Molybdenum, Dissolved	ug/L	<10.0	1000	1000	990	983	99	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 677058
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3117357 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/23/22 03:28	
Arsenic	ug/L	ND	1.0	05/20/22 10:08	
Beryllium	ug/L	ND	0.20	05/23/22 03:28	
Cobalt	ug/L	ND	1.0	05/23/22 03:28	
Selenium	ug/L	ND	1.0	05/20/22 10:08	
Thallium	ug/L	ND	1.0	05/20/22 10:08	

LABORATORY CONTROL SAMPLE: 3117358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	43.1	108	80-120	
Arsenic	ug/L	40	37.6	94	80-120	
Beryllium	ug/L	40	41.1	103	80-120	
Cobalt	ug/L	40	40.6	101	80-120	
Selenium	ug/L	40	40.6	102	80-120	
Thallium	ug/L	40	40.5	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3117359 3117360

Parameter	Units	50316315001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.8	41.9	104	104	75-125	0	20	
Arsenic	ug/L	ND	40	40	40.4	45.7	96	109	75-125	12	20	
Beryllium	ug/L	ND	40	40	37.2	39.0	93	97	75-125	5	20	
Cobalt	ug/L	ND	40	40	41.1	41.2	97	97	75-125	0	20	
Selenium	ug/L	ND	40	40	43.0	48.8	104	118	75-125	13	20	
Thallium	ug/L	ND	40	40	39.9	44.7	99	111	75-125	11	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 677538
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3120137 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/22/22 11:36	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/22/22 11:36	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/22/22 11:36	

LABORATORY CONTROL SAMPLE: 3120138

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.4	107	90-110	

SAMPLE DUPLICATE: 3120139

Parameter	Units	50316700001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	287	290	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	287	290	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3120140

Parameter	Units	50316701003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	232	235	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	232	235	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 677261
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3118392 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/20/22 08:55	

LABORATORY CONTROL SAMPLE: 3118393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	276	92	80-120	

SAMPLE DUPLICATE: 3118394

Parameter	Units	50316617003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	811	828	2	10	

SAMPLE DUPLICATE: 3118395

Parameter	Units	50316617004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	638	606	5	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 677536
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50316626001

SAMPLE DUPLICATE: 3120118

Parameter	Units	50316595006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.7	6.7	0	2	H3

SAMPLE DUPLICATE: 3120119

Parameter	Units	50316700001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.6	2	2	H3

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 677852
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3121045 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/23/22 18:58	

LABORATORY CONTROL SAMPLE: 3121046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3121047 3121048

Parameter	Units	50316593001 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	0.48	97	96	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3121049 3121050

Parameter	Units	50316595006 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	0.38	0.38	73	73	90-110	1	20	M3

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 678397
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3123112 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/25/22 22:41	H3,N2

LABORATORY CONTROL SAMPLE: 3123113

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: 3123114 3123115

Parameter	Units	50316507001 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	0.97	0.96	97	96	90-110	1	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123116 3123117

Parameter	Units	50316511002 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	0.98	0.99	98	99	90-110	1	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 676716
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3115594 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/17/22 15:46	
Nitrogen, Nitrite	mg/L	ND	0.10	05/17/22 15:46	

LABORATORY CONTROL SAMPLE: 3115595

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	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3115596 3115597

Parameter	Units	50316617001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.0	1.0	97	97	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.97	0.97	97	97	90-110	0	20	

MATRIX SPIKE SAMPLE: 3115598

Parameter	Units	50316617002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.98	96	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.97	97	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 676784
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3115979 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/21/22 11:26	

LABORATORY CONTROL SAMPLE: 3115980

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3115981 3115982

Parameter	Units	50316700001 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			1.4	1.5				1		

MATRIX SPIKE SAMPLE: 3115983

Parameter	Units	50316700004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.4			

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 678554
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3123812 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/26/22 23:00	

LABORATORY CONTROL SAMPLE: 3123813

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: 3123814 3123815

Parameter	Units	50316700001 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	10.1	10.1	95	95	80-120	0	20	

MATRIX SPIKE SAMPLE: 3123816

Parameter	Units	50316617004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.3	10	10.8	95	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 678549
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316626001

METHOD BLANK: 3123789 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/27/22 05:06	

LABORATORY CONTROL SAMPLE: 3123790

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: 3123791 3123792

Parameter	Units	50316700001 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	10.7	10.6	101	100	80-120	1	20	P4

MATRIX SPIKE SAMPLE: 3123793

Parameter	Units	50316808002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	ND	10	11.2	102	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

Sample: AP-9A **Lab ID: 50316626001** Collected: 05/16/22 11:30 Received: 05/17/22 10:30 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	**0.227 ± 0.367 (0.639) C:NA T:93%**	pCi/L	06/28/22 16:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.588 ± 0.382 (0.710) C:69% T:93%**	pCi/L	06/22/22 15:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.815 ± 0.749 (1.35)**	pCi/L	07/01/22 17:40	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 510587
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50316626001

METHOD BLANK: 2474767
Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.179 ± 0.216 (0.330) C:NA T:89%	pCi/L	06/28/22 15:26	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

QC Batch: 510588
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50316626001

METHOD BLANK: 2474768 Matrix: Water
Associated Lab Samples: 50316626001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.249 ± 0.307 (0.648) C:78% T:89%	pCi/L	06/22/22 15:46	

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QUALIFIERS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

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.
P4	Sample field preservation does not meet EPA or method recommendations for this analysis.
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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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50316626

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316626001	**AP-9A**	EPA 9056	678514		
50316626001	**AP-9A**	EPA 3010	677592	EPA 6010	678794
50316626001	**AP-9A**	EPA 3010	678125	EPA 6010	678992
50316626001	**AP-9A**	EPA 200.2	677058	EPA 6020	677280
50316626001	**AP-9A**	EPA 903.1	510587		
50316626001	**AP-9A**	EPA 904.0	510588		
50316626001	**AP-9A**	Total Radium Calculation	515969		
50316626001	**AP-9A**	SM 2320B	677538		
50316626001	**AP-9A**	SM 2540C	677261		
50316626001	**AP-9A**	SM 4500-H+B	677536		
50316626001	**AP-9A**	SM 4500-S2-D	677852		
50316626001	**AP-9A**	HACH 8146	678397		
50316626001	**AP-9A**	EPA 353.2	676716		
50316626001	**AP-9A**	EPA 365.1	676784	EPA 365.1	677710
50316626001	**AP-9A**	SM 5310C	678554		
50316626001	**AP-9A**	SM 5310C	678549		

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WO# : 50316626

50316626

CHAIN-OF-CUSTODY / Analytical Request Document

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

...y constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Required Project Information:		Section C Invoice Information:	
Company: Atlas Indianapolis	Report To: Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address: 7988 Centerpoint Drive Suite 100	Copy To:	Company Name:	Atlas Indianapolis
Indianapolis, IN 46256		Address:	
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:	
Phone: (317)579-4082 Fax:	Project Name: Petersburg Profile 2 Report 5	Pace Project Manager:	Hayden Putt
Requested Due Date:	Project #:	Pace Profile #:	10498/10

Regulatory Agency:

State / Location: IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
1	AP-9A	WT		5/16	1130				11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		001
2	AP-10A	WT		5/16	1315				11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		002
3	MW-19A	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
4	MW-19I	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
5	MW-19B	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
6	MW-20A	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
7	MW-20I	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
8	MW-20B	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
9	MW-21A	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
10	MW-21I	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
11	MW-21B	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		
12	MW-25A	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X		

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

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)	Nick Walton	5-17-22	8:05	Jay Williams	5-17	8:05				
6020 (Be, Co, As, Se, Sb, Tl)	Jay Williams	5-17	10:30	M. Rhinehart	5/17/22	1030	1.7	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

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:	NICK WALTON					
SIGNATURE of SAMPLER:	Nick Walton	DATE Signed: 5-16-22				

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MW 5/17/22 1132

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(s):** 2.1 | 1.7 (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)
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
   Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	—		
Short Hold Time Analysis (48 hours or less)? Analysis: Nitrates	—					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1200			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			—
Rush TAT Requested (4 days or less):		—	Residual Chlorine Check (Total/Amenable/Free Cyanide)			—
Custody Signatures Present?	—		Headspace Wisconsin Sulfide?			—
Containers Intact?:	—		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent —
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	—		Trip Blank Present?		—	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			—

COMMENTS:

COC PAGE \ of \

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												—	—			↓	—	↓	—	—	—		—					WT	✓		
2												↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	✓		
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	
GN	General	AG3C	250mL NaOH amber glass	

Plastic / Misc.

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL		Solid	
NAL	OL	Non-aqueous liquid	Oil
WP		Wipe	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 12, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on June 21, 2022. 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. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

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 #: 460198
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: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50319335001	**MW-27B**	Water	06/20/22 14:00	06/21/22 09:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50319335001	**MW-27B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	DJS	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
		SM 2320B	TRK	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TAY	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I

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

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50319335001	**MW-27B**					
EPA 9056	Chloride	141	mg/L	25.0	06/23/22 08:55	
EPA 9056	Sulfate	171	mg/L	2.5	06/23/22 08:37	
EPA 6010	Barium	497	ug/L	10.0	06/30/22 11:07	
EPA 6010	Boron	8320	ug/L	100	06/30/22 11:07	
EPA 6010	Calcium	239000	ug/L	2000	06/30/22 11:59	
EPA 6010	Iron	40000	ug/L	100	06/30/22 11:07	
EPA 6010	Magnesium	70700	ug/L	1000	06/30/22 11:07	
EPA 6010	Manganese	1700	ug/L	10.0	06/30/22 11:07	
EPA 6010	Potassium	3970	ug/L	1000	06/30/22 11:07	
EPA 6010	Silica	32800	ug/L	450	06/30/22 11:07	N2
EPA 6010	Sodium	61400	ug/L	1000	06/30/22 11:07	
EPA 6010	Manganese, Dissolved	1680	ug/L	10.0	06/29/22 11:00	
EPA 6020	Arsenic	42.8	ug/L	1.0	06/23/22 23:57	
EPA 903.1	Radium-226	1.52 ± 0.485 (0.248) C:NA T:94%	pCi/L		07/21/22 11:46	
EPA 904.0	Radium-228	0.886 ± 0.451 (0.785) C:75% T:94%	pCi/L		07/11/22 16:52	
Total Radium Calculation	Total Radium	2.41 ± 0.936 (1.03)	pCi/L		07/22/22 14:45	
SM 2320B	Alkalinity, Total as CaCO3	699	mg/L	2.0	06/22/22 15:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	699	mg/L	2.0	06/22/22 15:22	
SM 2540C	Total Dissolved Solids	1190	mg/L	20.0	06/23/22 09:38	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	06/21/22 14:39	H3
EPA 353.2	Nitrogen, Nitrate	0.12	mg/L	0.10	06/21/22 16:12	
EPA 365.1	Phosphate as P04	5.8	mg/L	0.30	06/29/22 10:25	
SM 5310C	Total Organic Carbon	13.0	mg/L	1.0	07/05/22 21:49	
SM 5310C	Dissolved Organic Carbon	12.7	mg/L	1.0	07/05/22 21:56	

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

Sample: MW-27B **Lab ID: 50319335001** Collected: 06/20/22 14:00 Received: 06/21/22 09:00 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	**141**	mg/L	25.0	100		06/23/22 08:55	16887-00-6	
Fluoride	ND	mg/L	0.10	1		06/23/22 08:20	16984-48-8	
Sulfate	**171**	mg/L	2.5	10		06/23/22 08:37	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	06/28/22 08:38	06/30/22 11:07	7429-90-5	
Barium	**497**	ug/L	10.0	1	06/28/22 08:38	06/30/22 11:07	7440-39-3	
Boron	**8320**	ug/L	100	1	06/28/22 08:38	06/30/22 11:07	7440-42-8	
Cadmium	ND	ug/L	2.0	1	06/28/22 08:38	06/30/22 11:07	7440-43-9	
Calcium	**239000**	ug/L	2000	2	06/28/22 08:38	06/30/22 11:59	7440-70-2	
Chromium	ND	ug/L	10.0	1	06/28/22 08:38	06/30/22 11:07	7440-47-3	
Iron	**40000**	ug/L	100	1	06/28/22 08:38	06/30/22 11:07	7439-89-6	
Lead	ND	ug/L	10.0	1	06/28/22 08:38	06/30/22 11:07	7439-92-1	
Lithium	ND	ug/L	20.0	1	06/28/22 08:38	06/30/22 11:07	7439-93-2	
Magnesium	**70700**	ug/L	1000	1	06/28/22 08:38	06/30/22 11:07	7439-95-4	
Manganese	**1700**	ug/L	10.0	1	06/28/22 08:38	06/30/22 11:07	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	06/28/22 08:38	06/30/22 11:07	7439-98-7	
Potassium	**3970**	ug/L	1000	1	06/28/22 08:38	06/30/22 11:07	7440-09-7	
Silica	**32800**	ug/L	450	1	06/28/22 08:38	06/30/22 11:07	7631-86-9	N2
Sodium	**61400**	ug/L	1000	1	06/28/22 08:38	06/30/22 11:07	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1680**	ug/L	10.0	1	06/24/22 14:43	06/29/22 11:00	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	06/24/22 14:43	06/29/22 11:00	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	06/22/22 08:30	06/23/22 23:57	7440-36-0	
Arsenic	**42.8**	ug/L	1.0	1	06/22/22 08:30	06/23/22 23:57	7440-38-2	
Beryllium	ND	ug/L	0.20	1	06/22/22 08:30	06/23/22 23:57	7440-41-7	
Cobalt	ND	ug/L	1.0	1	06/22/22 08:30	06/23/22 23:57	7440-48-4	
Selenium	ND	ug/L	1.0	1	06/22/22 08:30	06/23/22 23:57	7782-49-2	
Thallium	ND	ug/L	1.0	1	06/22/22 08:30	06/23/22 23:57	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**699**	mg/L	2.0	1		06/22/22 15:22		
Alkalinity,Bicarbonate (CaCO3)	**699**	mg/L	2.0	1		06/22/22 15:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		06/22/22 15:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1190**	mg/L	20.0	1		06/23/22 09:38		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

Sample: MW-27B **Lab ID: 50319335001** Collected: 06/20/22 14:00 Received: 06/21/22 09:00 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	**6.8**	Std. Units	0.10	1		06/21/22 14:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		06/24/22 09:36	18496-25-8	P4
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		06/27/22 11:19	15438-31-0	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		06/21/22 16:12	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		06/21/22 16:12	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**5.8**	mg/L	0.30	2	06/23/22 09:30	06/29/22 10:25		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**13.0**	mg/L	1.0	1		07/05/22 21:49	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**12.7**	mg/L	1.0	1		07/05/22 21:56		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 682900
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3142719 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	06/23/22 06:55	
Fluoride	mg/L	ND	0.10	06/23/22 06:55	
Sulfate	mg/L	ND	0.25	06/23/22 06:55	

LABORATORY CONTROL SAMPLE: 3142720

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	0.48	95	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3142721 3142722

Parameter	Units	50319339001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	333	125	125	458	461	101	103	80-120	1	15	
Fluoride	mg/L	0.58	0.5	0.5	1.1	1.1	100	100	80-120	0	15	
Sulfate	mg/L	43.4	25	25	67.2	66.9	95	94	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3142723 3142724

Parameter	Units	50319381002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.4	1.2	1.2	2.6	2.6	94	94	80-120	0	15	
Fluoride	mg/L	0.20	0.5	0.5	0.70	0.70	99	99	80-120	0	15	
Sulfate	mg/L	16.2	2.5	2.5	18.8	18.9	105	110	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 682831
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50319335001

METHOD BLANK: 3142548 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	06/30/22 10:40	
Barium	ug/L	ND	10.0	06/30/22 10:40	
Boron	ug/L	ND	100	06/30/22 10:40	
Cadmium	ug/L	ND	2.0	06/30/22 10:40	
Calcium	ug/L	ND	1000	06/30/22 10:40	
Chromium	ug/L	ND	10.0	06/30/22 10:40	
Iron	ug/L	ND	100	06/30/22 10:40	
Lead	ug/L	ND	10.0	06/30/22 10:40	
Lithium	ug/L	ND	20.0	06/30/22 10:40	
Magnesium	ug/L	ND	1000	06/30/22 10:40	
Manganese	ug/L	ND	10.0	06/30/22 10:40	
Molybdenum	ug/L	ND	10.0	06/30/22 10:40	
Potassium	ug/L	ND	1000	06/30/22 10:40	
Silica	ug/L	ND	450	06/30/22 10:40	N2
Sodium	ug/L	ND	1000	06/30/22 10:40	

LABORATORY CONTROL SAMPLE: 3142549

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9850	98	80-120	
Barium	ug/L	1000	959	96	80-120	
Boron	ug/L	1000	969	97	80-120	
Cadmium	ug/L	1000	951	95	80-120	
Calcium	ug/L	10000	9780	98	80-120	
Chromium	ug/L	1000	966	97	80-120	
Iron	ug/L	10000	9470	95	80-120	
Lead	ug/L	1000	929	93	80-120	
Lithium	ug/L	1000	963	96	80-120	
Magnesium	ug/L	10000	9380	94	80-120	
Manganese	ug/L	1000	946	95	80-120	
Molybdenum	ug/L	1000	998	100	80-120	
Potassium	ug/L	10000	9690	97	80-120	
Silica	ug/L	10700	10100	94	80-120	N2
Sodium	ug/L	10000	9760	98	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3142550 3142551

Parameter	Units	50319339001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	9670	8360	97	83	75-125	14	20	
Barium	ug/L	0.36 mg/L	1000	1000	1360	1170	100	82	75-125	15	20	
Boron	ug/L	0.23 mg/L	1000	1000	1240	1120	100	89	75-125	10	20	
Cadmium	ug/L	ND	1000	1000	982	872	98	87	75-125	12	20	
Calcium	ug/L	107 mg/L	10000	10000	122000	105000	142	-26	75-125	15	20	P6
Chromium	ug/L	ND	1000	1000	982	842	98	84	75-125	15	20	
Iron	ug/L	7.8 mg/L	10000	10000	17600	15200	99	74	75-125	15	20	M0
Lead	ug/L	ND	1000	1000	903	807	90	81	75-125	11	20	
Lithium	ug/L	0.017J mg/L	1000	1000	1060	933	104	92	75-125	13	20	
Magnesium	ug/L	33.1 mg/L	10000	10000	43700	37700	106	46	75-125	15	20	M0
Manganese	ug/L	0.33 mg/L	1000	1000	1300	1120	97	79	75-125	14	20	
Molybdenum	ug/L	0.0041J mg/L	1000	1000	1030	899	103	89	75-125	14	20	
Potassium	ug/L	13.5 mg/L	10000	10000	24600	21800	112	84	75-125	12	20	
Silica	ug/L	12.0 mg/L	10700	10700	22500	20100	98	76	75-125	11	20	N2
Sodium	ug/L	172 mg/L	10000	10000	190000	168000	176	-47	75-125	12	20	P6

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 682818
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3142508 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	06/29/22 10:09	
Molybdenum, Dissolved	ug/L	ND	10.0	06/29/22 10:09	

LABORATORY CONTROL SAMPLE: 3142509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	984	98	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3142510 3142511

Parameter	Units	50318992001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	0.11 mg/L	1000	1000	1120	1120	101	100	75-125	0	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1060	1090	106	108	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3142512 3142513

Parameter	Units	50319327002 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	317	1000	1000	1260	1270	94	95	75-125	1	20	
Molybdenum, Dissolved	ug/L	20.2	1000	1000	1020	1040	100	102	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 682780
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3142291 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	06/23/22 23:09	
Arsenic	ug/L	ND	1.0	06/23/22 23:09	
Beryllium	ug/L	ND	0.20	06/23/22 23:09	
Cobalt	ug/L	ND	1.0	06/23/22 23:09	
Selenium	ug/L	ND	1.0	06/23/22 23:09	
Thallium	ug/L	ND	1.0	06/23/22 23:09	

LABORATORY CONTROL SAMPLE: 3142292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	80	82.9	104	80-120	
Arsenic	ug/L	40	39.0	98	80-120	
Beryllium	ug/L	40	37.3	93	80-120	
Cobalt	ug/L	40	40.5	101	80-120	
Selenium	ug/L	40	39.2	98	80-120	
Thallium	ug/L	40	40.6	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3142293 3142294

Parameter	Units	50319320005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.075	80	80	88.1	88.4	110	110	75-125	0	20	
Arsenic	ug/L	8.1	40	40	46.8	48.1	97	100	75-125	3	20	
Beryllium	ug/L	<0.021	40	40	39.4	39.8	99	100	75-125	1	20	
Cobalt	ug/L	0.18J	40	40	39.6	40.0	98	100	75-125	1	20	
Selenium	ug/L	<0.33	40	40	38.2	38.8	95	97	75-125	2	20	
Thallium	ug/L	<0.038	40	40	43.1	42.9	108	107	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3142295 3142296

Parameter	Units	50319381002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	80	80	86.2	86.2	108	108	75-125	0	20	
Arsenic	ug/L	0.0037 mg/L	40	40	42.7	42.9	97	98	75-125	0	20	
Beryllium	ug/L	ND	40	40	39.3	39.4	98	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3142295 3142296

Parameter	Units	50319381002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	ND	40	40	39.5	39.5	98	98	75-125	0	20	
Selenium	ug/L	ND	40	40	39.1	38.4	98	96	75-125	2	20	
Thallium	ug/L	ND	40	40	42.5	42.7	106	107	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 682934
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3142817 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	06/22/22 15:22	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	06/22/22 15:22	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	06/22/22 15:22	

LABORATORY CONTROL SAMPLE: 3142818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.7	101	90-110	

SAMPLE DUPLICATE: 3142831

Parameter	Units	50319335001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	699	711	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	699	711	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3142842

Parameter	Units	50319394005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	195	195	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	186	186	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	9.0	2	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 683134
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3143785 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	06/23/22 09:31	

LABORATORY CONTROL SAMPLE: 3143786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	288	96	80-120	

SAMPLE DUPLICATE: 3143787

Parameter	Units	50319335001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1190	1170	1	10	

SAMPLE DUPLICATE: 3143788

Parameter	Units	50319339001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	964	960	0	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 682696
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50319335001

SAMPLE DUPLICATE: 3141930

Parameter	Units	50319339001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	1	2	H3

SAMPLE DUPLICATE: 3142128

Parameter	Units	50319339005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.1	6.1	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 683314
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3144712 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	06/24/22 09:36	

LABORATORY CONTROL SAMPLE: 3144713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.54	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3144714 3144715

Parameter	Units	50319381002 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	0.52	0.52	103	104	90-110	1	20	

MATRIX SPIKE SAMPLE: 3144716

Parameter	Units	50319394001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.50	100	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 683576
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3146270 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	06/27/22 10:19	H3,N2

LABORATORY CONTROL SAMPLE: 3146271

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.98	98	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3146272 3146273

Parameter	Units	50319147002 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	1.0	104	101	90-110	3	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3146274 3146275

Parameter	Units	50319394005 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	1.0	1.0	100	103	90-110	4	20	H3,N2

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REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 682761
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3142192 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	06/21/22 15:56	
Nitrogen, Nitrite	mg/L	ND	0.10	06/21/22 15:56	

LABORATORY CONTROL SAMPLE: 3142193

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	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3142194 3142195

Parameter	Units	50319381002 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	0.99	0.98	97	97	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	100	100	90-110	0	20	

MATRIX SPIKE SAMPLE: 3142196

Parameter	Units	50319333001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.9	1	3.8	90	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	100	90-110	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 683088
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3143655 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	06/29/22 09:21	

LABORATORY CONTROL SAMPLE: 3143656

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

MATRIX SPIKE SAMPLE: 3143657

Parameter	Units	50319365001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	8.9		10.9			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3143658 3143659

Parameter	Units	50319437002 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	1.6				0		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 684709
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3150945 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	07/05/22 21:12	

LABORATORY CONTROL SAMPLE: 3150946

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: 3150947 3150948

Parameter	Units	50319335001 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	13.0	20	20	31.6	31.9	93	94	80-120	1	20	

MATRIX SPIKE SAMPLE: 3150949

Parameter	Units	50319508014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	0.24J	10	10.4	101	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 684712
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50319335001

METHOD BLANK: 3150952 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	07/05/22 21:16	

LABORATORY CONTROL SAMPLE: 3150953

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: 3150954 3150955

Parameter	Units	50319866003 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	1.6	10	10	11.6	11.6	100	100	80-120	0	20	

MATRIX SPIKE SAMPLE: 3150956

Parameter	Units	50320035003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.1	10	12.1	100	80-120	

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(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

Sample: MW-27B **Lab ID: 50319335001** Collected: 06/20/22 14:00 Received: 06/21/22 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.52 ± 0.485 (0.248) C:NA T:94%**	pCi/L	07/21/22 11:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.886 ± 0.451 (0.785) C:75% T:94%**	pCi/L	07/11/22 16:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.41 ± 0.936 (1.03)**	pCi/L	07/22/22 14:45	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 514046
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50319335001

METHOD BLANK: 2491330 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.344 ± 0.333 (0.675) C:81% T:93%	pCi/L	07/11/22 16:52	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

QC Batch: 514044
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50319335001

METHOD BLANK: 2491326 Matrix: Water
Associated Lab Samples: 50319335001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.115 ± 0.250 (0.576) C:NA T:93%	pCi/L	07/21/22 11:46	

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QUALIFIERS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

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.
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.
P4	Sample field preservation does not meet EPA or method recommendations for this analysis.
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: Petersburg Profile 2 Report 5
Pace Project No.: 50319335

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50319335001	**MW-27B**	EPA 9056	682900		
50319335001	**MW-27B**	EPA 3010	682831	EPA 6010	684205
50319335001	**MW-27B**	EPA 3010	682818	EPA 6010	683949
50319335001	**MW-27B**	EPA 200.2	682780	EPA 6020	683005
50319335001	**MW-27B**	EPA 903.1	514044		
50319335001	**MW-27B**	EPA 904.0	514046		
50319335001	**MW-27B**	Total Radium Calculation	520751		
50319335001	**MW-27B**	SM 2320B	682934		
50319335001	**MW-27B**	SM 2540C	683134		
50319335001	**MW-27B**	SM 4500-H+B	682696		
50319335001	**MW-27B**	SM 4500-S2-D	683314		
50319335001	**MW-27B**	HACH 8146	683576		
50319335001	**MW-27B**	EPA 353.2	682761		
50319335001	**MW-27B**	EPA 365.1	683088	EPA 365.1	683978
50319335001	**MW-27B**	SM 5310C	684709		
50319335001	**MW-27B**	SM 5310C	684712		

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WWW.PACELABS.COM

WO# : 50319335

50319335

CHAIN-OF-CUST

The Chain-of-Custody is a … urately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pac… ndard-terms.pdf.

Section A	Section B	Section
Required Client Information:	**Required Project Information:**	**Invoice I…**
Company: Atlas Indianapolis	Report To: Mark Breting	Attention: Accounts Payable - Paula Sedam
Address: 7988 Centerpoint Drive Suite 100	Copy To:	Company Name: Atlas Indianapolis
Indianapolis, IN 46256		Address:
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:
Phone: (317)579-4082 Fax:	Project Name: Petersburg Profile 2 Report 5	Pace Project Manager: Hayden Putt
Requested Due Date:	Project #:	Pace Profile #: 10498/10

Regulatory Agency

State / Location: IN

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)
13	~~MW-25I~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
14	~~MW-25B~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
15	~~MW-26A~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
16	~~MW-26I~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
17	~~MW-26B~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
18	MW-27B	WT	G	6/20	1400				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
19	~~MW-28A~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
20	~~MW-28I~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
21	~~MW-28B~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
22	~~MW-29A~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
23	~~MW-29I~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
24	~~MW-29B~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	

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)		6/21/22	0900		6/21/22	0900	1.8	Y	N	Y
6020 (Be, Co, As, Se, Sb, Tl)										
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER: P. Glen Hopper			
SIGNATURE of SAMPLER:	DATE Signed: 6/21/22		

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

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 6/27/22 0908

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(s):** 1.8 | 1.8 (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)
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
   Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: Nitrates	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 0930		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

Sample Container Count

** Place a RED dot on containers that are out of conformance **

			VIALS						AMBER GLASS							PLASTIC										OTHER				Matrix	Nitric Red	Sulfuric Yellow	Sodium Hydroxide Green	Sodium Hydroxide/ ZnAc Black
		MeOH (only)																															
		SBS																															
		DI																															
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					HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																																	
2																																	
3																																	
4																																	
5																																	
6												1	1			2	1	2	1	1	1		1						WT	✓	✓		8
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

August 10, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on July 15, 2022. 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. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

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 #: 460198
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: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50321163001	**MW-26A**	Water	07/14/22 10:05	07/15/22 11:16
50321163002	**MW-26I**	Water	07/14/22 11:00	07/15/22 11:16
50321163003	**MW-26B**	Water	07/14/22 12:25	07/15/22 11:16
50321163004	**MW-28A**	Water	07/14/22 13:50	07/15/22 11:16
50321163005	**MW-28I**	Water	07/14/22 14:35	07/15/22 11:16
50321163006	**MW-28B**	Water	07/14/22 15:25	07/15/22 11:16

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50321163001	**MW-26A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TAY	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50321163002	**MW-26I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TAY	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50321163003	**MW-26B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TAY	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50321163004	**MW-28A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	ADT	1	PASI-I
		SM 4500-H+B	TAY	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50321163005	**MW-28I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	ADT	1	PASI-I
		SM 4500-H+B	TAY	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50321163006	**MW-28B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	ADT	1	PASI-I
		SM 4500-H+B	TAY	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50321163001	**MW-26A**					
EPA 9056	Chloride	120	mg/L	2.5	07/20/22 00:40	
EPA 9056	Sulfate	1450	mg/L	25.0	07/18/22 18:34	
EPA 6010	Barium	31.8	ug/L	10.0	07/27/22 10:41	
EPA 6010	Boron	23900	ug/L	100	07/27/22 10:41	
EPA 6010	Calcium	538000	ug/L	3000	07/27/22 11:05	
EPA 6010	Iron	8270	ug/L	100	07/27/22 10:41	
EPA 6010	Magnesium	23900	ug/L	1000	07/27/22 10:41	
EPA 6010	Manganese	2030	ug/L	10.0	07/27/22 10:41	
EPA 6010	Molybdenum	1390	ug/L	10.0	07/27/22 10:41	
EPA 6010	Potassium	10300	ug/L	1000	07/27/22 10:41	
EPA 6010	Silica	11900	ug/L	450	07/27/22 10:41	N2
EPA 6010	Sodium	29400	ug/L	1000	07/27/22 10:41	
EPA 6010	Manganese, Dissolved	2050	ug/L	10.0	07/27/22 23:26	
EPA 6010	Molybdenum, Dissolved	1450	ug/L	10.0	07/27/22 23:26	
EPA 6020	Arsenic	1.5	ug/L	1.0	07/25/22 09:54	
EPA 903.1	Radium-226	0.214 ± 0.197 (0.116) C:NA T:84%	pCi/L		08/09/22 11:25	
EPA 904.0	Radium-228	1.36 ± 0.603 (0.920) C:77% T:84%	pCi/L		08/02/22 20:32	
Total Radium Calculation	Total Radium	1.57 ± 0.800 (1.04)	pCi/L		08/09/22 17:13	
SM 2320B	Alkalinity, Total as CaCO3	338	mg/L	2.0	07/16/22 12:37	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	338	mg/L	2.0	07/16/22 12:37	
SM 2540C	Total Dissolved Solids	2420	mg/L	40.0	07/16/22 09:04	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	07/16/22 12:00	H3
HACH 8146	Iron, Ferrous	0.22	mg/L	0.20	07/19/22 22:35	H3,N2
EPA 365.1	Phosphate as P04	0.20	mg/L	0.15	07/22/22 21:57	
SM 5310C	Total Organic Carbon	1.7	mg/L	1.0	07/25/22 19:15	
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	07/28/22 02:34	
50321163002	**MW-26I**					
EPA 9056	Chloride	58.1	mg/L	2.5	07/20/22 00:57	
EPA 9056	Sulfate	422	mg/L	25.0	07/18/22 19:25	
EPA 6010	Barium	38.6	ug/L	10.0	07/27/22 10:48	
EPA 6010	Boron	6160	ug/L	100	07/27/22 10:48	
EPA 6010	Calcium	239000	ug/L	2000	07/27/22 11:32	
EPA 6010	Iron	4650	ug/L	100	07/27/22 10:48	
EPA 6010	Lithium	32.8	ug/L	20.0	07/27/22 10:48	
EPA 6010	Magnesium	37700	ug/L	1000	07/27/22 10:48	
EPA 6010	Manganese	2020	ug/L	10.0	07/27/22 10:48	
EPA 6010	Molybdenum	152	ug/L	10.0	07/27/22 10:48	
EPA 6010	Potassium	9360	ug/L	1000	07/27/22 10:48	
EPA 6010	Silica	13200	ug/L	450	07/27/22 10:48	N2
EPA 6010	Sodium	26900	ug/L	1000	07/27/22 10:48	

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50321163002	**MW-26I**					
EPA 6010	Manganese, Dissolved	2000	ug/L	10.0	07/27/22 23:28	
EPA 6010	Molybdenum, Dissolved	164	ug/L	10.0	07/27/22 23:28	
EPA 6020	Arsenic	1.9	ug/L	1.0	07/25/22 09:58	
EPA 903.1	Radium-226	0.369 ± 0.364 (0.554) C:NA T:78%	pCi/L		08/09/22 11:25	
EPA 904.0	Radium-228	0.702 ± 0.641 (1.30) C:81% T:78%	pCi/L		08/02/22 20:33	
Total Radium Calculation	Total Radium	1.07 ± 1.01 (1.85)	pCi/L		08/09/22 17:13	
SM 2320B	Alkalinity, Total as CaCO3	402	mg/L	2.0	07/16/22 12:37	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	402	mg/L	2.0	07/16/22 12:37	
SM 2540C	Total Dissolved Solids	1160	mg/L	20.0	07/16/22 09:05	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	07/16/22 12:01	H3
EPA 365.1	Phosphate as P04	0.17	mg/L	0.15	07/22/22 21:59	
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	07/25/22 19:48	
SM 5310C	Dissolved Organic Carbon	1.2	mg/L	1.0	07/28/22 03:00	
50321163003	**MW-26B**					
EPA 9056	Chloride	22.5	mg/L	2.5	07/18/22 20:33	
EPA 9056	Sulfate	126	mg/L	2.5	07/18/22 20:33	
EPA 6010	Aluminum	218	ug/L	200	07/27/22 10:51	
EPA 6010	Barium	30.5	ug/L	10.0	07/27/22 10:51	
EPA 6010	Boron	1250	ug/L	100	07/27/22 10:51	
EPA 6010	Calcium	157000	ug/L	1000	07/27/22 10:51	
EPA 6010	Iron	851	ug/L	100	07/27/22 10:51	
EPA 6010	Magnesium	36300	ug/L	1000	07/27/22 10:51	
EPA 6010	Manganese	1300	ug/L	10.0	07/27/22 10:51	
EPA 6010	Potassium	3320	ug/L	1000	07/27/22 10:51	
EPA 6010	Silica	13100	ug/L	450	07/27/22 10:51	N2
EPA 6010	Sodium	16100	ug/L	1000	07/27/22 10:51	
EPA 6010	Manganese, Dissolved	1300	ug/L	10.0	07/27/22 23:30	
EPA 6020	Cobalt	1.6	ug/L	1.0	07/25/22 10:02	
EPA 6020	Selenium	3.1	ug/L	1.0	07/25/22 10:02	
EPA 903.1	Radium-226	0.135 ± 0.205 (0.330) C:NA T:83%	pCi/L		08/09/22 11:41	
EPA 904.0	Radium-228	0.834 ± 0.566 (1.06) C:79% T:83%	pCi/L		08/02/22 20:33	
Total Radium Calculation	Total Radium	0.969 ± 0.771 (1.39)	pCi/L		08/09/22 17:13	
SM 2320B	Alkalinity, Total as CaCO3	453	mg/L	2.0	07/16/22 12:37	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50321163003	**MW-26B**					
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	453	mg/L	2.0	07/16/22 12:37	
SM 2540C	Total Dissolved Solids	707	mg/L	10.0	07/16/22 09:05	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	07/16/22 12:04	H3
EPA 353.2	Nitrogen, Nitrate	3.3	mg/L	0.10	07/15/22 18:36	
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	07/20/22 07:11	
50321163004	**MW-28A**					
EPA 9056	Chloride	103	mg/L	25.0	07/18/22 21:42	
EPA 9056	Fluoride	0.10	mg/L	0.10	07/18/22 21:08	
EPA 9056	Sulfate	1450	mg/L	25.0	07/18/22 21:42	
EPA 6010	Barium	35.1	ug/L	10.0	07/27/22 10:53	
EPA 6010	Boron	24700	ug/L	100	07/27/22 10:53	
EPA 6010	Calcium	579000	ug/L	3000	07/27/22 11:50	
EPA 6010	Iron	7560	ug/L	100	07/27/22 10:53	
EPA 6010	Magnesium	10400	ug/L	1000	07/27/22 10:53	
EPA 6010	Manganese	1920	ug/L	10.0	07/27/22 10:53	
EPA 6010	Molybdenum	2200	ug/L	10.0	07/27/22 10:53	
EPA 6010	Potassium	37600	ug/L	1000	07/27/22 10:53	
EPA 6010	Silica	10900	ug/L	450	07/27/22 10:53	N2
EPA 6010	Sodium	28900	ug/L	1000	07/27/22 10:53	
EPA 6010	Manganese, Dissolved	1970	ug/L	10.0	07/27/22 23:32	
EPA 6010	Molybdenum, Dissolved	2280	ug/L	10.0	07/27/22 23:32	
EPA 6020	Arsenic	1.3	ug/L	1.0	07/25/22 10:14	
EPA 903.1	Radium-226	0.338 ± 0.265 (0.311) C:NA T:88%	pCi/L		08/09/22 11:41	
EPA 904.0	Radium-228	1.09 ± 0.564 (0.958) C:81% T:88%	pCi/L		08/02/22 20:33	
Total Radium Calculation	Total Radium	1.43 ± 0.829 (1.27)	pCi/L		08/09/22 17:13	
SM 2320B	Alkalinity, Total as CaCO3	268	mg/L	2.0	07/16/22 12:37	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	268	mg/L	2.0	07/16/22 12:37	
SM 2540C	Total Dissolved Solids	2620	mg/L	40.0	07/18/22 09:31	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	07/16/22 12:05	H3
HACH 8146	Iron, Ferrous	0.67	mg/L	0.20	07/19/22 22:36	H3,N2
EPA 365.1	Phosphate as P04	0.27	mg/L	0.15	07/22/22 22:04	
SM 5310C	Total Organic Carbon	1.7	mg/L	1.0	07/25/22 20:34	
SM 5310C	Dissolved Organic Carbon	2.0	mg/L	1.0	07/28/22 03:20	
50321163005	**MW-28I**					
EPA 9056	Chloride	66.5	mg/L	2.5	07/18/22 22:16	
EPA 9056	Fluoride	0.13	mg/L	0.10	07/18/22 21:59	
EPA 9056	Sulfate	695	mg/L	25.0	07/18/22 22:33	
EPA 6010	Barium	55.2	ug/L	10.0	07/27/22 10:55	
EPA 6010	Boron	10900	ug/L	100	07/27/22 10:55	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50321163005	**MW-28I**					
EPA 6010	Calcium	287000	ug/L	2000	07/27/22 11:34	
EPA 6010	Iron	2060	ug/L	100	07/27/22 10:55	
EPA 6010	Magnesium	14800	ug/L	1000	07/27/22 10:55	
EPA 6010	Manganese	779	ug/L	10.0	07/27/22 10:55	
EPA 6010	Molybdenum	311	ug/L	10.0	07/27/22 10:55	
EPA 6010	Potassium	17900	ug/L	1000	07/27/22 10:55	
EPA 6010	Silica	8950	ug/L	450	07/27/22 10:55	N2
EPA 6010	Sodium	32000	ug/L	1000	07/27/22 10:55	
EPA 6010	Manganese, Dissolved	2340	ug/L	10.0	07/27/22 23:35	
EPA 6010	Molybdenum, Dissolved	666	ug/L	10.0	07/27/22 23:35	
EPA 6020	Antimony	1.1	ug/L	1.0	07/25/22 10:18	
EPA 903.1	Radium-226	0.0975 ± 0.234 (0.453) C:NA T:84%	pCi/L		08/09/22 11:41	
EPA 904.0	Radium-228	0.0774 ± 0.562 (1.30) C:73% T:84%	pCi/L		08/02/22 20:33	
Total Radium Calculation	Total Radium	0.175 ± 0.796 (1.75)	pCi/L		08/09/22 17:13	
SM 2320B	Alkalinity, Total as CaCO3	132	mg/L	10.0	07/19/22 14:42	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	132	mg/L	10.0	07/19/22 14:42	
SM 2540C	Total Dissolved Solids	1270	mg/L	20.0	07/18/22 09:32	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	07/16/22 15:30	H3
EPA 353.2	Nitrogen, Nitrate	0.29	mg/L	0.10	07/15/22 18:40	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	07/25/22 20:44	
SM 5310C	Dissolved Organic Carbon	1.9	mg/L	1.0	07/28/22 03:39	
50321163006	**MW-28B**					
EPA 9056	Chloride	61.7	mg/L	2.5	07/18/22 23:41	
EPA 9056	Fluoride	0.15	mg/L	0.10	07/18/22 23:24	
EPA 9056	Sulfate	589	mg/L	25.0	07/18/22 23:59	
EPA 6010	Barium	41.7	ug/L	10.0	07/27/22 10:58	
EPA 6010	Boron	6180	ug/L	100	07/27/22 10:58	
EPA 6010	Calcium	246000	ug/L	2000	07/27/22 11:53	
EPA 6010	Iron	1360	ug/L	100	07/27/22 10:58	
EPA 6010	Lithium	30.0	ug/L	20.0	07/27/22 10:58	
EPA 6010	Magnesium	41000	ug/L	1000	07/27/22 10:58	
EPA 6010	Manganese	1560	ug/L	10.0	07/27/22 10:58	
EPA 6010	Molybdenum	144	ug/L	10.0	07/27/22 10:58	
EPA 6010	Potassium	5490	ug/L	1000	07/27/22 10:58	
EPA 6010	Silica	12200	ug/L	450	07/27/22 10:58	N2
EPA 6010	Sodium	43300	ug/L	1000	07/27/22 10:58	
EPA 6010	Manganese, Dissolved	1660	ug/L	10.0	07/27/22 23:49	
EPA 6010	Molybdenum, Dissolved	164	ug/L	10.0	07/27/22 23:49	
EPA 6020	Arsenic	2.2	ug/L	1.0	07/25/22 10:22	
EPA 6020	Cobalt	5.4	ug/L	1.0	07/25/22 10:22	

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50321163006	**MW-28B**					
EPA 903.1	Radium-226	0.158 ± 0.246 (0.426) C:NA T:91%	pCi/L		08/09/22 11:41	
EPA 904.0	Radium-228	0.782 ± 0.583 (1.14) C:83% T:91%	pCi/L		08/02/22 20:33	
Total Radium Calculation	Total Radium	0.940 ± 0.829 (1.57)	pCi/L		08/09/22 17:20	
SM 2320B	Alkalinity, Total as CaCO3	307	mg/L	10.0	07/19/22 14:42	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	307	mg/L	10.0	07/19/22 14:42	
SM 2540C	Total Dissolved Solids	1190	mg/L	20.0	07/18/22 09:32	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	07/16/22 15:33	H3
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	07/25/22 20:55	
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	07/28/22 04:57	

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-26A **Lab ID: 50321163001** Collected: 07/14/22 10:05 Received: 07/15/22 11:16 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	2.5	10		07/20/22 00:40	16887-00-6	
Fluoride	ND	mg/L	0.10	1		07/18/22 18:00	16984-48-8	
Sulfate	**1450**	mg/L	25.0	100		07/18/22 18:34	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	07/26/22 07:57	07/27/22 10:41	7429-90-5	
Barium	**31.8**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:41	7440-39-3	
Boron	**23900**	ug/L	100	1	07/26/22 07:57	07/27/22 10:41	7440-42-8	
Cadmium	ND	ug/L	2.0	1	07/26/22 07:57	07/27/22 10:41	7440-43-9	
Calcium	**538000**	ug/L	3000	3	07/26/22 07:57	07/27/22 11:05	7440-70-2	
Chromium	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:41	7440-47-3	
Iron	**8270**	ug/L	100	1	07/26/22 07:57	07/27/22 10:41	7439-89-6	
Lead	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:41	7439-92-1	
Lithium	ND	ug/L	20.0	1	07/26/22 07:57	07/27/22 10:41	7439-93-2	
Magnesium	**23900**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:41	7439-95-4	
Manganese	**2030**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:41	7439-96-5	
Molybdenum	**1390**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:41	7439-98-7	
Potassium	**10300**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:41	7440-09-7	
Silica	**11900**	ug/L	450	1	07/26/22 07:57	07/27/22 10:41	7631-86-9	N2
Sodium	**29400**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:41	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2050**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:26	7439-96-5	
Molybdenum, Dissolved	**1450**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:26	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 09:54	7440-36-0	
Arsenic	**1.5**	ug/L	1.0	1	07/22/22 08:55	07/25/22 09:54	7440-38-2	
Beryllium	ND	ug/L	0.20	1	07/22/22 08:55	07/25/22 09:54	7440-41-7	
Cobalt	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 09:54	7440-48-4	
Selenium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 09:54	7782-49-2	
Thallium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 09:54	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**338**	mg/L	2.0	1		07/16/22 12:37		
Alkalinity,Bicarbonate (CaCO3)	**338**	mg/L	2.0	1		07/16/22 12:37		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		07/16/22 12:37		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2420**	mg/L	40.0	1		07/16/22 09:04		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-26A **Lab ID: 50321163001** Collected: 07/14/22 10:05 Received: 07/15/22 11:16 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		07/16/22 12:00		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		07/19/22 10:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.22**	mg/L	0.20	1		07/19/22 22:35	15438-31-0	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		07/15/22 18:32	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		07/15/22 18:32	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.20**	mg/L	0.15	1	07/19/22 10:00	07/22/22 21:57		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.7**	mg/L	1.0	1		07/25/22 19:15	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.1**	mg/L	1.0	1		07/28/22 02:34		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-26I **Lab ID: 50321163002** Collected: 07/14/22 11:00 Received: 07/15/22 11:16 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	**58.1**	mg/L	2.5	10		07/20/22 00:57	16887-00-6	
Fluoride	ND	mg/L	0.10	1		07/18/22 18:51	16984-48-8	
Sulfate	**422**	mg/L	25.0	100		07/18/22 19:25	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	07/26/22 07:57	07/27/22 10:48	7429-90-5	
Barium	**38.6**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:48	7440-39-3	
Boron	**6160**	ug/L	100	1	07/26/22 07:57	07/27/22 10:48	7440-42-8	
Cadmium	ND	ug/L	2.0	1	07/26/22 07:57	07/27/22 10:48	7440-43-9	
Calcium	**239000**	ug/L	2000	2	07/26/22 07:57	07/27/22 11:32	7440-70-2	
Chromium	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:48	7440-47-3	
Iron	**4650**	ug/L	100	1	07/26/22 07:57	07/27/22 10:48	7439-89-6	
Lead	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:48	7439-92-1	
Lithium	**32.8**	ug/L	20.0	1	07/26/22 07:57	07/27/22 10:48	7439-93-2	
Magnesium	**37700**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:48	7439-95-4	
Manganese	**2020**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:48	7439-96-5	
Molybdenum	**152**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:48	7439-98-7	
Potassium	**9360**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:48	7440-09-7	
Silica	**13200**	ug/L	450	1	07/26/22 07:57	07/27/22 10:48	7631-86-9	N2
Sodium	**26900**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:48	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2000**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:28	7439-96-5	
Molybdenum, Dissolved	**164**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:28	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	07/22/22 08:55	07/25/22 09:58	7440-36-0	
Arsenic	**1.9**	ug/L	1.0	1	07/22/22 08:55	07/25/22 09:58	7440-38-2	
Beryllium	ND	ug/L	0.20	1	07/22/22 08:55	07/25/22 09:58	7440-41-7	
Cobalt	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 09:58	7440-48-4	
Selenium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 09:58	7782-49-2	
Thallium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 09:58	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**402**	mg/L	2.0	1		07/16/22 12:37		
Alkalinity,Bicarbonate (CaCO3)	**402**	mg/L	2.0	1		07/16/22 12:37		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		07/16/22 12:37		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1160**	mg/L	20.0	1		07/16/22 09:05		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-26I **Lab ID: 50321163002** Collected: 07/14/22 11:00 Received: 07/15/22 11:16 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		07/16/22 12:01		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		07/19/22 10:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		07/19/22 22:36	15438-31-0	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		07/15/22 18:34	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		07/15/22 18:34	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.17**	mg/L	0.15	1	07/19/22 10:00	07/22/22 21:59		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.0**	mg/L	1.0	1		07/25/22 19:48	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.2**	mg/L	1.0	1		07/28/22 03:00		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-26B **Lab ID: 50321163003** Collected: 07/14/22 12:25 Received: 07/15/22 11:16 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	**22.5**	mg/L	2.5	10		07/18/22 20:33	16887-00-6	
Fluoride	ND	mg/L	0.10	1		07/18/22 20:16	16984-48-8	
Sulfate	**126**	mg/L	2.5	10		07/18/22 20:33	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**218**	ug/L	200	1	07/26/22 07:57	07/27/22 10:51	7429-90-5	
Barium	**30.5**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:51	7440-39-3	
Boron	**1250**	ug/L	100	1	07/26/22 07:57	07/27/22 10:51	7440-42-8	
Cadmium	ND	ug/L	2.0	1	07/26/22 07:57	07/27/22 10:51	7440-43-9	
Calcium	**157000**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:51	7440-70-2	
Chromium	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:51	7440-47-3	
Iron	**851**	ug/L	100	1	07/26/22 07:57	07/27/22 10:51	7439-89-6	
Lead	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:51	7439-92-1	
Lithium	ND	ug/L	20.0	1	07/26/22 07:57	07/27/22 10:51	7439-93-2	
Magnesium	**36300**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:51	7439-95-4	
Manganese	**1300**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:51	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:51	7439-98-7	
Potassium	**3320**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:51	7440-09-7	
Silica	**13100**	ug/L	450	1	07/26/22 07:57	07/27/22 10:51	7631-86-9	N2
Sodium	**16100**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:51	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1300**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:30	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:30	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	07/22/22 08:55	07/25/22 10:02	7440-36-0	
Arsenic	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:02	7440-38-2	
Beryllium	ND	ug/L	0.20	1	07/22/22 08:55	07/25/22 10:02	7440-41-7	
Cobalt	**1.6**	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:02	7440-48-4	
Selenium	**3.1**	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:02	7782-49-2	
Thallium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:02	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**453**	mg/L	2.0	1		07/16/22 12:37		
Alkalinity,Bicarbonate (CaCO3)	**453**	mg/L	2.0	1		07/16/22 12:37		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		07/16/22 12:37		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**707**	mg/L	10.0	1		07/16/22 09:05		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-26B **Lab ID: 50321163003** Collected: 07/14/22 12:25 Received: 07/15/22 11:16 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		07/16/22 12:04		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		07/19/22 10:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		07/19/22 22:36	15438-31-0	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		07/15/22 18:36	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		07/15/22 18:36	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	07/19/22 10:00	07/22/22 22:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		07/25/22 19:58	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		07/20/22 07:11		

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Indianapolis, IN 46268
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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-28A **Lab ID: 50321163004** Collected: 07/14/22 13:50 Received: 07/15/22 11:16 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**103**	mg/L	25.0	100		07/18/22 21:42	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		07/18/22 21:08	16984-48-8	
Sulfate	**1450**	mg/L	25.0	100		07/18/22 21:42	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	07/26/22 07:57	07/27/22 10:53	7429-90-5	
Barium	**35.1**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:53	7440-39-3	
Boron	**24700**	ug/L	100	1	07/26/22 07:57	07/27/22 10:53	7440-42-8	
Cadmium	ND	ug/L	2.0	1	07/26/22 07:57	07/27/22 10:53	7440-43-9	
Calcium	**579000**	ug/L	3000	3	07/26/22 07:57	07/27/22 11:50	7440-70-2	
Chromium	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:53	7440-47-3	
Iron	**7560**	ug/L	100	1	07/26/22 07:57	07/27/22 10:53	7439-89-6	
Lead	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:53	7439-92-1	
Lithium	ND	ug/L	20.0	1	07/26/22 07:57	07/27/22 10:53	7439-93-2	
Magnesium	**10400**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:53	7439-95-4	
Manganese	**1920**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:53	7439-96-5	
Molybdenum	**2200**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:53	7439-98-7	
Potassium	**37600**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:53	7440-09-7	
Silica	**10900**	ug/L	450	1	07/26/22 07:57	07/27/22 10:53	7631-86-9	N2
Sodium	**28900**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:53	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1970**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:32	7439-96-5	
Molybdenum, Dissolved	**2280**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:32	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:14	7440-36-0	
Arsenic	**1.3**	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:14	7440-38-2	
Beryllium	ND	ug/L	0.20	1	07/22/22 08:55	07/25/22 10:14	7440-41-7	
Cobalt	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:14	7440-48-4	
Selenium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:14	7782-49-2	
Thallium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:14	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**268**	mg/L	2.0	1		07/16/22 12:37		
Alkalinity,Bicarbonate (CaCO3)	**268**	mg/L	2.0	1		07/16/22 12:37		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		07/16/22 12:37		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2620**	mg/L	40.0	1		07/18/22 09:31		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-28A **Lab ID: 50321163004** Collected: 07/14/22 13:50 Received: 07/15/22 11:16 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	**6.9**	Std. Units	0.10	1		07/16/22 12:05		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		07/19/22 10:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.67**	mg/L	0.20	1		07/19/22 22:36	15438-31-0	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		07/15/22 18:38	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		07/15/22 18:38	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.27**	mg/L	0.15	1	07/19/22 11:30	07/22/22 22:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.7**	mg/L	1.0	1		07/25/22 20:34	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.0**	mg/L	1.0	1		07/28/22 03:20		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-28I **Lab ID: 50321163005** Collected: 07/14/22 14:35 Received: 07/15/22 11:16 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	**66.5**	mg/L	2.5	10		07/18/22 22:16	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		07/18/22 21:59	16984-48-8	
Sulfate	**695**	mg/L	25.0	100		07/18/22 22:33	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	07/26/22 07:57	07/27/22 10:55	7429-90-5	
Barium	**55.2**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:55	7440-39-3	
Boron	**10900**	ug/L	100	1	07/26/22 07:57	07/27/22 10:55	7440-42-8	
Cadmium	ND	ug/L	2.0	1	07/26/22 07:57	07/27/22 10:55	7440-43-9	
Calcium	**287000**	ug/L	2000	2	07/26/22 07:57	07/27/22 11:34	7440-70-2	
Chromium	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:55	7440-47-3	
Iron	**2060**	ug/L	100	1	07/26/22 07:57	07/27/22 10:55	7439-89-6	
Lead	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:55	7439-92-1	
Lithium	ND	ug/L	20.0	1	07/26/22 07:57	07/27/22 10:55	7439-93-2	
Magnesium	**14800**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:55	7439-95-4	
Manganese	**779**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:55	7439-96-5	
Molybdenum	**311**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:55	7439-98-7	
Potassium	**17900**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:55	7440-09-7	
Silica	**8950**	ug/L	450	1	07/26/22 07:57	07/27/22 10:55	7631-86-9	N2
Sodium	**32000**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:55	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2340**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:35	7439-96-5	
Molybdenum, Dissolved	**666**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:35	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	**1.1**	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:18	7440-36-0	
Arsenic	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:18	7440-38-2	
Beryllium	ND	ug/L	0.20	1	07/22/22 08:55	07/25/22 10:18	7440-41-7	
Cobalt	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:18	7440-48-4	
Selenium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:18	7782-49-2	
Thallium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:18	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**132**	mg/L	10.0	1		07/19/22 14:42		
Alkalinity,Bicarbonate (CaCO3)	**132**	mg/L	10.0	1		07/19/22 14:42		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		07/19/22 14:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1270**	mg/L	20.0	1		07/18/22 09:32		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-28I **Lab ID: 50321163005** Collected: 07/14/22 14:35 Received: 07/15/22 11:16 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		07/16/22 15:30		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		07/19/22 10:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		07/19/22 22:37	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.29**	mg/L	0.10	1		07/15/22 18:40	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		07/15/22 18:40	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	07/19/22 11:30	07/22/22 22:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.8**	mg/L	1.0	1		07/25/22 20:44	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.9**	mg/L	1.0	1		07/28/22 03:39		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-28B **Lab ID: 50321163006** Collected: 07/14/22 15:25 Received: 07/15/22 11:16 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	**61.7**	mg/L	2.5	10		07/18/22 23:41	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		07/18/22 23:24	16984-48-8	
Sulfate	**589**	mg/L	25.0	100		07/18/22 23:59	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	07/26/22 07:57	07/27/22 10:58	7429-90-5	
Barium	**41.7**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:58	7440-39-3	
Boron	**6180**	ug/L	100	1	07/26/22 07:57	07/27/22 10:58	7440-42-8	
Cadmium	ND	ug/L	2.0	1	07/26/22 07:57	07/27/22 10:58	7440-43-9	
Calcium	**246000**	ug/L	2000	2	07/26/22 07:57	07/27/22 11:53	7440-70-2	
Chromium	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:58	7440-47-3	
Iron	**1360**	ug/L	100	1	07/26/22 07:57	07/27/22 10:58	7439-89-6	
Lead	ND	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:58	7439-92-1	
Lithium	**30.0**	ug/L	20.0	1	07/26/22 07:57	07/27/22 10:58	7439-93-2	
Magnesium	**41000**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:58	7439-95-4	
Manganese	**1560**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:58	7439-96-5	
Molybdenum	**144**	ug/L	10.0	1	07/26/22 07:57	07/27/22 10:58	7439-98-7	
Potassium	**5490**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:58	7440-09-7	
Silica	**12200**	ug/L	450	1	07/26/22 07:57	07/27/22 10:58	7631-86-9	N2
Sodium	**43300**	ug/L	1000	1	07/26/22 07:57	07/27/22 10:58	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1660**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:49	7439-96-5	
Molybdenum, Dissolved	**164**	ug/L	10.0	1	07/26/22 07:55	07/27/22 23:49	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	07/22/22 08:55	07/25/22 10:22	7440-36-0	
Arsenic	**2.2**	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:22	7440-38-2	
Beryllium	ND	ug/L	0.20	1	07/22/22 08:55	07/25/22 10:22	7440-41-7	
Cobalt	**5.4**	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:22	7440-48-4	
Selenium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:22	7782-49-2	
Thallium	ND	ug/L	1.0	1	07/22/22 08:55	07/25/22 10:22	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**307**	mg/L	10.0	1		07/19/22 14:42		
Alkalinity,Bicarbonate (CaCO3)	**307**	mg/L	10.0	1		07/19/22 14:42		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		07/19/22 14:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1190**	mg/L	20.0	1		07/18/22 09:32		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-28B **Lab ID: 50321163006** Collected: 07/14/22 15:25 Received: 07/15/22 11:16 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		07/16/22 15:33		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		07/19/22 10:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		07/19/22 22:37	15438-31-0	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		07/15/22 18:42	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		07/15/22 18:42	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	07/19/22 11:30	07/22/22 22:05		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.2**	mg/L	1.0	1		07/25/22 20:55	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		07/28/22 04:57		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686347
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 3157842 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	07/19/22 07:23	
Fluoride	mg/L	ND	0.10	07/19/22 07:23	
Sulfate	mg/L	ND	0.25	07/19/22 07:23	

LABORATORY CONTROL SAMPLE: 3157843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	91	80-120	
Fluoride	mg/L	0.5	0.48	96	80-120	
Sulfate	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3157844 3157845

Parameter	Units	50320715001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	89.3	12.5	12.5	98.7	98.6	75	74	80-120	0	15	M0
Fluoride	mg/L	ND	5	5	5.3	4.5	106	90	80-120	16	15	R1
Sulfate	mg/L	259	250	250	472	488	85	92	80-120	3	15	

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

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686807 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 3159674 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	07/27/22 09:55	
Barium	ug/L	ND	10.0	07/27/22 09:55	
Boron	ug/L	ND	100	07/27/22 09:55	
Cadmium	ug/L	ND	2.0	07/27/22 09:55	
Calcium	ug/L	ND	1000	07/27/22 09:55	
Chromium	ug/L	ND	10.0	07/27/22 09:55	
Iron	ug/L	ND	100	07/27/22 09:55	
Lead	ug/L	ND	10.0	07/27/22 09:55	
Lithium	ug/L	ND	20.0	07/27/22 09:55	
Magnesium	ug/L	ND	1000	07/27/22 09:55	
Manganese	ug/L	ND	10.0	07/27/22 09:55	
Molybdenum	ug/L	ND	10.0	07/27/22 09:55	
Potassium	ug/L	ND	1000	07/27/22 09:55	
Silica	ug/L	ND	450	07/27/22 09:55	N2
Sodium	ug/L	ND	1000	07/27/22 09:55	

LABORATORY CONTROL SAMPLE: 3159675

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9810	98	80-120	
Barium	ug/L	1000	959	96	80-120	
Boron	ug/L	1000	978	98	80-120	
Cadmium	ug/L	1000	940	94	80-120	
Calcium	ug/L	10000	9770	98	80-120	
Chromium	ug/L	1000	968	97	80-120	
Iron	ug/L	10000	9570	96	80-120	
Lead	ug/L	1000	916	92	80-120	
Lithium	ug/L	1000	978	98	80-120	
Magnesium	ug/L	10000	9550	95	80-120	
Manganese	ug/L	1000	962	96	80-120	
Molybdenum	ug/L	1000	979	98	80-120	
Potassium	ug/L	10000	9570	96	80-120	
Silica	ug/L	10700	10200	95	80-120	N2
Sodium	ug/L	10000	9660	97	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159676 3159677

Parameter	Units	50321147005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	1480	10000	10000	11500	11800	100	103	75-125	2	20	
Barium	ug/L	82.2	1000	1000	1030	1060	95	97	75-125	2	20	
Boron	ug/L	ND	1000	1000	1080	1110	99	103	75-125	3	20	
Cadmium	ug/L	ND	1000	1000	938	966	94	97	75-125	3	20	
Calcium	ug/L	160000	10000	10000	169000	169000	89	91	75-125	0	20	
Chromium	ug/L	24.2	1000	1000	966	990	94	97	75-125	3	20	
Iron	ug/L	1500	10000	10000	10900	11100	94	96	75-125	2	20	
Lead	ug/L	ND	1000	1000	865	889	86	89	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1000	1030	100	102	75-125	2	20	
Magnesium	ug/L	16200	10000	10000	25400	25700	92	95	75-125	1	20	
Manganese	ug/L	220	1000	1000	1170	1180	95	96	75-125	1	20	
Molybdenum	ug/L	ND	1000	1000	967	995	96	99	75-125	3	20	
Potassium	ug/L	2160	10000	10000	12000	12200	99	101	75-125	2	20	
Silica	ug/L	16900	10700	10700	28800	28800	111	111	75-125	0	20	N2
Sodium	ug/L	41500	10000	10000	51300	51500	98	99	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686702 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 3159167 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	07/27/22 23:24	
Molybdenum, Dissolved	ug/L	ND	10.0	07/27/22 23:24	

LABORATORY CONTROL SAMPLE: 3159168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	912	91	80-120	
Molybdenum, Dissolved	ug/L	1000	959	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159169 3159170

Parameter	Units	50321163005 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	2340	1000	1000	3280	3240	93	90	75-125	1	20	
Molybdenum, Dissolved	ug/L	666	1000	1000	1670	1670	101	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 687033
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 3160510 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	07/25/22 09:46	
Arsenic	ug/L	ND	1.0	07/25/22 09:46	
Beryllium	ug/L	ND	0.20	07/25/22 09:46	
Cobalt	ug/L	ND	1.0	07/25/22 09:46	
Selenium	ug/L	ND	1.0	07/25/22 09:46	
Thallium	ug/L	ND	1.0	07/25/22 09:46	

LABORATORY CONTROL SAMPLE: 3160511

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.0	100	80-120	
Arsenic	ug/L	40	38.6	96	80-120	
Beryllium	ug/L	40	40.8	102	80-120	
Cobalt	ug/L	40	39.8	99	80-120	
Selenium	ug/L	40	41.1	103	80-120	
Thallium	ug/L	40	40.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3160512 3160513

Parameter	Units	50321373003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.1	42.0	105	105	75-125	0	20	
Arsenic	ug/L	ND	40	40	38.9	38.6	96	96	75-125	1	20	
Beryllium	ug/L	ND	40	40	40.2	39.8	101	99	75-125	1	20	
Cobalt	ug/L	ND	40	40	38.8	38.4	96	95	75-125	1	20	
Selenium	ug/L	ND	40	40	40.7	40.3	101	100	75-125	1	20	
Thallium	ug/L	ND	40	40	41.7	41.3	104	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686405 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004

METHOD BLANK: 3158091 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	07/16/22 12:37	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	07/16/22 12:37	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	07/16/22 12:37	

LABORATORY CONTROL SAMPLE: 3158092

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.4	107	90-110	

SAMPLE DUPLICATE: 3158093

Parameter	Units	50321012001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	75.1	77.9	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	75.1	77.9	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 3158094

Parameter	Units	50321012010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	175	176	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	175	176	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686692
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163005, 50321163006

METHOD BLANK: 3159129 Matrix: Water
Associated Lab Samples: 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	07/19/22 14:42	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	07/19/22 14:42	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	07/19/22 14:42	

LABORATORY CONTROL SAMPLE: 3159130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.8	96	90-110	

SAMPLE DUPLICATE: 3159131

Parameter	Units	50321104005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	335	337	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	335	337	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3159132

Parameter	Units	50321172001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	701	709	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	701	709	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686404
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003

METHOD BLANK: 3158087 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	07/16/22 08:54	

LABORATORY CONTROL SAMPLE: 3158088

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	291	97	80-120	

SAMPLE DUPLICATE: 3158089

Parameter	Units	50320982001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	749000 ug/L	778	4	10	

SAMPLE DUPLICATE: 3158090

Parameter	Units	50320982002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	772000 ug/L	773	0	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686492
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163004, 50321163005, 50321163006

METHOD BLANK: 3158488 Matrix: Water
Associated Lab Samples: 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	07/18/22 09:26	

LABORATORY CONTROL SAMPLE: 3158489

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

SAMPLE DUPLICATE: 3158490

Parameter	Units	50321104004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	7300	7500	3	10	

SAMPLE DUPLICATE: 3158491

Parameter	Units	50321104005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	355	368	4	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686414
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004

SAMPLE DUPLICATE: 3158143

Parameter	Units	50320030002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	10.2	10.3	0	2	H3,PO

SAMPLE DUPLICATE: 3158144

Parameter	Units	50320787001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.1	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686424
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163005, 50321163006

SAMPLE DUPLICATE: 3158264

Parameter	Units	50321186006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.6	6.7	0	2	H3

SAMPLE DUPLICATE: 3158265

Parameter	Units	50321172001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.4	6.5	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686703 | 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: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 3159171 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	07/19/22 10:57	

LABORATORY CONTROL SAMPLE: 3159172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.51	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159173 3159174

Parameter	Units	50320030002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.14	0.5	0.5	0.30	0.38	32	48	90-110	23	20	M3,R1

MATRIX SPIKE SAMPLE: 3159175

Parameter	Units	50320030011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.28	0.5	0.54	52	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686834 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 3159769 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	07/19/22 22:29	H3,N2

LABORATORY CONTROL SAMPLE: 3159770

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: 3159771 3159772

Parameter	Units	50320855002 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	1.3	5	5	6.1	6.1	96	98	90-110	1	20	H3,N2

MATRIX SPIKE SAMPLE: 3159773

Parameter	Units	50321020001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.0	102	90-110	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686286
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 3157452 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	07/15/22 10:45	
Nitrogen, Nitrite	mg/L	ND	0.10	07/15/22 10:45	

LABORATORY CONTROL SAMPLE: 3157453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.98	98	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3157454 3157455

Parameter	Units	50320834009 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	0.97	0.97	94	94	90-110	0	20	H3
Nitrogen, Nitrite	mg/L	ND	1	1	0.98	0.98	97	97	90-110	0	20	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3157644 3157645

Parameter	Units	50321108004 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	0.96	0.96	95	95	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.99	99	99	90-110	0	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686668
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003

METHOD BLANK: 3159047 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	07/22/22 21:50	

LABORATORY CONTROL SAMPLE: 3159048

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159049 3159050

Parameter	Units	50321163001 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	0.20			1.6	1.8				7		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686669
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163004, 50321163005, 50321163006

METHOD BLANK: 3159051 Matrix: Water
Associated Lab Samples: 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	07/22/22 22:00	

LABORATORY CONTROL SAMPLE: 3159052

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

MATRIX SPIKE SAMPLE: 3159053

Parameter	Units	50321033001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	3.5		5.2			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159054 3159055

Parameter	Units	50321277001 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			1.4	1.4				1		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 687606 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 3163153 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	07/25/22 18:23	

LABORATORY CONTROL SAMPLE: 3163154

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: 3163155 3163156

Parameter	Units	50321163001 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	1.7	10	10	11.7	11.7	100	99	80-120	1	20	

MATRIX SPIKE SAMPLE: 3163157

Parameter	Units	50321262003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.2	10	12.1	99	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 686732
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163003

METHOD BLANK: 3159266 Matrix: Water
Associated Lab Samples: 50321163003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	07/20/22 02:01	

LABORATORY CONTROL SAMPLE: 3159267

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: 3159268 3159269

Parameter	Units	50320913011 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	6.4	10	10	17.8	17.6	113	112	80-120	1	20	

MATRIX SPIKE SAMPLE: 3159270

Parameter	Units	50320935004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	80400 ug/L	100	180	99	80-120	FC

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 687880 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50321163001, 50321163002, 50321163004, 50321163005, 50321163006

METHOD BLANK: 3164124 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163004, 50321163005, 50321163006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	07/28/22 00:50	

LABORATORY CONTROL SAMPLE: 3164125

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: 3164126 3164127

Parameter	Units	10617818001 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	2.0	10	10	12.0	12.0	100	100	80-120	0	20	

MATRIX SPIKE SAMPLE: 3164128

Parameter	Units	50321163005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.9	10	12.0	100	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-26A **Lab ID: 50321163001** Collected: 07/14/22 10:05 Received: 07/15/22 11:16 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.214 ± 0.197 (0.116) C:NA T:84%**	pCi/L	08/09/22 11:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.36 ± 0.603 (0.920) C:77% T:84%**	pCi/L	08/02/22 20:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.57 ± 0.800 (1.04)**	pCi/L	08/09/22 17:13	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-26I **Lab ID: 50321163002** Collected: 07/14/22 11:00 Received: 07/15/22 11:16 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	**0.369 ± 0.364 (0.554) C:NA T:78%**	pCi/L	08/09/22 11:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.702 ± 0.641 (1.30) C:81% T:78%**	pCi/L	08/02/22 20:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.07 ± 1.01 (1.85)**	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-26B **Lab ID: 50321163003** Collected: 07/14/22 12:25 Received: 07/15/22 11:16 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	**0.135 ± 0.205 (0.330) C:NA T:83%**	pCi/L	08/09/22 11:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.834 ± 0.566 (1.06) C:79% T:83%**	pCi/L	08/02/22 20:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.969 ± 0.771 (1.39)**	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-28A **Lab ID: 50321163004** Collected: 07/14/22 13:50 Received: 07/15/22 11:16 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	**0.338 ± 0.265 (0.311) C:NA T:88%**	pCi/L	08/09/22 11:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.09 ± 0.564 (0.958) C:81% T:88%**	pCi/L	08/02/22 20:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.43 ± 0.829 (1.27)**	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-28I **Lab ID: 50321163005** Collected: 07/14/22 14:35 Received: 07/15/22 11:16 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	**0.0975 ± 0.234 (0.453) C:NA T:84%**	pCi/L	08/09/22 11:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0774 ± 0.562 (1.30) C:73% T:84%**	pCi/L	08/02/22 20:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.175 ± 0.796 (1.75)**	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Sample: MW-28B **Lab ID: 50321163006** Collected: 07/14/22 15:25 Received: 07/15/22 11:16 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	**0.158 ± 0.246 (0.426) C:NA T:91%**	pCi/L	08/09/22 11:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.782 ± 0.583 (1.14) C:83% T:91%**	pCi/L	08/02/22 20:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.940 ± 0.829 (1.57)**	pCi/L	08/09/22 17:20	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 520007
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 2520955 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0905 ± 0.281 (0.638) C:NA T:85%	pCi/L	08/09/22 10:42	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

QC Batch: 520013 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: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

METHOD BLANK: 2520962 Matrix: Water
Associated Lab Samples: 50321163001, 50321163002, 50321163003, 50321163004, 50321163005, 50321163006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.287 ± 0.377 (0.804) C:75% T:85%	pCi/L	08/02/22 16:24	

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QUALIFIERS

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

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

FC	The sample was filtered in the laboratory prior to analysis.
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.
PO	The reported result is outside the range of the pH buffer solutions used to check the calibration of the pH meter.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50321163001	**MW-26A**	EPA 9056	686347		
50321163002	**MW-26I**	EPA 9056	686347		
50321163003	**MW-26B**	EPA 9056	686347		
50321163004	**MW-28A**	EPA 9056	686347		
50321163005	**MW-28I**	EPA 9056	686347		
50321163006	**MW-28B**	EPA 9056	686347		
50321163001	**MW-26A**	EPA 3010	686807	EPA 6010	688010
50321163002	**MW-26I**	EPA 3010	686807	EPA 6010	688010
50321163003	**MW-26B**	EPA 3010	686807	EPA 6010	688010
50321163004	**MW-28A**	EPA 3010	686807	EPA 6010	688010
50321163005	**MW-28I**	EPA 3010	686807	EPA 6010	688010
50321163006	**MW-28B**	EPA 3010	686807	EPA 6010	688010
50321163001	**MW-26A**	EPA 3010	686702	EPA 6010	688004
50321163002	**MW-26I**	EPA 3010	686702	EPA 6010	688004
50321163003	**MW-26B**	EPA 3010	686702	EPA 6010	688004
50321163004	**MW-28A**	EPA 3010	686702	EPA 6010	688004
50321163005	**MW-28I**	EPA 3010	686702	EPA 6010	688004
50321163006	**MW-28B**	EPA 3010	686702	EPA 6010	688004
50321163001	**MW-26A**	EPA 200.2	687033	EPA 6020	687465
50321163002	**MW-26I**	EPA 200.2	687033	EPA 6020	687465
50321163003	**MW-26B**	EPA 200.2	687033	EPA 6020	687465
50321163004	**MW-28A**	EPA 200.2	687033	EPA 6020	687465
50321163005	**MW-28I**	EPA 200.2	687033	EPA 6020	687465
50321163006	**MW-28B**	EPA 200.2	687033	EPA 6020	687465
50321163001	**MW-26A**	EPA 903.1	520007		
50321163002	**MW-26I**	EPA 903.1	520007		
50321163003	**MW-26B**	EPA 903.1	520007		
50321163004	**MW-28A**	EPA 903.1	520007		
50321163005	**MW-28I**	EPA 903.1	520007		
50321163006	**MW-28B**	EPA 903.1	520007		
50321163001	**MW-26A**	EPA 904.0	520013		
50321163002	**MW-26I**	EPA 904.0	520013		
50321163003	**MW-26B**	EPA 904.0	520013		
50321163004	**MW-28A**	EPA 904.0	520013		
50321163005	**MW-28I**	EPA 904.0	520013		
50321163006	**MW-28B**	EPA 904.0	520013		
50321163001	**MW-26A**	Total Radium Calculation	524705		
50321163002	**MW-26I**	Total Radium Calculation	524705		
50321163003	**MW-26B**	Total Radium Calculation	524705		
50321163004	**MW-28A**	Total Radium Calculation	524705		
50321163005	**MW-28I**	Total Radium Calculation	524705		
50321163006	**MW-28B**	Total Radium Calculation	524708		
50321163001	**MW-26A**	SM 2320B	686405		
50321163002	**MW-26I**	SM 2320B	686405		
50321163003	**MW-26B**	SM 2320B	686405		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50321163004	**MW-28A**	SM 2320B	686405		
50321163005	**MW-28I**	SM 2320B	686692		
50321163006	**MW-28B**	SM 2320B	686692		
50321163001	**MW-26A**	SM 2540C	686404		
50321163002	**MW-26I**	SM 2540C	686404		
50321163003	**MW-26B**	SM 2540C	686404		
50321163004	**MW-28A**	SM 2540C	686492		
50321163005	**MW-28I**	SM 2540C	686492		
50321163006	**MW-28B**	SM 2540C	686492		
50321163001	**MW-26A**	SM 4500-H+B	686414		
50321163002	**MW-26I**	SM 4500-H+B	686414		
50321163003	**MW-26B**	SM 4500-H+B	686414		
50321163004	**MW-28A**	SM 4500-H+B	686414		
50321163005	**MW-28I**	SM 4500-H+B	686424		
50321163006	**MW-28B**	SM 4500-H+B	686424		
50321163001	**MW-26A**	SM 4500-S2-D	686703		
50321163002	**MW-26I**	SM 4500-S2-D	686703		
50321163003	**MW-26B**	SM 4500-S2-D	686703		
50321163004	**MW-28A**	SM 4500-S2-D	686703		
50321163005	**MW-28I**	SM 4500-S2-D	686703		
50321163006	**MW-28B**	SM 4500-S2-D	686703		
50321163001	**MW-26A**	HACH 8146	686834		
50321163002	**MW-26I**	HACH 8146	686834		
50321163003	**MW-26B**	HACH 8146	686834		
50321163004	**MW-28A**	HACH 8146	686834		
50321163005	**MW-28I**	HACH 8146	686834		
50321163006	**MW-28B**	HACH 8146	686834		
50321163001	**MW-26A**	EPA 353.2	686286		
50321163002	**MW-26I**	EPA 353.2	686286		
50321163003	**MW-26B**	EPA 353.2	686286		
50321163004	**MW-28A**	EPA 353.2	686286		
50321163005	**MW-28I**	EPA 353.2	686286		
50321163006	**MW-28B**	EPA 353.2	686286		
50321163001	**MW-26A**	EPA 365.1	686668	EPA 365.1	687086
50321163002	**MW-26I**	EPA 365.1	686668	EPA 365.1	687086
50321163003	**MW-26B**	EPA 365.1	686668	EPA 365.1	687086
50321163004	**MW-28A**	EPA 365.1	686669	EPA 365.1	687087
50321163005	**MW-28I**	EPA 365.1	686669	EPA 365.1	687087
50321163006	**MW-28B**	EPA 365.1	686669	EPA 365.1	687087
50321163001	**MW-26A**	SM 5310C	687606		
50321163002	**MW-26I**	SM 5310C	687606		
50321163003	**MW-26B**	SM 5310C	687606		
50321163004	**MW-28A**	SM 5310C	687606		

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 5
Pace Project No.: 50321163

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50321163005	**MW-28I**	SM 5310C	687606		
50321163006	**MW-28B**	SM 5310C	687606		
50321163001	**MW-26A**	SM 5310C	687880		
50321163002	**MW-26I**	SM 5310C	687880		
50321163003	**MW-26B**	SM 5310C	686732		
50321163004	**MW-28A**	SM 5310C	687880		
50321163005	**MW-28I**	SM 5310C	687880		
50321163006	**MW-28B**	SM 5310C	687880		

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CH
The
Submitting a sample via this chain of custody constitutes acknowledgment an

WO# : 50321163

50321163

)ocument
ust be completed accurately.
elabs.com/hubfs/pas-standard-terms.pdf.

Page : 2 Of 3

Section A Required Client Information:		Section B Required Project Information:			
Company:	Atlas Indianapolis	Report To:	Mark Breting	Company Name:	Atlas Indianapolis
Address:	7988 Centerpoint Drive Suite 100	Copy To:		Address:	
	Indianapolis, IN 46256			Pace Quote:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Project Manager:	Hayden Putt
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg Profile 2 Report 5	Pace Profile #:	10498/10
Requested Due Date:		Project #:			

Regulatory Agency

State / Location
IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left) Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Other OT Tissue TS	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Y/N	Analyses Test: TDS/ NO2, NO3 Wet	(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	Residual Chlorine (Y/N)	
13	MW-25I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
14	MW-25B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
15	MW-26A	WT				7.14.22	1005		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		001
16	MW-26I	WT					1100		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		002
17	MW-26B	WT					1225		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		003
18	MW-27B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
19	MW-28A	WT				7.14.22	1350		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		004
20	MW-28I	WT					1435		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		005
21	MW-28B	WT					1525		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		006
22	MW-29A	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
23	MW-29I	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		
24	MW-29B	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X		

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)	J Hall / Atlas	7.15.22	1116	B Subhani	7-15-22	1116	0.8	Y	N	Y
6020 (Be, Co, As, Se, Sb, Tl)										
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	Joe Hall		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:	J Hall	DATE Signed: 7.15.22				

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BS 7-15-22 1150

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(s):** 1.7 | 10.8 | 1.9 | 1.0 | | | | |
   (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)
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
   Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED? Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl. Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: Nitrite / Nitrate	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1200		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC? Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		VIALS						AMBER GLASS							PLASTIC									OTHER				Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
COC Line Item	WGFU	MeOH (only) SBS DI 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						
1																														
2																														
3												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
4												|	|			|	|	|	|	|	|		|					|	|		|
5												|	|			|	|	|	|	|	|		|					|	|		|
6																																
7												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
8												|	|			|	|	|	|	|	|		|					|	|		|
9												|	|			|	|	|	|	|	|		|					|	|		|
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

AUGUST 2022 GROUNDWATER PROFILING

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 30, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on August 11, 2022. 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. Robert Miller, Haley & Aldrich

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

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 #: 460198
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 Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50323268001	**GWP-110S**	Water	08/10/22 10:47	08/11/22 14:25

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SAMPLE ANALYTE COUNT

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50323268001	**GWP-110S**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TAY	1	PASI-I

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

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SUMMARY OF DETECTION

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50323268001	**GWP-110S**					
EPA 9056	Chloride	4.1	mg/L	0.25	08/18/22 15:30	
EPA 9056	Fluoride	0.16	mg/L	0.10	08/18/22 15:30	
EPA 9056	Sulfate	165	mg/L	2.5	08/18/22 12:22	
EPA 6010	Boron	912	ug/L	100	08/17/22 09:19	
EPA 6010	Calcium	150000	ug/L	1000	08/17/22 09:19	
EPA 6020	Arsenic	13.2	ug/L	1.0	08/16/22 09:36	
EPA 6020	Barium	163	ug/L	1.0	08/16/22 09:36	
EPA 6020	Beryllium	0.81	ug/L	0.20	08/16/22 09:36	
EPA 6020	Cadmium	0.25	ug/L	0.20	08/16/22 09:36	
EPA 6020	Cobalt	14.0	ug/L	1.0	08/16/22 09:36	
EPA 6020	Lead	13.8	ug/L	1.0	08/16/22 09:36	
EPA 6020	Molybdenum	1.2	ug/L	1.0	08/16/22 09:36	
EPA 903.1	Radium-226	0.0450 ± 0.257 (0.484) C:NA T:105%	pCi/L		08/26/22 13:05	
EPA 904.0	Radium-228	0.598 ± 0.480 (0.950) C:75% T:64%	pCi/L		08/31/22 14:59	
Total Radium Calculation	Total Radium	0.643 ± 0.737 (1.43)	pCi/L		09/01/22 17:21	
SM 2540C	Total Dissolved Solids	488	mg/L	10.0	08/16/22 09:30	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	08/12/22 15:41	H3

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
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ANALYTICAL RESULTS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

Sample: GWP-110S **Lab ID: 50323268001** Collected: 08/10/22 10:47 Received: 08/11/22 14:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**4.1**	mg/L	0.25	1		08/18/22 15:30	16887-00-6	
Fluoride	**0.16**	mg/L	0.10	1		08/18/22 15:30	16984-48-8	
Sulfate	**165**	mg/L	2.5	10		08/18/22 12:22	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**912**	ug/L	100	1	08/12/22 12:10	08/17/22 09:19	7440-42-8	
Calcium	**150000**	ug/L	1000	1	08/12/22 12:10	08/17/22 09:19	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/12/22 12:10	08/17/22 09:19	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/14/22 16:30	08/16/22 09:36	7440-36-0	
Arsenic	**13.2**	ug/L	1.0	1	08/14/22 16:30	08/16/22 09:36	7440-38-2	
Barium	**163**	ug/L	1.0	1	08/14/22 16:30	08/16/22 09:36	7440-39-3	
Beryllium	**0.81**	ug/L	0.20	1	08/14/22 16:30	08/16/22 09:36	7440-41-7	
Cadmium	**0.25**	ug/L	0.20	1	08/14/22 16:30	08/16/22 09:36	7440-43-9	
Cobalt	**14.0**	ug/L	1.0	1	08/14/22 16:30	08/16/22 09:36	7440-48-4	
Lead	**13.8**	ug/L	1.0	1	08/14/22 16:30	08/16/22 09:36	7439-92-1	
Molybdenum	**1.2**	ug/L	1.0	1	08/14/22 16:30	08/16/22 09:36	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**488**	mg/L	10.0	1		08/16/22 09:30		
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		08/12/22 15:41		H3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

QC Batch: 690569
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50323268001

METHOD BLANK: 3175801 Matrix: Water
Associated Lab Samples: 50323268001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	08/18/22 13:10	
Fluoride	mg/L	ND	0.10	08/18/22 13:10	
Sulfate	mg/L	ND	0.25	08/18/22 13:10	

LABORATORY CONTROL SAMPLE: 3175802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	99	80-120	
Fluoride	mg/L	0.5	0.48	96	80-120	
Sulfate	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175803 3175804

Parameter	Units	50322869001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	11900 ug/L	1.2	1.2	9.9	12.8	-166	73	80-120	26	15	M0
Fluoride	mg/L	126 ug/L	0.5	0.5	0.45	0.58	65	91	80-120	26	15	M0
Sulfate	mg/L	54700 ug/L	25	25	77.8	76.6	92	88	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

QC Batch: 689844
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50323268001

METHOD BLANK: 3172602 Matrix: Water
Associated Lab Samples: 50323268001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	08/17/22 08:06	
Calcium	ug/L	ND	1000	08/17/22 08:06	
Lithium	ug/L	ND	20.0	08/17/22 08:06	

LABORATORY CONTROL SAMPLE: 3172603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	1050	105	80-120	
Calcium	ug/L	10000	10700	107	80-120	
Lithium	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3172604 3172605

Parameter	Units	50323301006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	1040	1000	1000	2140	2140	110	110	75-125	0	20	
Calcium	ug/L	150000	10000	10000	162000	164000	124	142	75-125	1	20	P6
Lithium	ug/L	ND	1000	1000	1070	1060	107	106	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

QC Batch: 690657
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50323268001

METHOD BLANK: 3176146 Matrix: Water
Associated Lab Samples: 50323268001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	08/16/22 09:27	
Arsenic	ug/L	ND	1.0	08/16/22 09:27	
Barium	ug/L	ND	1.0	08/16/22 09:27	
Beryllium	ug/L	ND	0.20	08/16/22 09:27	
Cadmium	ug/L	ND	0.20	08/16/22 09:27	
Cobalt	ug/L	ND	1.0	08/16/22 09:27	
Lead	ug/L	ND	1.0	08/16/22 09:27	
Molybdenum	ug/L	ND	1.0	08/16/22 09:27	

LABORATORY CONTROL SAMPLE: 3176147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.6	106	80-120	
Arsenic	ug/L	40	39.6	99	80-120	
Barium	ug/L	40	39.1	98	80-120	
Beryllium	ug/L	40	41.5	104	80-120	
Cadmium	ug/L	40	39.1	98	80-120	
Cobalt	ug/L	40	42.4	106	80-120	
Lead	ug/L	40	41.2	103	80-120	
Molybdenum	ug/L	40	41.3	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176148 3176149

Parameter	Units	50323301002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	43.8	44.1	108	109	75-125	1	20	
Arsenic	ug/L	14.0	40	40	52.2	52.3	96	96	75-125	0	20	
Barium	ug/L	47.7	40	40	90.1	89.8	106	105	75-125	0	20	
Beryllium	ug/L	ND	40	40	37.9	35.8	95	90	75-125	6	20	CL
Cadmium	ug/L	ND	40	40	37.8	37.8	94	94	75-125	0	20	
Cobalt	ug/L	1.6	40	40	40.8	40.9	98	98	75-125	0	20	
Lead	ug/L	ND	40	40	40.9	41.0	102	102	75-125	0	20	
Molybdenum	ug/L	218	40	40	263	261	112	105	75-125	1	20	E

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(317)228-3100

QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

QC Batch: 691074
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323268001

METHOD BLANK: 3178052 Matrix: Water
Associated Lab Samples: 50323268001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	08/16/22 09:28	

LABORATORY CONTROL SAMPLE: 3178053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	285	95	80-120	

SAMPLE DUPLICATE: 3178054

Parameter	Units	50323312001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	546	536	2	10	

SAMPLE DUPLICATE: 3178055

Parameter	Units	50323312008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1100	1100	0	10	

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

QC Batch: 690737
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50323268001

SAMPLE DUPLICATE: 3176586

Parameter	Units	50323312001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	0	2	H3

SAMPLE DUPLICATE: 3176587

Parameter	Units	50323312008 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.9	1	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

Sample: GWP-110S **Lab ID: 50323268001** Collected: 08/10/22 10:47 Received: 08/11/22 14:25 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	**0.0450 ± 0.257 (0.484) C:NA T:105%**	pCi/L	08/26/22 13:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.598 ± 0.480 (0.950) C:75% T:64%**	pCi/L	08/31/22 14:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.643 ± 0.737 (1.43)**	pCi/L	09/01/22 17:21	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

QC Batch: 525966
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50323268001

METHOD BLANK: 2551578 Matrix: Water
Associated Lab Samples: 50323268001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0748 ± 0.302 (0.527) C:NA T:103%	pCi/L	08/26/22 12:18	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

QC Batch: 525968
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50323268001

METHOD BLANK: 2551579 Matrix: Water
Associated Lab Samples: 50323268001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.807 ± 0.362 (0.595) C:78% T:95%	pCi/L	08/31/22 11:51	

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QUALIFIERS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

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

CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
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.
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: AES Petersburg 2022 App III&IV
Pace Project No.: 50323268

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50323268001	**GWP-110S**	EPA 9056	690569		
50323268001	**GWP-110S**	EPA 3010	689844	EPA 6010	691314
50323268001	**GWP-110S**	EPA 200.2	690657	EPA 6020	690872
50323268001	**GWP-110S**	EPA 903.1	525966		
50323268001	**GWP-110S**	EPA 904.0	525968		
50323268001	**GWP-110S**	Total Radium Calculation	530179		
50323268001	**GWP-110S**	SM 2540C	691074		
50323268001	**GWP-110S**	SM 4500-H+B	690737		

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CHAIN-OF-CUSTODY / Analytical Request D

WO# : 50323268

50323268

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mus

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pace

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: Atlas Indianapolis	Report To: Mark Breting	Attention: Accounts Payable - Paula Sedam	
Address: 7988 Centerpoint Drive	Copy To:	Company Name: Atlas Indianapolis	Regulatory Agency
Suite 100, Indianapolis, IN 46256		Address:	
Email: mark.breting@atcgs.com	Purchase Order #:	Pace Quote:	
Phone: 317-313-8306 Fax:	Project Name: AES Petersburg 2022 App III&IV	Pace Project Manager: hayden.putt@pacelabs.com,	State / Location
Requested Due Date: 5 day TAT	Project #:	Pace Profile #: 10498/19	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	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total	TDS 2540C	pH/C (Cl,F,SO4) 9056	Rad226/Rad228	Residual Chlorine (Y/N)
1	GWP-1105	WT	G			8-10-22	1047			2		3						X	X	X	X		
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-B, Ca, Li 6020-Be, Cr, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb 7470-Hg	Colton Palmer	8-11-22	1355	Pace	8/11/22	1355				
	Pace	8/11/22	1425		8/11/22	1425	0.5	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palmer

SIGNATURE of SAMPLER: Colton Palmer DATE Signed: 8-11-22

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

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 8/11/22 1509

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(s):** 1.4 | 0.5 | | | |

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

Sample Container Count

** Place a RED dot on containers that are out of conformance **

			VIALS						AMBER GLASS							PLASTIC									OTHER				Matrix	Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		MeOH (only)																														
		SBS																														
		DI																											Red	Yellow	Green	Black
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				HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																2		2	1									~~W~~	✓			
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 30, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB App III & IV
Pace Project No.: 50323704

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on August 17, 2022. 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. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: AES PB App III & IV
Pace Project No.: 50323704

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 #: 460198
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 Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: AES PB App III & IV
Pace Project No.: 50323704

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50323704001	**GWP-110I**	Water	08/15/22 11:21	08/17/22 15:15
50323704002	**GWP-110D**	Water	08/15/22 12:46	08/17/22 15:15
50323704003	**GWP-106S**	Water	08/16/22 09:07	08/17/22 15:15
50323704004	**GWP-106I**	Water	08/16/22 10:41	08/17/22 15:15
50323704005	**GWP-106D**	Water	08/16/22 12:03	08/17/22 15:15
50323704006	**GWP-108S**	Water	08/16/22 16:04	08/17/22 15:15
50323704007	**GWP-108I**	Water	08/17/22 08:34	08/17/22 15:15
50323704008	**GWP-108D**	Water	08/17/22 09:56	08/17/22 15:15
50323704009	**Dup-1**	Water	08/17/22 08:00	08/17/22 15:15

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SAMPLE ANALYTE COUNT

Project: AES PB App III & IV
Pace Project No.: 50323704

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50323704001	**GWP-110I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323704002	**GWP-110D**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323704003	**GWP-106S**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323704004	**GWP-106I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323704005	**GWP-106D**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AES PB App III & IV
Pace Project No.: 50323704

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323704006	**GWP-108S**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323704007	**GWP-108I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323704008	**GWP-108D**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323704009	**Dup-1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

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

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SUMMARY OF DETECTION

Project: AES PB App III & IV
Pace Project No.: 50323704

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50323704001	**GWP-110I**					
EPA 9056	Chloride	5.3	mg/L	0.25	08/19/22 17:54	
EPA 9056	Fluoride	0.15	mg/L	0.10	08/19/22 17:54	
EPA 9056	Sulfate	247	mg/L	2.5	08/19/22 18:10	
EPA 6010	Boron	748	ug/L	100	08/23/22 11:18	
EPA 6010	Calcium	129000	ug/L	1000	08/23/22 11:18	
EPA 6020	Barium	49.1	ug/L	1.0	08/22/22 05:39	
EPA 903.1	Radium-226	0.000 ± 0.292 (0.618) C:NA T:89%	pCi/L		09/14/22 11:38	
EPA 904.0	Radium-228	0.614 ± 0.609 (1.25) C:74% T:89%	pCi/L		09/08/22 20:43	
Total Radium Calculation	Total Radium	0.614 ± 0.901 (1.87)	pCi/L		09/15/22 16:52	
SM 2540C	Total Dissolved Solids	554	mg/L	10.0	08/18/22 11:07	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/18/22 11:41	H3
50323704002	**GWP-110D**					
EPA 9056	Chloride	6.6	mg/L	0.25	08/19/22 20:50	
EPA 9056	Fluoride	0.10	mg/L	0.10	08/19/22 20:50	
EPA 9056	Sulfate	261	mg/L	25.0	08/19/22 21:22	
EPA 6010	Boron	1220	ug/L	100	08/23/22 11:20	
EPA 6010	Calcium	145000	ug/L	1000	08/23/22 11:20	
EPA 6020	Arsenic	1.2	ug/L	1.0	08/22/22 05:43	
EPA 6020	Barium	42.9	ug/L	1.0	08/22/22 05:43	
EPA 6020	Molybdenum	1.0	ug/L	1.0	08/22/22 05:43	
EPA 903.1	Radium-226	0.133 ± 0.336 (0.624) C:NA T:89%	pCi/L		09/14/22 11:38	
EPA 904.0	Radium-228	-0.188 ± 0.575 (1.38) C:72% T:89%	pCi/L		09/08/22 20:53	
Total Radium Calculation	Total Radium	0.133 ± 0.911 (2.00)	pCi/L		09/15/22 16:52	
SM 2540C	Total Dissolved Solids	656	mg/L	10.0	08/18/22 11:07	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/18/22 11:41	H3
50323704003	**GWP-106S**					
EPA 9056	Chloride	6.7	mg/L	0.25	08/19/22 21:38	
EPA 9056	Sulfate	27.2	mg/L	2.5	08/19/22 21:54	
EPA 6010	Calcium	141000	ug/L	1000	08/23/22 11:27	
EPA 6020	Barium	108	ug/L	1.0	08/22/22 05:47	
EPA 6020	Cobalt	6.5	ug/L	1.0	08/22/22 05:47	

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SUMMARY OF DETECTION

Project: AES PB App III & IV
Pace Project No.: 50323704

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50323704003	**GWP-106S**					
EPA 903.1	Radium-226	0.844 ± 0.463 (0.534) C:NA T:90%	pCi/L		09/14/22 11:38	
EPA 904.0	Radium-228	-0.128 ± 0.579 (1.37) C:76% T:90%	pCi/L		09/08/22 20:53	
Total Radium Calculation	Total Radium	0.844 ± 1.04 (1.90)	pCi/L		09/15/22 16:52	
SM 2540C	Total Dissolved Solids	502	mg/L	10.0	08/19/22 09:26	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	08/18/22 11:42	H3
50323704004	**GWP-106I**					
EPA 9056	Chloride	7.6	mg/L	0.25	08/19/22 22:26	
EPA 9056	Sulfate	297	mg/L	25.0	08/19/22 23:29	
EPA 6010	Boron	941	ug/L	100	08/23/22 11:30	
EPA 6010	Calcium	164000	ug/L	1000	08/23/22 11:30	
EPA 6020	Arsenic	3.4	ug/L	1.0	08/22/22 05:51	
EPA 6020	Barium	95.9	ug/L	1.0	08/22/22 05:51	
EPA 6020	Cobalt	4.7	ug/L	1.0	08/22/22 05:51	
EPA 6020	Lead	3.1	ug/L	1.0	08/22/22 05:51	
EPA 6020	Molybdenum	1.6	ug/L	1.0	08/22/22 05:51	
EPA 903.1	Radium-226	0.759 ± 0.464 (0.569) C:NA T:90%	pCi/L		09/14/22 11:38	
EPA 904.0	Radium-228	0.848 ± 0.688 (1.38) C:73% T:90%	pCi/L		09/08/22 20:53	
Total Radium Calculation	Total Radium	1.61 ± 1.15 (1.95)	pCi/L		09/15/22 16:52	
SM 2540C	Total Dissolved Solids	683	mg/L	10.0	08/19/22 09:26	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/18/22 11:43	H3
50323704005	**GWP-106D**					
EPA 9056	Chloride	9.1	mg/L	0.25	08/19/22 23:45	
EPA 9056	Sulfate	304	mg/L	25.0	08/20/22 00:17	
EPA 6010	Boron	931	ug/L	100	08/23/22 11:32	
EPA 6010	Calcium	145000	ug/L	1000	08/23/22 11:32	
EPA 6020	Arsenic	2.3	ug/L	1.0	08/22/22 06:03	
EPA 6020	Barium	55.1	ug/L	1.0	08/22/22 06:03	
EPA 6020	Molybdenum	1.5	ug/L	1.0	08/22/22 06:03	
EPA 903.1	Radium-226	0.240 ± 0.313 (0.516) C:NA T:85%	pCi/L		09/14/22 11:38	

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SUMMARY OF DETECTION

Project: AES PB App III & IV
Pace Project No.: 50323704

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50323704005	**GWP-106D**					
EPA 904.0	Radium-228	0.324 ± 0.578 (1.26) C:74% T:85%	pCi/L		09/08/22 20:52	
Total Radium Calculation	Total Radium	0.564 ± 0.891 (1.78)	pCi/L		09/15/22 16:52	
SM 2540C	Total Dissolved Solids	680	mg/L	10.0	08/19/22 09:27	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/18/22 11:44	H3
50323704006	**GWP-108S**					
EPA 9056	Chloride	7.7	mg/L	0.25	08/20/22 00:33	
EPA 9056	Fluoride	0.10	mg/L	0.10	08/20/22 00:33	
EPA 9056	Sulfate	217	mg/L	2.5	08/20/22 00:49	
EPA 6010	Boron	662	ug/L	100	08/23/22 11:34	
EPA 6010	Calcium	367000	ug/L	3000	08/23/22 11:49	
EPA 6010	Lithium	27.1	ug/L	20.0	08/23/22 11:34	
EPA 6020	Arsenic	17.2	ug/L	2.0	08/22/22 11:02	
EPA 6020	Barium	235	ug/L	2.0	08/22/22 11:02	
EPA 6020	Beryllium	1.5	ug/L	0.20	08/22/22 06:08	
EPA 6020	Cadmium	0.56	ug/L	0.20	08/22/22 06:08	
EPA 6020	Cobalt	31.1	ug/L	1.0	08/22/22 06:08	
EPA 6020	Lead	29.2	ug/L	1.0	08/22/22 06:08	
EPA 6020	Molybdenum	2.8	ug/L	2.0	08/22/22 11:02	
EPA 903.1	Radium-226	1.91 ± 0.670 (0.581) C:NA T:93%	pCi/L		09/14/22 11:38	
EPA 904.0	Radium-228	1.18 ± 0.645 (1.13) C:68% T:93%	pCi/L		09/08/22 20:52	
Total Radium Calculation	Total Radium	3.09 ± 1.32 (1.71)	pCi/L		09/15/22 16:52	
SM 2540C	Total Dissolved Solids	604	mg/L	40.0	08/19/22 09:27	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	08/18/22 11:44	H3
50323704007	**GWP-108I**					
EPA 9056	Chloride	7.8	mg/L	0.25	08/20/22 01:21	
EPA 9056	Sulfate	299	mg/L	25.0	08/20/22 01:53	
EPA 6010	Boron	1120	ug/L	100	08/23/22 11:37	
EPA 6010	Calcium	143000	ug/L	1000	08/23/22 11:37	
EPA 6020	Barium	97.1	ug/L	1.0	08/22/22 11:23	
EPA 903.1	Radium-226	0.273 ± 0.380 (0.642) C:NA T:88%	pCi/L		09/14/22 11:38	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: AES PB App III & IV
Pace Project No.: 50323704

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50323704007	**GWP-108I**					
EPA 904.0	Radium-228	0.641 ± 0.649 (1.34) C:69% T:88%	pCi/L		09/08/22 20:52	
Total Radium Calculation	Total Radium	0.914 ± 1.03 (1.98)	pCi/L		09/15/22 16:52	
SM 2540C	Total Dissolved Solids	671	mg/L	10.0	08/23/22 11:32	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/18/22 11:45	H3
50323704008	**GWP-108D**					
EPA 9056	Chloride	7.4	mg/L	0.25	08/20/22 02:41	
EPA 9056	Sulfate	314	mg/L	25.0	08/20/22 03:13	
EPA 6010	Boron	912	ug/L	100	08/23/22 11:39	
EPA 6010	Calcium	146000	ug/L	1000	08/23/22 11:39	
EPA 6020	Arsenic	2.5	ug/L	1.0	08/22/22 11:27	
EPA 6020	Barium	84.4	ug/L	1.0	08/22/22 11:27	
EPA 6020	Cobalt	1.0	ug/L	1.0	08/22/22 11:27	
EPA 6020	Molybdenum	1.6	ug/L	1.0	08/22/22 11:27	
EPA 903.1	Radium-226	0.0462 ± 0.326 (0.651) C:NA T:90%	pCi/L		09/14/22 11:56	
EPA 904.0	Radium-228	0.0802 ± 0.650 (1.50) C:64% T:90%	pCi/L		09/08/22 20:52	
Total Radium Calculation	Total Radium	0.126 ± 0.976 (2.15)	pCi/L		09/15/22 16:52	
SM 2540C	Total Dissolved Solids	646	mg/L	10.0	08/23/22 11:33	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/18/22 11:46	H3
50323704009	**Dup-1**					
EPA 9056	Chloride	9.1	mg/L	0.25	08/20/22 03:29	
EPA 9056	Fluoride	0.10	mg/L	0.10	08/20/22 03:29	
EPA 9056	Sulfate	302	mg/L	25.0	08/20/22 04:01	
EPA 6010	Boron	927	ug/L	100	08/23/22 11:42	
EPA 6010	Calcium	147000	ug/L	1000	08/23/22 11:42	
EPA 6020	Arsenic	2.3	ug/L	1.0	08/22/22 11:31	
EPA 6020	Barium	55.5	ug/L	1.0	08/22/22 11:31	
EPA 6020	Cobalt	1.0	ug/L	1.0	08/22/22 11:31	
EPA 6020	Molybdenum	1.5	ug/L	1.0	08/22/22 11:31	
EPA 903.1	Radium-226	0.209 ± 0.355 (0.627) C:NA T:88%	pCi/L		09/14/22 11:56	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: AES PB App III & IV
Pace Project No.: 50323704

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50323704009	**Dup-1**					
EPA 904.0	Radium-228	0.381 ± 0.672 (1.47) C:65% T:88%	pCi/L		09/08/22 20:50	
Total Radium Calculation	Total Radium	0.590 ± 1.03 (2.10)	pCi/L		09/15/22 16:52	
SM 2540C	Total Dissolved Solids	685	mg/L	10.0	08/23/22 11:33	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	08/18/22 11:50	H3

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ANALYTICAL RESULTS

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-110I **Lab ID: 50323704001** Collected: 08/15/22 11:21 Received: 08/17/22 15:15 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	**5.3**	mg/L	0.25	1		08/19/22 17:54	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		08/19/22 17:54	16984-48-8	
Sulfate	**247**	mg/L	2.5	10		08/19/22 18:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**748**	ug/L	100	1	08/19/22 09:37	08/23/22 11:18	7440-42-8	
Calcium	**129000**	ug/L	1000	1	08/19/22 09:37	08/23/22 11:18	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/19/22 09:37	08/23/22 11:18	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:39	7440-36-0	
Arsenic	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:39	7440-38-2	
Barium	**49.1**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:39	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 05:39	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 05:39	7440-43-9	
Cobalt	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:39	7440-48-4	
Lead	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:39	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:39	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**554**	mg/L	10.0	1		08/18/22 11:07		
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		08/18/22 11:41		H3

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ANALYTICAL RESULTS

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-110D **Lab ID: 50323704002** Collected: 08/15/22 12:46 Received: 08/17/22 15:15 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	**6.6**	mg/L	0.25	1		08/19/22 20:50	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		08/19/22 20:50	16984-48-8	
Sulfate	**261**	mg/L	25.0	100		08/19/22 21:22	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1220**	ug/L	100	1	08/19/22 09:37	08/23/22 11:20	7440-42-8	
Calcium	**145000**	ug/L	1000	1	08/19/22 09:37	08/23/22 11:20	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/19/22 09:37	08/23/22 11:20	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:43	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:43	7440-38-2	
Barium	**42.9**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:43	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 05:43	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 05:43	7440-43-9	
Cobalt	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:43	7440-48-4	
Lead	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:43	7439-92-1	
Molybdenum	**1.0**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:43	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**656**	mg/L	10.0	1		08/18/22 11:07		
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		08/18/22 11:41		H3

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ANALYTICAL RESULTS

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-106S **Lab ID: 50323704003** Collected: 08/16/22 09:07 Received: 08/17/22 15:15 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	**6.7**	mg/L	0.25	1		08/19/22 21:38	16887-00-6	
Fluoride	ND	mg/L	0.10	1		08/19/22 21:38	16984-48-8	
Sulfate	**27.2**	mg/L	2.5	10		08/19/22 21:54	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	ND	ug/L	100	1	08/19/22 09:37	08/23/22 11:27	7440-42-8	
Calcium	**141000**	ug/L	1000	1	08/19/22 09:37	08/23/22 11:27	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/19/22 09:37	08/23/22 11:27	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:47	7440-36-0	
Arsenic	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:47	7440-38-2	
Barium	**108**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:47	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 05:47	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 05:47	7440-43-9	
Cobalt	**6.5**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:47	7440-48-4	
Lead	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:47	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:47	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**502**	mg/L	10.0	1		08/19/22 09:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		08/18/22 11:42		H3

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ANALYTICAL RESULTS

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-106I **Lab ID: 50323704004** Collected: 08/16/22 10:41 Received: 08/17/22 15:15 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	**7.6**	mg/L	0.25	1		08/19/22 22:26	16887-00-6	
Fluoride	ND	mg/L	0.10	1		08/19/22 22:26	16984-48-8	
Sulfate	**297**	mg/L	25.0	100		08/19/22 23:29	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**941**	ug/L	100	1	08/19/22 09:37	08/23/22 11:30	7440-42-8	
Calcium	**164000**	ug/L	1000	1	08/19/22 09:37	08/23/22 11:30	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/19/22 09:37	08/23/22 11:30	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:51	7440-36-0	
Arsenic	**3.4**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:51	7440-38-2	
Barium	**95.9**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:51	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 05:51	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 05:51	7440-43-9	
Cobalt	**4.7**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:51	7440-48-4	
Lead	**3.1**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:51	7439-92-1	
Molybdenum	**1.6**	ug/L	1.0	1	08/18/22 06:50	08/22/22 05:51	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**683**	mg/L	10.0	1		08/19/22 09:26		
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		08/18/22 11:43		H3

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ANALYTICAL RESULTS

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-106D **Lab ID: 50323704005** Collected: 08/16/22 12:03 Received: 08/17/22 15:15 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	**9.1**	mg/L	0.25	1		08/19/22 23:45	16887-00-6	
Fluoride	ND	mg/L	0.10	1		08/19/22 23:45	16984-48-8	
Sulfate	**304**	mg/L	25.0	100		08/20/22 00:17	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**931**	ug/L	100	1	08/19/22 09:37	08/23/22 11:32	7440-42-8	
Calcium	**145000**	ug/L	1000	1	08/19/22 09:37	08/23/22 11:32	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/19/22 09:37	08/23/22 11:32	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 06:03	7440-36-0	
Arsenic	**2.3**	ug/L	1.0	1	08/18/22 06:50	08/22/22 06:03	7440-38-2	
Barium	**55.1**	ug/L	1.0	1	08/18/22 06:50	08/22/22 06:03	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 06:03	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 06:03	7440-43-9	
Cobalt	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 06:03	7440-48-4	
Lead	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 06:03	7439-92-1	
Molybdenum	**1.5**	ug/L	1.0	1	08/18/22 06:50	08/22/22 06:03	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**680**	mg/L	10.0	1		08/19/22 09:27		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		08/18/22 11:44		H3

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ANALYTICAL RESULTS

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-108S **Lab ID: 50323704006** Collected: 08/16/22 16:04 Received: 08/17/22 15:15 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	**7.7**	mg/L	0.25	1		08/20/22 00:33	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		08/20/22 00:33	16984-48-8	
Sulfate	**217**	mg/L	2.5	10		08/20/22 00:49	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**662**	ug/L	100	1	08/19/22 09:37	08/23/22 11:34	7440-42-8	
Calcium	**367000**	ug/L	3000	3	08/19/22 09:37	08/23/22 11:49	7440-70-2	
Lithium	**27.1**	ug/L	20.0	1	08/19/22 09:37	08/23/22 11:34	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 06:08	7440-36-0	
Arsenic	**17.2**	ug/L	2.0	2	08/18/22 06:50	08/22/22 11:02	7440-38-2	
Barium	**235**	ug/L	2.0	2	08/18/22 06:50	08/22/22 11:02	7440-39-3	
Beryllium	**1.5**	ug/L	0.20	1	08/18/22 06:50	08/22/22 06:08	7440-41-7	
Cadmium	**0.56**	ug/L	0.20	1	08/18/22 06:50	08/22/22 06:08	7440-43-9	
Cobalt	**31.1**	ug/L	1.0	1	08/18/22 06:50	08/22/22 06:08	7440-48-4	
Lead	**29.2**	ug/L	1.0	1	08/18/22 06:50	08/22/22 06:08	7439-92-1	
Molybdenum	**2.8**	ug/L	2.0	2	08/18/22 06:50	08/22/22 11:02	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**604**	mg/L	40.0	1		08/19/22 09:27		
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		08/18/22 11:44		H3

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ANALYTICAL RESULTS

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-108I **Lab ID: 50323704007** Collected: 08/17/22 08:34 Received: 08/17/22 15:15 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	**7.8**	mg/L	0.25	1		08/20/22 01:21	16887-00-6	
Fluoride	ND	mg/L	0.10	1		08/20/22 01:21	16984-48-8	
Sulfate	**299**	mg/L	25.0	100		08/20/22 01:53	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1120**	ug/L	100	1	08/19/22 09:37	08/23/22 11:37	7440-42-8	
Calcium	**143000**	ug/L	1000	1	08/19/22 09:37	08/23/22 11:37	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/19/22 09:37	08/23/22 11:37	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:23	7440-36-0	
Arsenic	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:23	7440-38-2	
Barium	**97.1**	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:23	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 11:23	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 11:23	7440-43-9	
Cobalt	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:23	7440-48-4	
Lead	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:23	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:23	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**671**	mg/L	10.0	1		08/23/22 11:32		
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		08/18/22 11:45		H3

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ANALYTICAL RESULTS

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-108D **Lab ID: 50323704008** Collected: 08/17/22 09:56 Received: 08/17/22 15:15 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	**7.4**	mg/L	0.25	1		08/20/22 02:41	16887-00-6	
Fluoride	ND	mg/L	0.10	1		08/20/22 02:41	16984-48-8	
Sulfate	**314**	mg/L	25.0	100		08/20/22 03:13	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**912**	ug/L	100	1	08/19/22 09:37	08/23/22 11:39	7440-42-8	
Calcium	**146000**	ug/L	1000	1	08/19/22 09:37	08/23/22 11:39	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/19/22 09:37	08/23/22 11:39	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:27	7440-36-0	
Arsenic	**2.5**	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:27	7440-38-2	
Barium	**84.4**	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:27	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 11:27	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 11:27	7440-43-9	
Cobalt	**1.0**	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:27	7440-48-4	
Lead	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:27	7439-92-1	
Molybdenum	**1.6**	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:27	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**646**	mg/L	10.0	1		08/23/22 11:33		
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		08/18/22 11:46		H3

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ANALYTICAL RESULTS

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: Dup-1 **Lab ID: 50323704009** Collected: 08/17/22 08:00 Received: 08/17/22 15:15 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	**9.1**	mg/L	0.25	1		08/20/22 03:29	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		08/20/22 03:29	16984-48-8	
Sulfate	**302**	mg/L	25.0	100		08/20/22 04:01	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**927**	ug/L	100	1	08/19/22 09:37	08/23/22 11:42	7440-42-8	
Calcium	**147000**	ug/L	1000	1	08/19/22 09:37	08/23/22 11:42	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/19/22 09:37	08/23/22 11:42	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:31	7440-36-0	
Arsenic	**2.3**	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:31	7440-38-2	
Barium	**55.5**	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:31	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 11:31	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/18/22 06:50	08/22/22 11:31	7440-43-9	
Cobalt	**1.0**	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:31	7440-48-4	
Lead	ND	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:31	7439-92-1	
Molybdenum	**1.5**	ug/L	1.0	1	08/18/22 06:50	08/22/22 11:31	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**685**	mg/L	10.0	1		08/23/22 11:33		
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		08/18/22 11:50		H3

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QUALITY CONTROL DATA

Project: AES PB App III & IV
Pace Project No.: 50323704

QC Batch: 691820
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

METHOD BLANK: 3181512 Matrix: Water
Associated Lab Samples: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	08/19/22 17:22	
Fluoride	mg/L	ND	0.10	08/19/22 17:22	
Sulfate	mg/L	ND	0.25	08/19/22 17:22	

LABORATORY CONTROL SAMPLE: 3181513

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	0.48	95	80-120	
Sulfate	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3181514 3181515

Parameter	Units	50323704001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.3	1.2	1.2	6.4	6.5	90	97	80-120	1	15	
Fluoride	mg/L	0.15	0.5	0.5	0.60	0.61	91	93	80-120	2	15	
Sulfate	mg/L	247	25	25	260	258	50	41	80-120	1	15	M0

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QUALITY CONTROL DATA

Project: AES PB App III & IV
Pace Project No.: 50323704

QC Batch: 691629
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

METHOD BLANK: 3180388 Matrix: Water
Associated Lab Samples: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	08/23/22 10:39	
Calcium	ug/L	ND	1000	08/23/22 10:39	
Lithium	ug/L	ND	20.0	08/23/22 10:39	

LABORATORY CONTROL SAMPLE: 3180389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	1070	107	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Lithium	ug/L	1000	982	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3180390 3180391

Parameter	Units	50323203001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	0.13 mg/L	1000	1000	1190	1200	106	108	75-125	1	20	
Calcium	ug/L	117 mg/L	10000	10000	128000	129000	103	115	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1040	1060	102	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB App III & IV
Pace Project No.: 50323704

QC Batch: 691545
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

METHOD BLANK: 3180090 Matrix: Water
Associated Lab Samples: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	08/22/22 05:02	
Arsenic	ug/L	ND	1.0	08/22/22 05:02	
Barium	ug/L	ND	1.0	08/22/22 05:02	
Beryllium	ug/L	ND	0.20	08/22/22 05:02	
Cadmium	ug/L	ND	0.20	08/22/22 05:02	
Cobalt	ug/L	ND	1.0	08/22/22 05:02	
Lead	ug/L	ND	1.0	08/22/22 05:02	
Molybdenum	ug/L	ND	1.0	08/22/22 05:02	

LABORATORY CONTROL SAMPLE: 3180091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	43.9	110	80-120	
Arsenic	ug/L	40	42.1	105	80-120	
Barium	ug/L	40	41.5	104	80-120	
Beryllium	ug/L	40	43.4	109	80-120	
Cadmium	ug/L	40	40.6	102	80-120	
Cobalt	ug/L	40	42.1	105	80-120	
Lead	ug/L	40	43.4	108	80-120	
Molybdenum	ug/L	40	42.2	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3180092 3180093

Parameter	Units	50323695003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	44.3	44.5	110	111	75-125	1	20	
Arsenic	ug/L	21.3	40	40	60.9	62.1	99	102	75-125	2	20	
Barium	ug/L	751	40	40	778	788	68	92	75-125	1	20	E,P6
Beryllium	ug/L	ND	40	40	40.2	41.0	101	102	75-125	2	20	
Cadmium	ug/L	ND	40	40	39.9	39.9	100	100	75-125	0	20	
Cobalt	ug/L	5.7	40	40	43.9	44.0	96	96	75-125	0	20	
Lead	ug/L	ND	40	40	43.9	43.8	107	107	75-125	0	20	
Molybdenum	ug/L	7.2	40	40	49.6	50.3	106	108	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES PB App III & IV
Pace Project No.: 50323704

QC Batch: 691586
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323704001, 50323704002

METHOD BLANK: 3180252 Matrix: Water
Associated Lab Samples: 50323704001, 50323704002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	08/18/22 11:05	

LABORATORY CONTROL SAMPLE: 3180253

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	282	94	80-120	

SAMPLE DUPLICATE: 3180254

Parameter	Units	50323528015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1050	1000	4	10	

SAMPLE DUPLICATE: 3180255

Parameter	Units	50323705001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1140	1160	1	10	

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QUALITY CONTROL DATA

Project: AES PB App III & IV
Pace Project No.: 50323704

QC Batch: 691795 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323704003, 50323704004, 50323704005, 50323704006

METHOD BLANK: 3181318 Matrix: Water
Associated Lab Samples: 50323704003, 50323704004, 50323704005, 50323704006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	08/19/22 09:23	

LABORATORY CONTROL SAMPLE: 3181319

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

SAMPLE DUPLICATE: 3181320

Parameter	Units	50323636006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	6320	6320	0	10	

SAMPLE DUPLICATE: 3181321

Parameter	Units	50323636007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	94500	95100	1	10	1d

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QUALITY CONTROL DATA

Project: AES PB App III & IV
Pace Project No.: 50323704

QC Batch: 692247 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323704007, 50323704008, 50323704009

METHOD BLANK: 3183302 Matrix: Water
Associated Lab Samples: 50323704007, 50323704008, 50323704009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	08/23/22 11:32	

LABORATORY CONTROL SAMPLE: 3183303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	279	93	80-120	

SAMPLE DUPLICATE: 3183304

Parameter	Units	50323695003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	892	878	2	10	

SAMPLE DUPLICATE: 3183305

Parameter	Units	50323736003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	970	986	2	10	

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QUALITY CONTROL DATA

Project: AES PB App III & IV
Pace Project No.: 50323704

QC Batch: 691621
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

SAMPLE DUPLICATE: 3180331

Parameter	Units	50323687001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	1	2	H3

SAMPLE DUPLICATE: 3180332

Parameter	Units	50323631010 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	4.9	4.8	2	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-110I **Lab ID: 50323704001** Collected: 08/15/22 11:21 Received: 08/17/22 15:15 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	**0.000 ± 0.292 (0.618) C:NA T:89%**	pCi/L	09/14/22 11:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.614 ± 0.609 (1.25) C:74% T:89%**	pCi/L	09/08/22 20:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.614 ± 0.901 (1.87)**	pCi/L	09/15/22 16:52	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-110D **Lab ID: 50323704002** Collected: 08/15/22 12:46 Received: 08/17/22 15:15 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	**0.133 ± 0.336 (0.624) C:NA T:89%**	pCi/L	09/14/22 11:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.188 ± 0.575 (1.38) C:72% T:89%**	pCi/L	09/08/22 20:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.133 ± 0.911 (2.00)**	pCi/L	09/15/22 16:52	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-106S **Lab ID: 50323704003** Collected: 08/16/22 09:07 Received: 08/17/22 15:15 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	**0.844 ± 0.463 (0.534) C:NA T:90%**	pCi/L	09/14/22 11:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.128 ± 0.579 (1.37) C:76% T:90%**	pCi/L	09/08/22 20:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.844 ± 1.04 (1.90)**	pCi/L	09/15/22 16:52	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-106I **Lab ID: 50323704004** Collected: 08/16/22 10:41 Received: 08/17/22 15:15 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	**0.759 ± 0.464 (0.569) C:NA T:90%**	pCi/L	09/14/22 11:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.848 ± 0.688 (1.38) C:73% T:90%**	pCi/L	09/08/22 20:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.61 ± 1.15 (1.95)**	pCi/L	09/15/22 16:52	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-106D **Lab ID: 50323704005** Collected: 08/16/22 12:03 Received: 08/17/22 15:15 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	**0.240 ± 0.313 (0.516) C:NA T:85%**	pCi/L	09/14/22 11:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.324 ± 0.578 (1.26) C:74% T:85%**	pCi/L	09/08/22 20:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.564 ± 0.891 (1.78)**	pCi/L	09/15/22 16:52	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-108S **Lab ID: 50323704006** Collected: 08/16/22 16:04 Received: 08/17/22 15:15 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	**1.91 ± 0.670 (0.581) C:NA T:93%**	pCi/L	09/14/22 11:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.18 ± 0.645 (1.13) C:68% T:93%**	pCi/L	09/08/22 20:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**3.09 ± 1.32 (1.71)**	pCi/L	09/15/22 16:52	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-108I **Lab ID: 50323704007** Collected: 08/17/22 08:34 Received: 08/17/22 15:15 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	**0.273 ± 0.380 (0.642) C:NA T:88%**	pCi/L	09/14/22 11:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.641 ± 0.649 (1.34) C:69% T:88%**	pCi/L	09/08/22 20:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.914 ± 1.03 (1.98)**	pCi/L	09/15/22 16:52	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: GWP-108D **Lab ID: 50323704008** Collected: 08/17/22 09:56 Received: 08/17/22 15:15 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	**0.0462 ± 0.326 (0.651) C:NA T:90%**	pCi/L	09/14/22 11:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0802 ± 0.650 (1.50) C:64% T:90%**	pCi/L	09/08/22 20:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.126 ± 0.976 (2.15)**	pCi/L	09/15/22 16:52	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

Sample: Dup-1 **Lab ID: 50323704009** Collected: 08/17/22 08:00 Received: 08/17/22 15:15 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	**0.209 ± 0.355 (0.627) C:NA T:88%**	pCi/L	09/14/22 11:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.381 ± 0.672 (1.47) C:65% T:88%**	pCi/L	09/08/22 20:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.590 ± 1.03 (2.10)**	pCi/L	09/15/22 16:52	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

QC Batch: 529441 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: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

METHOD BLANK: 2568117 Matrix: Water
Associated Lab Samples: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.227 ± 0.323 (0.546) C:NA T:94%	pCi/L	09/14/22 11:38	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB App III & IV
Pace Project No.: 50323704

QC Batch: 529442 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: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

METHOD BLANK: 2568118 Matrix: Water
Associated Lab Samples: 50323704001, 50323704002, 50323704003, 50323704004, 50323704005, 50323704006, 50323704007, 50323704008, 50323704009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.203 ± 0.300 (0.745) C:73% T:94%	pCi/L	09/08/22 16:23	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AES PB App III & IV
Pace Project No.: 50323704

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

1d	The mass of dried residue obtained exceeded the test method requirements using the minimum amount of sample volume.
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.
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: AES PB App III & IV
Pace Project No.: 50323704

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50323704001	**GWP-110I**	EPA 9056	691820		
50323704002	**GWP-110D**	EPA 9056	691820		
50323704003	**GWP-106S**	EPA 9056	691820		
50323704004	**GWP-106I**	EPA 9056	691820		
50323704005	**GWP-106D**	EPA 9056	691820		
50323704006	**GWP-108S**	EPA 9056	691820		
50323704007	**GWP-108I**	EPA 9056	691820		
50323704008	**GWP-108D**	EPA 9056	691820		
50323704009	**Dup-1**	EPA 9056	691820		
50323704001	**GWP-110I**	EPA 3010	691629	EPA 6010	692259
50323704002	**GWP-110D**	EPA 3010	691629	EPA 6010	692259
50323704003	**GWP-106S**	EPA 3010	691629	EPA 6010	692259
50323704004	**GWP-106I**	EPA 3010	691629	EPA 6010	692259
50323704005	**GWP-106D**	EPA 3010	691629	EPA 6010	692259
50323704006	**GWP-108S**	EPA 3010	691629	EPA 6010	692259
50323704007	**GWP-108I**	EPA 3010	691629	EPA 6010	692259
50323704008	**GWP-108D**	EPA 3010	691629	EPA 6010	692259
50323704009	**Dup-1**	EPA 3010	691629	EPA 6010	692259
50323704001	**GWP-110I**	EPA 200.2	691545	EPA 6020	691697
50323704002	**GWP-110D**	EPA 200.2	691545	EPA 6020	691697
50323704003	**GWP-106S**	EPA 200.2	691545	EPA 6020	691697
50323704004	**GWP-106I**	EPA 200.2	691545	EPA 6020	691697
50323704005	**GWP-106D**	EPA 200.2	691545	EPA 6020	691697
50323704006	**GWP-108S**	EPA 200.2	691545	EPA 6020	691697
50323704007	**GWP-108I**	EPA 200.2	691545	EPA 6020	691697
50323704008	**GWP-108D**	EPA 200.2	691545	EPA 6020	691697
50323704009	**Dup-1**	EPA 200.2	691545	EPA 6020	691697
50323704001	**GWP-110I**	EPA 903.1	529441		
50323704002	**GWP-110D**	EPA 903.1	529441		
50323704003	**GWP-106S**	EPA 903.1	529441		
50323704004	**GWP-106I**	EPA 903.1	529441		
50323704005	**GWP-106D**	EPA 903.1	529441		
50323704006	**GWP-108S**	EPA 903.1	529441		
50323704007	**GWP-108I**	EPA 903.1	529441		
50323704008	**GWP-108D**	EPA 903.1	529441		
50323704009	**Dup-1**	EPA 903.1	529441		
50323704001	**GWP-110I**	EPA 904.0	529442		
50323704002	**GWP-110D**	EPA 904.0	529442		
50323704003	**GWP-106S**	EPA 904.0	529442		
50323704004	**GWP-106I**	EPA 904.0	529442		
50323704005	**GWP-106D**	EPA 904.0	529442		
50323704006	**GWP-108S**	EPA 904.0	529442		
50323704007	**GWP-108I**	EPA 904.0	529442		
50323704008	**GWP-108D**	EPA 904.0	529442		
50323704009	**Dup-1**	EPA 904.0	529442		
50323704001	**GWP-110I**	Total Radium Calculation	533244		

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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB App III & IV
Pace Project No.: 50323704

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50323704002	**GWP-110D**	Total Radium Calculation	533244		
50323704003	**GWP-106S**	Total Radium Calculation	533244		
50323704004	**GWP-106I**	Total Radium Calculation	533244		
50323704005	**GWP-106D**	Total Radium Calculation	533244		
50323704006	**GWP-108S**	Total Radium Calculation	533244		
50323704007	**GWP-108I**	Total Radium Calculation	533244		
50323704008	**GWP-108D**	Total Radium Calculation	533244		
50323704009	**Dup-1**	Total Radium Calculation	533244		
50323704001	**GWP-110I**	SM 2540C	691586		
50323704002	**GWP-110D**	SM 2540C	691586		
50323704003	**GWP-106S**	SM 2540C	691795		
50323704004	**GWP-106I**	SM 2540C	691795		
50323704005	**GWP-106D**	SM 2540C	691795		
50323704006	**GWP-108S**	SM 2540C	691795		
50323704007	**GWP-108I**	SM 2540C	692247		
50323704008	**GWP-108D**	SM 2540C	692247		
50323704009	**Dup-1**	SM 2540C	692247		
50323704001	**GWP-110I**	SM 4500-H+B	691621		
50323704002	**GWP-110D**	SM 4500-H+B	691621		
50323704003	**GWP-106S**	SM 4500-H+B	691621		
50323704004	**GWP-106I**	SM 4500-H+B	691621		
50323704005	**GWP-106D**	SM 4500-H+B	691621		
50323704006	**GWP-108S**	SM 4500-H+B	691621		
50323704007	**GWP-108I**	SM 4500-H+B	691621		
50323704008	**GWP-108D**	SM 4500-H+B	691621		
50323704009	**Dup-1**	SM 4500-H+B	691621		

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WO# : 50323704

50323704

CHAIN-OF-CUSTODY /

Pace

The Chain-of-Custody is a LEGAL DO

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms an

s.pdf.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: Atlas Indianapolis	Report To: Mark Breting	Attention: Accounts Payable - Paula Sedam	
Address: 7988 Centerpoint Drive	Copy To:	Company Name: Atlas Indianapolis	
Suite 100, Indianapolis, IN 46256		Address:	Regulatory Agency
Email: mark.breting@atcgs.com	Purchase Order #:	Pace Quote:	
Phone: 317-313-8306 Fax:	Project Name: AES Petersburg 2022 App III&IV	Pace Project Manager: hayden.putt@pacelabs.com,	State / Location
Requested Due Date: 5 day TAT	Project #:	Pace Profile #: 10498/19	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total	TDS 2540C	pH/IC (Cl,F,SO4) 9056	Rad226/Rad228	Residual Chlorine (Y/N)	
1	GWP-110I	WT	G			8-16-22	1121		5	2		3						X	X	X	X		001
2	GWP-110D					8-15-22	1246		5	2		3						X	X	X	X		002
3	GWP-106S					8-16-22	907		5	2		3						X	X	X	X		003
4	GWP-106I						1041		5	2		3						X	X	X	X		004
5	GWP-106D						1203		5	2		3						X	X	X	X		005
6	GWP-108S					↓	1604		5	2		3						X	X	X	X		006
7	GWP-108I					8-17-22	834		5	2		3						X	X	X	X		007
8	GWP-108D					8-17-22	956		5	2		3						X	X	X	X		008
9	Dup-1	↓	↓			8-16-22			5	2		3						X	X	X	X		009
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
6010-B, Ca, Li 6020-Be, Cr, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb 7470-Hg	Colton Palmer	8-17-22	1200	Atlas	8/17/22	1200				
		8/17/22	1515		8/17/22	1515	0.8	Y	N	Y
							0.6	Y	N	Y
							1.0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palmer

SIGNATURE of SAMPLER: Colton Palmer

DATE Signed: 8-17-22

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 08/17/22 1720 JL

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(s):** 1.0/0.8 | 0.8/0.4 | 1.2/1.0 | (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)
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
   Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.**			
Short Hold Time Analysis (48 hours or less)? Analysis:		✓	**Circle: HNO3 (<2) 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:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID		✓	Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS: Sample pt. 4 has ID "GWP". Does not match chain. JL 8/17

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	MeOH (only) / SBS / DI / R	VIALS: DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	Syringe Kit			Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1																	2		2	1									WT	✓			
2																														✓			
3																														✓			
4																														✓			
5																														✓			
6																														✓			
7																														✓			
8																														✓			
9																														✓			
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
GN	General	AG3C	250mL NaOH amber glass

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

September 09, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2022. 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. Robert Miller, Haley & Aldrich

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7726 Moller Road
Indianapolis, IN 46268
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CERTIFICATIONS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

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 #: 460198
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: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50323932001	**GWP-101S**	Water	08/18/22 14:26	08/19/22 14:48

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50323932001	**GWP-101S**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

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

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SUMMARY OF DETECTION

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50323932001	**GWP-101S**					
EPA 9056	Chloride	5.5	mg/L	0.25	08/22/22 14:37	
EPA 9056	Fluoride	0.35	mg/L	0.10	08/22/22 14:37	
EPA 9056	Sulfate	386	mg/L	25.0	08/22/22 15:09	
EPA 6010	Boron	1440	ug/L	100	08/24/22 12:40	
EPA 6010	Calcium	182000	ug/L	1000	08/24/22 12:40	
EPA 6020	Arsenic	1.6	ug/L	1.0	08/23/22 16:47	
EPA 6020	Barium	31.7	ug/L	1.0	08/23/22 16:47	
EPA 6020	Cadmium	0.29	ug/L	0.20	08/23/22 16:47	
EPA 6020	Cobalt	8.6	ug/L	1.0	08/23/22 16:47	
EPA 6020	Molybdenum	5.1	ug/L	1.0	08/23/22 16:47	
EPA 903.1	Radium-226	0.0396 ± 0.544 (0.845) C:NA T:96%	pCi/L		09/05/22 14:06	
EPA 904.0	Radium-228	0.583 ± 0.391 (0.749) C:77% T:85%	pCi/L		09/08/22 12:40	
Total Radium Calculation	Total Radium	0.623 ± 0.935 (1.59)	pCi/L		09/09/22 14:59	
SM 2540C	Total Dissolved Solids	890	mg/L	20.0	08/25/22 09:41	
SM 4500-H+B	pH at 25 Degrees C	7.9	Std. Units	0.10	08/22/22 13:06	H3

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ANALYTICAL RESULTS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

Sample: GWP-101S **Lab ID: 50323932001** Collected: 08/18/22 14:26 Received: 08/19/22 14:48 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	**5.5**	mg/L	0.25	1		08/22/22 14:37	16887-00-6	
Fluoride	**0.35**	mg/L	0.10	1		08/22/22 14:37	16984-48-8	
Sulfate	**386**	mg/L	25.0	100		08/22/22 15:09	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1440**	ug/L	100	1	08/24/22 07:20	08/24/22 12:40	7440-42-8	
Calcium	**182000**	ug/L	1000	1	08/24/22 07:20	08/24/22 12:40	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/24/22 07:20	08/24/22 12:40	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:47	7440-36-0	
Arsenic	**1.6**	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:47	7440-38-2	
Barium	**31.7**	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:47	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/22/22 22:30	08/23/22 16:47	7440-41-7	
Cadmium	**0.29**	ug/L	0.20	1	08/22/22 22:30	08/23/22 16:47	7440-43-9	
Cobalt	**8.6**	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:47	7440-48-4	
Lead	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:47	7439-92-1	
Molybdenum	**5.1**	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:47	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**890**	mg/L	20.0	1		08/25/22 09:41		
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		08/22/22 13:06		H3

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

QC Batch: 692077
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50323932001

METHOD BLANK: 3182751 Matrix: Water
Associated Lab Samples: 50323932001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	08/22/22 14:05	
Fluoride	mg/L	ND	0.10	08/22/22 14:05	
Sulfate	mg/L	ND	0.25	08/22/22 14:05	

LABORATORY CONTROL SAMPLE: 3182752

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	0.47	94	80-120	
Sulfate	mg/L	2.5	2.5	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3182753 3182754

Parameter	Units	40249858001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	155	125	125	274	268	95	90	80-120	2	15	
Fluoride	mg/L	<0.10	0.5	0.5	0.51	0.51	90	91	80-120	0	15	
Sulfate	mg/L	12.4	2.5	2.5	14.8	14.8	98	97	80-120	0	15	

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

QC Batch: 692190
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323932001

METHOD BLANK: 3183122 Matrix: Water
Associated Lab Samples: 50323932001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	08/24/22 12:34	
Calcium	ug/L	ND	1000	08/24/22 12:34	
Lithium	ug/L	ND	20.0	08/24/22 12:34	

LABORATORY CONTROL SAMPLE: 3183123

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	956	96	80-120	
Calcium	ug/L	10000	9930	99	80-120	
Lithium	ug/L	1000	991	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3183124 3183125

Parameter	Units	50324003002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	273	1000	1000	1320	1300	104	102	75-125	2	20	
Calcium	ug/L	501000	10000	10000	503000	498000	17	-34	75-125	1	20	E,P6
Lithium	ug/L	107	1000	1000	1120	1110	101	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

QC Batch: 692030
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50323932001

METHOD BLANK: 3182597 Matrix: Water
Associated Lab Samples: 50323932001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	08/23/22 16:39	
Arsenic	ug/L	ND	1.0	08/23/22 16:39	
Barium	ug/L	ND	1.0	08/23/22 16:39	
Beryllium	ug/L	ND	0.20	08/23/22 16:39	
Cadmium	ug/L	ND	0.20	08/23/22 16:39	
Cobalt	ug/L	ND	1.0	08/23/22 16:39	
Lead	ug/L	ND	1.0	08/23/22 16:39	
Molybdenum	ug/L	ND	1.0	08/23/22 16:39	

LABORATORY CONTROL SAMPLE: 3182598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	43.0	107	80-120	
Arsenic	ug/L	40	40.4	101	80-120	
Barium	ug/L	40	40.2	100	80-120	
Beryllium	ug/L	40	41.3	103	80-120	
Cadmium	ug/L	40	39.4	99	80-120	
Cobalt	ug/L	40	42.2	105	80-120	
Lead	ug/L	40	42.0	105	80-120	
Molybdenum	ug/L	40	41.3	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3182599 3182600

Parameter	Units	50323735001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<2.0	40	40	43.9	43.8	109	109	75-125	0	20	
Arsenic	ug/L	7.2	40	40	48.8	48.6	104	103	75-125	0	20	
Barium	ug/L	54.3	40	40	97.5	97.2	108	107	75-125	0	20	
Beryllium	ug/L	<1.0	40	40	42.3	42.3	106	106	75-125	0	20	
Cadmium	ug/L	<1.0	40	40	40.0	40.0	100	100	75-125	0	20	
Cobalt	ug/L	<1.0	40	40	39.4	39.5	96	97	75-125	0	20	
Lead	ug/L	8.4	40	40	51.4	51.3	108	107	75-125	0	20	
Molybdenum	ug/L	2.8	40	40	44.6	44.6	105	105	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

QC Batch: 692729
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50323932001

METHOD BLANK: 3185535 Matrix: Water
Associated Lab Samples: 50323932001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	08/25/22 09:35	

LABORATORY CONTROL SAMPLE: 3185536

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	289	96	80-120	

SAMPLE DUPLICATE: 3185537

Parameter	Units	50323915005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	371	376	1	10	

SAMPLE DUPLICATE: 3185538

Parameter	Units	50323965001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	60000	59400	1	10	

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

QC Batch: 692104
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50323932001

SAMPLE DUPLICATE: 3182845

Parameter	Units	50323881001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.8	1	2	H3

SAMPLE DUPLICATE: 3182964

Parameter	Units	50323833004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.0	1	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

Sample: GWP-101S **Lab ID: 50323932001** Collected: 08/18/22 14:26 Received: 08/19/22 14:48 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	**0.0396 ± 0.544 (0.845) C:NA T:96%**	pCi/L	09/05/22 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.583 ± 0.391 (0.749) C:77% T:85%**	pCi/L	09/08/22 12:40	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.623 ± 0.935 (1.59)**	pCi/L	09/09/22 14:59	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

QC Batch: 529431
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50323932001

METHOD BLANK: 2568108
Matrix: Water
Associated Lab Samples: 50323932001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.489 ± 0.358 (0.702) C:74% T:94%	pCi/L	09/08/22 12:39	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

QC Batch: 529430
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50323932001

METHOD BLANK: 2568107
Matrix: Water
Associated Lab Samples: 50323932001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0603 ± 0.275 (0.444) C:NA T:100%	pCi/L	09/05/22 12:41	

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QUALIFIERS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

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

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323932

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50323932001	**GWP-101S**	EPA 9056	692077		
50323932001	**GWP-101S**	EPA 3010	692190	EPA 6010	692583
50323932001	**GWP-101S**	EPA 200.2	692030	EPA 6020	692329
50323932001	**GWP-101S**	EPA 903.1	529430		
50323932001	**GWP-101S**	EPA 904.0	529431		
50323932001	**GWP-101S**	Total Radium Calculation	531794		
50323932001	**GWP-101S**	SM 2540C	692729		
50323932001	**GWP-101S**	SM 4500-H+B	692104		

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CHAIN-OF-CUS

WO# : 50323932

50323932

The Chain-of-Custody is

ccurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the

-standard-terms.pdf.

Page : Of

Section A	Section B	Section
Required Client Information:	Required Project Information:	Invoi
Company: Atlas Indianapolis	Report To: Mark Breting	Attention:
Address: 7988 Centerpoint Drive	Copy To:	Company Name: Atlas Indianapolis
Suite 100, Indianapolis, IN 46256		Address:
Email: mark.breting@atcgs.com	Purchase Order #:	Pace Quote:
Phone: 317-313-8306 Fax:	Project Name: AES Petersburg 2022 App III&IV	Pace Project Manager: hayden.putt@pacelabs.com,
Requested Due Date: 5 day TAT	Project #:	Pace Profile #: 10498/19

Regulatory Agency

State / Location: IN

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total	TDS 2540C	pH/IC (Cl,F,SO4) 9056	Rad226/Rad228	Residual Chlorine (Y/N)
1	GWP-101S	WT	G			8/18/22	1426		5	2		3							X	X	X	X	
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
6010-B, Ca, Li 6020-Be, Cr, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb 7470-Hg		8/19/22	1448		8/19/22	1448	0.6	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mohammed Bazkamit

SIGNATURE of SAMPLER:

DATE Signed: 8/19/2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 8/19/22 @1540 DF

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(s):** 0.6/0.6 | | | | **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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)		X	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.**			
Short Hold Time Analysis (48 hours or less)? Analysis:		X	**Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	X		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			X
Rush TAT Requested (4 days or less):		X	Residual Chlorine Check (Total/Amenable/Free Cyanide)			X
Custody Signatures Present?	X		Headspace Wisconsin Sulfide?			X
Containers Intact?:	X		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent X
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID		X	Trip Blank Present?		X	
Extra labels on Terracore Vials? (soils only)		NA	Trip Blank Custody Seals?:			X

COMMENTS:

COC time (1426), container time (1422)

2x BP3U have no times

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

			VIALS						AMBER GLASS							PLASTIC									OTHER								
		MeOH (only)																												Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																												Red	Yellow	Green	Black
COC Line Item	WGFU	DI 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 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																	2		2	1									WT	✓			
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

September 13, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2022. 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. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
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CERTIFICATIONS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

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 #: 460198
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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7726 Moller Road
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(317)228-3100

SAMPLE SUMMARY

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50323934001	**GWP-109S**	Water	08/17/22 14:32	08/19/22 15:30
50323934002	**GWP-109I**	Water	08/17/22 16:13	08/19/22 15:30
50323934003	**GWP-109D**	Water	08/18/22 08:28	08/19/22 15:30

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SAMPLE ANALYTE COUNT

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50323934001	**GWP-109S**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323934002	**GWP-109I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50323934003	**GWP-109D**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

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

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50323934001	**GWP-109S**					
EPA 9056	Chloride	6.2	mg/L	0.25	08/22/22 15:25	
EPA 9056	Fluoride	0.11	mg/L	0.10	08/22/22 15:25	
EPA 9056	Sulfate	352	mg/L	25.0	08/22/22 15:57	
EPA 6010	Boron	1420	ug/L	100	08/24/22 12:42	
EPA 6010	Calcium	275000	ug/L	2000	08/26/22 10:44	
EPA 6010	Lithium	31.9	ug/L	20.0	08/24/22 12:42	
EPA 6020	Arsenic	18.1	ug/L	1.0	08/23/22 16:52	
EPA 6020	Barium	229	ug/L	2.0	08/23/22 20:20	
EPA 6020	Beryllium	1.3	ug/L	0.20	08/23/22 16:52	
EPA 6020	Cadmium	0.45	ug/L	0.20	08/23/22 16:52	
EPA 6020	Cobalt	23.5	ug/L	1.0	08/23/22 16:52	
EPA 6020	Lead	22.9	ug/L	1.0	08/23/22 16:52	
EPA 6020	Molybdenum	2.4	ug/L	2.0	08/23/22 20:20	
EPA 903.1	Radium-226	1.39 ± 0.814 (0.935) C:NA T:97%	pCi/L		09/05/22 13:48	
EPA 904.0	Radium-228	1.67 ± 0.572 (0.818) C:69% T:90%	pCi/L		09/08/22 12:40	
Total Radium Calculation	Total Radium	3.06 ± 1.39 (1.75)	pCi/L		09/09/22 14:59	
SM 2540C	Total Dissolved Solids	668	mg/L	20.0	08/24/22 12:18	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/22/22 13:07	H3
50323934002	**GWP-109I**					
EPA 9056	Chloride	7.4	mg/L	0.25	08/22/22 16:14	
EPA 9056	Fluoride	0.11	mg/L	0.10	08/22/22 16:14	
EPA 9056	Sulfate	328	mg/L	25.0	08/23/22 11:39	
EPA 6010	Boron	1140	ug/L	100	08/24/22 12:44	
EPA 6010	Calcium	148000	ug/L	1000	08/24/22 12:44	
EPA 6020	Barium	81.0	ug/L	1.0	08/23/22 17:18	
EPA 6020	Cobalt	1.7	ug/L	1.0	08/23/22 17:18	
EPA 6020	Molybdenum	2.6	ug/L	1.0	08/23/22 17:18	
EPA 903.1	Radium-226	0.332 ± 0.516 (0.893) C:NA T:96%	pCi/L		09/05/22 12:41	
EPA 904.0	Radium-228	0.808 ± 0.411 (0.726) C:78% T:86%	pCi/L		09/08/22 12:40	
Total Radium Calculation	Total Radium	1.14 ± 0.927 (1.62)	pCi/L		09/09/22 14:59	
SM 2540C	Total Dissolved Solids	685	mg/L	10.0	08/24/22 12:19	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/22/22 13:08	H3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50323934003	**GWP-109D**					
EPA 9056	Chloride	8.5	mg/L	0.25	08/22/22 17:33	
EPA 9056	Fluoride	0.11	mg/L	0.10	08/22/22 17:33	
EPA 9056	Sulfate	341	mg/L	25.0	08/23/22 11:55	
EPA 6010	Boron	1460	ug/L	100	09/12/22 17:26	
EPA 6010	Calcium	160000	ug/L	1000	09/12/22 17:26	
EPA 6020	Barium	80.0	ug/L	1.0	08/23/22 17:22	
EPA 6020	Molybdenum	1.9	ug/L	1.0	08/23/22 17:22	
EPA 903.1	Radium-226	0.309 ± 0.355 (0.210) C:NA T:95%	pCi/L		09/05/22 12:41	
EPA 904.0	Radium-228	0.648 ± 0.381 (0.706) C:76% T:90%	pCi/L		09/08/22 12:40	
Total Radium Calculation	Total Radium	0.957 ± 0.736 (0.916)	pCi/L		09/09/22 14:59	
SM 2540C	Total Dissolved Solids	723	mg/L	10.0	08/25/22 09:42	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/22/22 13:08	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

Sample: GWP-109S **Lab ID: 50323934001** Collected: 08/17/22 14:32 Received: 08/19/22 15:30 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	**6.2**	mg/L	0.25	1		08/22/22 15:25	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		08/22/22 15:25	16984-48-8	
Sulfate	**352**	mg/L	25.0	100		08/22/22 15:57	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1420**	ug/L	100	1	08/24/22 07:20	08/24/22 12:42	7440-42-8	
Calcium	**275000**	ug/L	2000	2	08/24/22 07:20	08/26/22 10:44	7440-70-2	
Lithium	**31.9**	ug/L	20.0	1	08/24/22 07:20	08/24/22 12:42	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:52	7440-36-0	
Arsenic	**18.1**	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:52	7440-38-2	
Barium	**229**	ug/L	2.0	2	08/22/22 22:30	08/23/22 20:20	7440-39-3	
Beryllium	**1.3**	ug/L	0.20	1	08/22/22 22:30	08/23/22 16:52	7440-41-7	
Cadmium	**0.45**	ug/L	0.20	1	08/22/22 22:30	08/23/22 16:52	7440-43-9	
Cobalt	**23.5**	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:52	7440-48-4	
Lead	**22.9**	ug/L	1.0	1	08/22/22 22:30	08/23/22 16:52	7439-92-1	
Molybdenum	**2.4**	ug/L	2.0	2	08/22/22 22:30	08/23/22 20:20	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**668**	mg/L	20.0	1		08/24/22 12:18		
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		08/22/22 13:07		H3

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

Sample: GWP-109I **Lab ID: 50323934002** Collected: 08/17/22 16:13 Received: 08/19/22 15:30 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	**7.4**	mg/L	0.25	1		08/22/22 16:14	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		08/22/22 16:14	16984-48-8	
Sulfate	**328**	mg/L	25.0	100		08/23/22 11:39	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1140**	ug/L	100	1	08/24/22 07:20	08/24/22 12:44	7440-42-8	
Calcium	**148000**	ug/L	1000	1	08/24/22 07:20	08/24/22 12:44	7440-70-2	
Lithium	ND	ug/L	20.0	1	08/24/22 07:20	08/24/22 12:44	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:18	7440-36-0	
Arsenic	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:18	7440-38-2	
Barium	**81.0**	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:18	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/22/22 22:30	08/23/22 17:18	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/22/22 22:30	08/23/22 17:18	7440-43-9	
Cobalt	**1.7**	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:18	7440-48-4	
Lead	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:18	7439-92-1	
Molybdenum	**2.6**	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:18	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**685**	mg/L	10.0	1		08/24/22 12:19		
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		08/22/22 13:08		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

Sample: GWP-109D **Lab ID: 50323934003** Collected: 08/18/22 08:28 Received: 08/19/22 15:30 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	**8.5**	mg/L	0.25	1		08/22/22 17:33	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		08/22/22 17:33	16984-48-8	
Sulfate	**341**	mg/L	25.0	100		08/23/22 11:55	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1460**	ug/L	100	1	09/10/22 10:25	09/12/22 17:26	7440-42-8	
Calcium	**160000**	ug/L	1000	1	09/10/22 10:25	09/12/22 17:26	7440-70-2	
Lithium	ND	ug/L	20.0	1	09/10/22 10:25	09/12/22 17:26	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:22	7440-36-0	
Arsenic	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:22	7440-38-2	
Barium	**80.0**	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:22	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/22/22 22:30	08/23/22 17:22	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/22/22 22:30	08/23/22 17:22	7440-43-9	
Cobalt	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:22	7440-48-4	
Lead	ND	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:22	7439-92-1	
Molybdenum	**1.9**	ug/L	1.0	1	08/22/22 22:30	08/23/22 17:22	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**723**	mg/L	10.0	1		08/25/22 09:42		
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		08/22/22 13:08		H3

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

QC Batch:	692077	Analysis Method:	EPA 9056
QC Batch Method:	EPA 9056	Analysis Description:	9056 IC Anions
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples:

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:	AES Petersburg 2022 App III&IV
Pace Project No.:	50323934

QC Batch:	692190	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples:

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

QC Batch:	695010	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples:

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

QC Batch:	692030	Analysis Method:	EPA 6020
QC Batch Method:	EPA 200.2	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples:

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

QC Batch:	692477	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples:

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

QC Batch:	692729	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Indianapolis

Associated Lab Samples:

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QUALITY CONTROL DATA

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

QC Batch:	692104	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:

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(317)228-3100

QUALIFIERS

Project: AES Petersburg 2022 App III&IV
Pace Project No.: 50323934

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

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WO# : 50323934

Pace

CHAIN-OF-CUSTODY / Analyti

The Chain-of-Custody is a LEGAL DOCUMENT

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Condition

50323934

Page: Of

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@atcgs.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES Petersburg 2022 App III&IV	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:	5 day TAT	Project #:		Pace Profile #:	10498/19

Regulatory Agency	
State / Location	IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total	TDS 2540C	pH/IC (Cl,F,SO4) 9056	Rad226/Rad228	Residual Chlorine (Y/N)	
1	GWP-109S	WT	G			8-17-22	1432		5	2		3							X	X	X	X		001
2	GWP-109I	↓	↓			8-17-22	1613		5	2		3							X	X	X	X		002
3	GWP-109D	↓	↓			8-18-22	828		5	2		3							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			
6010-B, Ca, Li 6020-Be, Cr, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb 7470-Hg		8-19-22	1455		8/19/22	14:55				
	Pace	8/19/22	1530	Pace	8/19/22	1530	2.7	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mohammed Bazlamit Colton Palmer

SIGNATURE of SAMPLER: DATE Signed: 8/19/22

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

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 8/19/22 @1604 DF

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(s):** 2.9 / 2.7 | | | **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

Cooler temp should be above freezing to 6°C

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)		X	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.**	X		
Short Hold Time Analysis (48 hours or less)? Analysis:		X	**Circle:** **HNO3 (<2)** **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:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			X
Rush TAT Requested (4 days or less):		X	Residual Chlorine Check (Total/Amenable/Free Cyanide)			X
Custody Signatures Present?	X		Headspace Wisconsin Sulfide?			X
Containers Intact?:	X		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent X
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	X		Trip Blank Present?		X	
Extra labels on Terracore Vials? (soils only)		NA	Trip Blank Custody Seals?:			X

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																												Red	Yellow	Green	Black
COC Line Item	WGFU	DI	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 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																	2		2	1								WT	✓			
2																	2		2	1								WT	✓			
3																	2		2	1								WT	✓			
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

AUGUST/OCTOBER 2022

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

September 15, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on August 25, 2022. 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. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

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 #: 460198
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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(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50324354001	**AP-11A**	Water	08/24/22 13:45	08/25/22 14:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50324354001	**AP-11A**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	MTM	1	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324354001	**AP-11A**					
EPA 9056	Chloride	8.7	mg/L	0.25	08/30/22 13:25	
EPA 9056	Fluoride	0.14	mg/L	0.10	08/30/22 13:25	
EPA 9056	Sulfate	402	mg/L	25.0	09/01/22 09:47	
EPA 6010	Aluminum	283	ug/L	200	08/26/22 15:33	
EPA 6010	Boron	1000	ug/L	100	08/26/22 15:33	
EPA 6010	Calcium	178000	ug/L	1000	08/26/22 15:33	
EPA 6010	Iron	14400	ug/L	100	08/26/22 15:33	
EPA 6010	Magnesium	60300	ug/L	1000	08/26/22 15:33	
EPA 6010	Manganese	894	ug/L	10.0	08/26/22 15:33	
EPA 6010	Potassium	1170	ug/L	1000	08/26/22 15:33	
EPA 6010	Silica	30000	ug/L	450	08/26/22 15:33	N2
EPA 6010	Sodium	8480	ug/L	1000	08/26/22 15:33	
EPA 6010	Manganese, Dissolved	833	ug/L	10.0	08/26/22 16:20	
EPA 6020	Barium	27.0	ug/L	1.0	08/29/22 11:30	
EPA 903.1	Radium-226	0.0547 ± 0.250 (0.148) C:NA T:86%	pCi/L		09/14/22 12:06	
EPA 904.0	Radium-228	-0.202 ± 0.581 (1.41) C:70% T:86%	pCi/L		09/08/22 20:51	
Total Radium Calculation	Total Radium	0.0547 ± 0.831 (1.56)	pCi/L		09/15/22 16:52	
SM 2320B	Alkalinity, Total as CaCO3	319	mg/L	10.0	08/26/22 15:58	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	319	mg/L	10.0	08/26/22 15:58	
SM 2540C	Total Dissolved Solids	922	mg/L	20.0	08/30/22 09:28	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	08/26/22 12:33	H3
EPA 365.1	Phosphate as P04	1.4	mg/L	0.15	08/30/22 15:39	
SM 5310C	Total Organic Carbon	2.4	mg/L	1.0	09/01/22 04:26	
SM 5310C	Dissolved Organic Carbon	3.2	mg/L	1.0	08/30/22 22:06	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

Sample: AP-11A **Lab ID: 50324354001** Collected: 08/24/22 13:45 Received: 08/25/22 14:20 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		08/30/22 13:25	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	1		08/30/22 13:25	16984-48-8	
Sulfate	**402**	mg/L	25.0	100		09/01/22 09:47	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**283**	ug/L	200	1	08/26/22 07:40	08/26/22 15:33	7429-90-5	
Boron	**1000**	ug/L	100	1	08/26/22 07:40	08/26/22 15:33	7440-42-8	
Calcium	**178000**	ug/L	1000	1	08/26/22 07:40	08/26/22 15:33	7440-70-2	
Iron	**14400**	ug/L	100	1	08/26/22 07:40	08/26/22 15:33	7439-89-6	
Lithium	ND	ug/L	20.0	1	08/26/22 07:40	08/26/22 15:33	7439-93-2	
Magnesium	**60300**	ug/L	1000	1	08/26/22 07:40	08/26/22 15:33	7439-95-4	
Manganese	**894**	ug/L	10.0	1	08/26/22 07:40	08/26/22 15:33	7439-96-5	
Potassium	**1170**	ug/L	1000	1	08/26/22 07:40	08/26/22 15:33	7440-09-7	
Silica	**30000**	ug/L	450	1	08/26/22 07:40	08/26/22 15:33	7631-86-9	N2
Sodium	**8480**	ug/L	1000	1	08/26/22 07:40	08/26/22 15:33	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**833**	ug/L	10.0	1	08/26/22 09:56	08/26/22 16:20	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	08/27/22 09:30	08/29/22 11:30	7440-36-0	
Arsenic	ND	ug/L	1.0	1	08/27/22 09:30	08/29/22 11:30	7440-38-2	
Barium	**27.0**	ug/L	1.0	1	08/27/22 09:30	08/29/22 11:30	7440-39-3	
Beryllium	ND	ug/L	0.20	1	08/27/22 09:30	08/29/22 11:30	7440-41-7	
Cadmium	ND	ug/L	0.20	1	08/27/22 09:30	08/29/22 11:30	7440-43-9	
Cobalt	ND	ug/L	1.0	1	08/27/22 09:30	08/29/22 11:30	7440-48-4	
Lead	ND	ug/L	1.0	1	08/27/22 09:30	08/29/22 11:30	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	08/27/22 09:30	08/29/22 11:30	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**319**	mg/L	10.0	1		08/26/22 15:58		
Alkalinity,Bicarbonate (CaCO3)	**319**	mg/L	10.0	1		08/26/22 15:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		08/26/22 15:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**922**	mg/L	20.0	1		08/30/22 09:28		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		08/31/22 21:01	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

Sample: AP-11A **Lab ID: 50324354001** Collected: 08/24/22 13:45 Received: 08/25/22 14:20 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		08/26/22 12:33		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		08/29/22 12:42	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		08/31/22 19:33	15438-31-0	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		08/25/22 18:08	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		08/25/22 18:08	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.4**	mg/L	0.15	1	08/29/22 11:00	08/30/22 15:39		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.4**	mg/L	1.0	1		09/01/22 04:26	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.2**	mg/L	1.0	1		08/30/22 22:06		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693353
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50324354001

METHOD BLANK: 3188341 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	08/30/22 12:50	
Fluoride	mg/L	ND	0.10	08/30/22 12:50	
Sulfate	mg/L	ND	0.25	08/30/22 12:50	

LABORATORY CONTROL SAMPLE: 3188342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	92	80-120	
Fluoride	mg/L	0.5	0.48	97	80-120	
Sulfate	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3188343 3188344

Parameter	Units	50324448012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	222000 ug/L	125	125	339	338	94	93	80-120	0	15	
Fluoride	mg/L	1580 ug/L	0.5	0.5	2.1	2.1	100	102	80-120	0	15	
Sulfate	mg/L	1880000 ug/L	250	250	2100	2100	90	89	80-120	0	15	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 692883
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3186204 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	08/26/22 12:29	
Boron	ug/L	ND	100	08/26/22 12:29	
Calcium	ug/L	ND	1000	08/26/22 12:29	
Iron	ug/L	ND	100	08/26/22 12:29	
Lithium	ug/L	ND	20.0	08/26/22 12:29	
Magnesium	ug/L	ND	1000	08/26/22 12:29	
Manganese	ug/L	ND	10.0	08/26/22 12:29	
Potassium	ug/L	ND	1000	08/26/22 12:29	
Silica	ug/L	ND	450	08/26/22 12:29	N2
Sodium	ug/L	ND	1000	08/26/22 12:29	

LABORATORY CONTROL SAMPLE: 3186205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9560	96	80-120	
Boron	ug/L	1000	964	96	80-120	
Calcium	ug/L	10000	9750	98	80-120	
Iron	ug/L	10000	9620	96	80-120	
Lithium	ug/L	1000	970	97	80-120	
Magnesium	ug/L	10000	9250	93	80-120	
Manganese	ug/L	1000	949	95	80-120	
Potassium	ug/L	10000	9140	91	80-120	
Silica	ug/L	10700	10800	101	80-120	N2
Sodium	ug/L	10000	9370	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186206 3186207

Parameter	Units	50324186002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9690	99	96	75-125	3	20	
Boron	ug/L	ND	1000	1000	1020	982	101	97	75-125	3	20	
Calcium	ug/L	136000	10000	10000	144000	142000	72	56	75-125	1	20	P6
Iron	ug/L	455	10000	10000	10100	9770	96	93	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1020	992	102	99	75-125	3	20	
Magnesium	ug/L	8390	10000	10000	17600	17100	92	87	75-125	3	20	
Manganese	ug/L	3240	1000	1000	4120	4060	88	82	75-125	1	20	
Potassium	ug/L	ND	10000	10000	10700	10400	99	96	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186206 3186207

Parameter	Units	50324186002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	10900	10700	10700	22300	21800	107	102	75-125	2	20	N2
Sodium	ug/L	15700	10000	10000	25800	25200	102	95	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186208 3186209

Parameter	Units	50324226001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	42400	10000	10000	65100	66500	227	241	75-125	2	20	P6
Boron	ug/L	216	1000	1000	1270	1260	105	105	75-125	0	20	
Calcium	ug/L	522000	10000	10000	542000	545000	191	224	75-125	1	20	E,P6
Iron	ug/L	72400	10000	10000	83000	83800	106	114	75-125	1	20	
Lithium	ug/L	73.0	1000	1000	1160	1150	108	108	75-125	0	20	
Magnesium	ug/L	245000	10000	10000	259000	258000	141	134	75-125	0	20	P6
Manganese	ug/L	1560	1000	1000	2520	2540	96	98	75-125	1	20	
Potassium	ug/L	12300	10000	10000	26800	27500	145	152	75-125	3	20	M3
Silica	ug/L	102000	10700	10700	206000	186000	966	784	75-125	10	20	N2
Sodium	ug/L	136000	10000	10000	153000	154000	165	180	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 692882
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3186197 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	08/26/22 12:12	

LABORATORY CONTROL SAMPLE: 3186198

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	945	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186199 3186200

Parameter	Units	50323907001 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	222	1000	1000	1170	1210	95	99	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 692926
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50324354001

METHOD BLANK: 3186415 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	08/29/22 10:38	
Arsenic	ug/L	ND	1.0	08/29/22 10:38	
Barium	ug/L	ND	1.0	08/29/22 10:38	
Beryllium	ug/L	ND	0.20	08/29/22 10:38	
Cadmium	ug/L	ND	0.20	08/29/22 10:38	
Cobalt	ug/L	ND	1.0	08/29/22 10:38	
Lead	ug/L	ND	1.0	08/29/22 10:38	
Molybdenum	ug/L	ND	1.0	08/29/22 10:38	

LABORATORY CONTROL SAMPLE: 3186416

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.4	103	80-120	
Arsenic	ug/L	40	38.4	96	80-120	
Barium	ug/L	40	39.3	98	80-120	
Beryllium	ug/L	40	38.7	97	80-120	
Cadmium	ug/L	40	38.5	96	80-120	
Cobalt	ug/L	40	40.6	102	80-120	
Lead	ug/L	40	40.7	102	80-120	
Molybdenum	ug/L	40	40.8	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186417 3186418

Parameter	Units	50324071007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<5.0	40	40	41.4	41.6	104	104	75-125	0	20	
Arsenic	ug/L	<2.0	40	40	38.7	39.5	97	99	75-125	2	20	
Barium	ug/L	6.9	40	40	45.3	46.9	96	100	75-125	4	20	
Beryllium	ug/L	<1.0	40	40	38.0	39.2	95	98	75-125	3	20	
Cadmium	ug/L	<0.50	40	40	38.5	39.6	96	99	75-125	3	20	
Cobalt	ug/L	<1.0	40	40	40.0	41.3	100	103	75-125	3	20	
Lead	ug/L	<1.0	40	40	40.1	41.6	100	104	75-125	4	20	
Molybdenum	ug/L	<1.0	40	40	40.9	40.7	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693050
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3187062 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	08/26/22 15:58	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	08/26/22 15:58	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	08/26/22 15:58	

LABORATORY CONTROL SAMPLE: 3187063

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.8	100	90-110	

SAMPLE DUPLICATE: 3187064

Parameter	Units	50324269006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	220	223	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	220	223	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693409
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3188450 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	08/30/22 09:19	

LABORATORY CONTROL SAMPLE: 3188451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	281	94	80-120	

SAMPLE DUPLICATE: 3188452

Parameter	Units	50324268012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	298	291	2	10	

SAMPLE DUPLICATE: 3188453

Parameter	Units	50324319018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	630	620	2	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693824
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3190218 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	08/31/22 20:55	H3

LABORATORY CONTROL SAMPLE: 3190219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	1.0	100	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3190220 3190221

Parameter	Units	50324047005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.90	0.91	90	91	90-110	1	20	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693008
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50324354001

SAMPLE DUPLICATE: 3186792

Parameter	Units	50324197001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	2	H3

SAMPLE DUPLICATE: 3186793

Parameter	Units	50324242001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.1	0	2	H3

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693239
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3187981 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	08/29/22 12:42	

LABORATORY CONTROL SAMPLE: 3187982

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.54	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3187983 3187984

Parameter	Units	50324452003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	<1.0	0.5	0.5	0.51	0.53	102	106	90-110	3	20	

MATRIX SPIKE SAMPLE: 3187985

Parameter	Units	50324471001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.20	0.5	0.66	91	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693818
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50324354001

METHOD BLANK: 3190197 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	08/31/22 19:30	H3,N2

LABORATORY CONTROL SAMPLE: 3190198

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: 3190199 3190200

Parameter	Units	50324242002 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	1.0	1.1	101	106	90-110	5	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3190201 3190202

Parameter	Units	50324465001 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	0.98	1.0	98	103	90-110	4	20	H3,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 692871
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3186100 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	08/25/22 18:04	
Nitrogen, Nitrite	mg/L	ND	0.10	08/25/22 18:04	

LABORATORY CONTROL SAMPLE: 3186101

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.96	96	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186102 3186103

Parameter	Units	50324354001 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	0.94	0.93	94	93	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	100	101	90-110	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693225
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3187954 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	08/30/22 15:32	

LABORATORY CONTROL SAMPLE: 3187955

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3187956 3187957

Parameter	Units	50324354001 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	1.4			3.0	3.0				2		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693688
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3189524 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/01/22 01:12	

LABORATORY CONTROL SAMPLE: 3189525

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3189526 3189527

Parameter	Units	50323771001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	6.7	20	20	27.6	27.1	105	102	80-120	2	20	

MATRIX SPIKE SAMPLE: 3189528

Parameter	Units	50323771005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	7.1	10	17.3	102	80-120	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 693259
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324354001

METHOD BLANK: 3188045 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	08/30/22 19:34	

LABORATORY CONTROL SAMPLE: 3188046

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: 3188058 3188059

Parameter	Units	50323737007 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	18.2	20	20	38.2	38.4	100	101	80-120	1	20	

MATRIX SPIKE SAMPLE: 3188060

Parameter	Units	50323737008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	8.5	10	18.4	99	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

Sample: AP-11A **Lab ID: 50324354001** Collected: 08/24/22 13:45 Received: 08/25/22 14:20 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	**0.0547 ± 0.250 (0.148) C:NA T:86%**	pCi/L	09/14/22 12:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.202 ± 0.581 (1.41) C:70% T:86%**	pCi/L	09/08/22 20:51	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0547 ± 0.831 (1.56)**	pCi/L	09/15/22 16:52	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 529441
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50324354001

METHOD BLANK: 2568117 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.227 ± 0.323 (0.546) C:NA T:94%	pCi/L	09/14/22 11:38	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

QC Batch: 529442
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50324354001

METHOD BLANK: 2568118 Matrix: Water
Associated Lab Samples: 50324354001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.203 ± 0.300 (0.745) C:73% T:94%	pCi/L	09/08/22 16:23	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

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

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.
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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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324354

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324354001	**AP-11A**	EPA 9056	693353		
50324354001	**AP-11A**	EPA 3010	692883	EPA 6010	693024
50324354001	**AP-11A**	EPA 3010	692882	EPA 6010	693021
50324354001	**AP-11A**	EPA 200.2	692926	EPA 6020	693196
50324354001	**AP-11A**	EPA 903.1	529441		
50324354001	**AP-11A**	EPA 904.0	529442		
50324354001	**AP-11A**	Total Radium Calculation	533244		
50324354001	**AP-11A**	SM 2320B	693050		
50324354001	**AP-11A**	SM 2540C	693409		
50324354001	**AP-11A**	SM 4500-Cl G	693824		
50324354001	**AP-11A**	SM 4500-H+B	693008		
50324354001	**AP-11A**	SM 4500-S2-D	693239		
50324354001	**AP-11A**	HACH 8146	693818		
50324354001	**AP-11A**	EPA 353.2	692871		
50324354001	**AP-11A**	EPA 365.1	693225	EPA 365.1	693597
50324354001	**AP-11A**	SM 5310C	693688		
50324354001	**AP-11A**	SM 5310C	693259		

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Pace

CHAIN-OF-CUSTODY / Analytical Request Do

WO# : 50324354

50324354

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacela

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Water	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/21

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate,Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum		Residual Chlorine (Y/N)	
1	AP-11A					8.24.22	1345		11										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb		8.25.22	800		8/25/22	1340				
Alkalinity - Total, Carb and Bicarb		8/25/22	1420		8/25/22	1420	0.6	Y	N	Y
[5 day TAT]										

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:						
SIGNATURE of SAMPLER:	DATE Signed: 8.24.22					

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 8/25/22 @1443 DF

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(s):** 0.6 / 0.4 (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. **Packing Material:** ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☒ Other plastic bag

6. **Ice Type:** ☒ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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)		X	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** Circle: ~~HNO3 (<2)~~ H2SO4 (<2) NaOH (>10) ~~NaOH/ZnAc (>9)~~ Any non-conformance to pH recommendations will be noted on the container count form	X		
Short Hold Time Analysis (48 hours or less)? Analysis: Nitrate	X					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 16:20			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			X
Rush TAT Requested (4 days or less):		X	Residual Chlorine Check (Total/Amenable/Free Cyanide)			X
Custody Signatures Present?	X		Headspace Wisconsin Sulfide?			X
				Present	Absent	No VOA Vials Sent
Containers Intact?:	X		Headspace in VOA Vials (>6mm): See Containter Count form for details			X
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	X		Trip Blank Present?		X	
Extra labels on Terracore Vials? (soils only)		NA	Trip Blank Custody Seals?:			X

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		MeOH (only)		VIALS						AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																													Red	Yellow	Green	Black
COC Line Item	WGFU	DI	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 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1													1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
GN	General	AG3C	250mL NaOH amber glass

Plastic

BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
BP1U	1L unpreserved plastic		
BP1Z	1L NaOH, Zn, Ac		
BP2N	500mL HNO3 plastic		
BP2C	500mL NaOH plastic		
BP2S	500mL H2SO4 plastic		
BP2U	500mL unpreserved plastic		
BP2Z	500mL NaOH, Zn Ac		
BP3B	250mL NaOH plastic		
BP3N	250mL HNO3 plastic		
BP3F	250mL HNO3 plastic-field filtered		
BP3U	250mL unpreserved plastic		
BP3S	250mL H2SO4 plastic		
BP3Z	250mL NaOH, ZnAc plastic		

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 01, 2022. 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. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

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 #: 460198
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: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50324864001	**MW-36A**	Water	08/31/22 13:11	09/01/22 15:15

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50324864001	**MW-36A**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324864001	**MW-36A**					
EPA 9056	Chloride	7.6	mg/L	0.25	09/06/22 16:34	
EPA 9056	Sulfate	348	mg/L	25.0	09/06/22 17:09	
EPA 6010	Boron	1090	ug/L	100	09/08/22 17:52	
EPA 6010	Calcium	146000	ug/L	1000	09/08/22 17:52	
EPA 6010	Iron	7750	ug/L	100	09/08/22 17:52	
EPA 6010	Magnesium	41800	ug/L	1000	09/08/22 17:52	
EPA 6010	Manganese	404	ug/L	10.0	09/08/22 17:52	
EPA 6010	Potassium	1610	ug/L	1000	09/08/22 17:52	
EPA 6010	Silica	13100	ug/L	450	09/08/22 17:52	N2
EPA 6010	Sodium	8070	ug/L	1000	09/08/22 17:52	
EPA 6010	Manganese, Dissolved	407	ug/L	10.0	09/06/22 22:23	
EPA 6020	Barium	53.9	ug/L	1.0	09/08/22 00:19	
EPA 6020	Molybdenum	1.3	ug/L	1.0	09/08/22 00:19	
EPA 903.1	Radium-226	0.167 ± 0.568 (1.10) C:NA T:98%	pCi/L		09/16/22 14:09	
EPA 904.0	Radium-228	1.13 ± 0.593 (1.06) C:71% T:91%	pCi/L		09/22/22 15:27	
Total Radium Calculation	Total Radium	1.30 ± 1.16 (2.16)	pCi/L		09/23/22 13:21	
SM 2320B	Alkalinity, Total as CaCO3	221	mg/L	10.0	09/02/22 12:36	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	221	mg/L	10.0	09/02/22 12:36	
SM 2540C	Total Dissolved Solids	711	mg/L	10.0	09/07/22 09:37	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/02/22 11:03	H3
EPA 365.1	Phosphate as P04	0.31	mg/L	0.15	09/08/22 16:59	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	09/07/22 23:31	
SM 5310C	Dissolved Organic Carbon	1.7	mg/L	1.0	09/06/22 19:01	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

Sample: MW-36A **Lab ID: 50324864001** Collected: 08/31/22 13:11 Received: 09/01/22 15:15 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	**7.6**	mg/L	0.25	1		09/06/22 16:34	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/06/22 16:34	16984-48-8	
Sulfate	**348**	mg/L	25.0	100		09/06/22 17:09	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/08/22 08:30	09/08/22 17:52	7429-90-5	
Boron	**1090**	ug/L	100	1	09/08/22 08:30	09/08/22 17:52	7440-42-8	
Calcium	**146000**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:52	7440-70-2	
Iron	**7750**	ug/L	100	1	09/08/22 08:30	09/08/22 17:52	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/08/22 08:30	09/08/22 17:52	7439-93-2	
Magnesium	**41800**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:52	7439-95-4	
Manganese	**404**	ug/L	10.0	1	09/08/22 08:30	09/08/22 17:52	7439-96-5	
Potassium	**1610**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:52	7440-09-7	
Silica	**13100**	ug/L	450	1	09/08/22 08:30	09/08/22 17:52	7631-86-9	N2
Sodium	**8070**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:52	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**407**	ug/L	10.0	1	09/06/22 09:29	09/06/22 22:23	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:19	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:19	7440-38-2	
Barium	**53.9**	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:19	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/06/22 15:37	09/08/22 00:19	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/06/22 15:37	09/08/22 00:19	7440-43-9	
Cobalt	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:19	7440-48-4	
Lead	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:19	7439-92-1	
Molybdenum	**1.3**	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:19	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**221**	mg/L	10.0	1		09/02/22 12:36		
Alkalinity,Bicarbonate (CaCO3)	**221**	mg/L	10.0	1		09/02/22 12:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/02/22 12:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**711**	mg/L	10.0	1		09/07/22 09:37		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/09/22 10:16	7782-50-5	H3

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

Sample: MW-36A **Lab ID: 50324864001** Collected: 08/31/22 13:11 Received: 09/01/22 15:15 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		09/02/22 11:03		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/06/22 10:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/08/22 15:59	15438-31-0	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		09/01/22 20:55	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/01/22 20:55	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.31**	mg/L	0.15	1	09/06/22 11:30	09/08/22 16:59		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.1**	mg/L	1.0	1		09/07/22 23:31	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		09/06/22 19:01		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694234
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3192244 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/06/22 11:00	
Fluoride	mg/L	ND	0.10	09/06/22 11:00	
Sulfate	mg/L	ND	0.25	09/06/22 11:00	

LABORATORY CONTROL SAMPLE: 3192245

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	90	80-120	
Fluoride	mg/L	0.5	0.47	93	80-120	
Sulfate	mg/L	2.5	2.4	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192246 3192247

Parameter	Units	50324625001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	37.8	12.5	12.5	48.6	48.6	87	87	80-120	0	15	
Fluoride	mg/L	0.16	0.5	0.5	0.64	0.64	96	95	80-120	0	15	
Sulfate	mg/L	35.7	25	25	58.0	58.0	89	89	80-120	0	15	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 693578
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3189169 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/08/22 16:56	
Boron	ug/L	ND	100	09/08/22 16:56	
Calcium	ug/L	ND	1000	09/08/22 16:56	
Iron	ug/L	ND	100	09/08/22 16:56	
Lithium	ug/L	ND	20.0	09/08/22 16:56	
Magnesium	ug/L	ND	1000	09/08/22 16:56	
Manganese	ug/L	ND	10.0	09/08/22 16:56	
Potassium	ug/L	ND	1000	09/08/22 16:56	
Silica	ug/L	ND	450	09/08/22 16:56	N2
Sodium	ug/L	ND	1000	09/08/22 16:56	

LABORATORY CONTROL SAMPLE: 3189170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	80-120	
Boron	ug/L	1000	990	99	80-120	
Calcium	ug/L	10000	9950	100	80-120	
Iron	ug/L	10000	9480	95	80-120	
Lithium	ug/L	1000	979	98	80-120	
Magnesium	ug/L	10000	9720	97	80-120	
Manganese	ug/L	1000	950	95	80-120	
Potassium	ug/L	10000	9650	97	80-120	
Silica	ug/L	10700	10300	96	80-120	N2
Sodium	ug/L	10000	9900	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3189171 3189172

Parameter	Units	50324294005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10200	9830	102	98	75-125	4	20	
Boron	ug/L	447	1000	1000	1430	1400	98	95	75-125	2	20	
Calcium	ug/L	126000	10000	10000	134000	129000	79	29	75-125	4	20	P6
Iron	ug/L	2420	10000	10000	11800	11300	94	89	75-125	4	20	
Lithium	ug/L	ND	1000	1000	986	962	99	96	75-125	3	20	
Magnesium	ug/L	24500	10000	10000	33500	32400	90	79	75-125	3	20	
Manganese	ug/L	235	1000	1000	1150	1120	92	89	75-125	3	20	
Potassium	ug/L	19700	10000	10000	29600	28600	99	89	75-125	4	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3189171 3189172

Parameter	Units	50324294005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	13300	10700	10700	21800	22600	80	88	75-125	4	20	N2
Sodium	ug/L	33800	10000	10000	43200	42100	94	83	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694114
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3191387 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	09/06/22 21:21	

LABORATORY CONTROL SAMPLE: 3191388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	993	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3191389 3191390

Parameter	Units	50324467001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	0.28 mg/L	1000	1000	1250	1260	97	98	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694274
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50324864001

METHOD BLANK: 3192407 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/08/22 00:05	
Arsenic	ug/L	ND	1.0	09/08/22 00:05	
Barium	ug/L	ND	1.0	09/08/22 00:05	
Beryllium	ug/L	ND	0.20	09/08/22 00:05	
Cadmium	ug/L	ND	0.20	09/08/22 00:05	
Cobalt	ug/L	ND	1.0	09/08/22 00:05	
Lead	ug/L	ND	1.0	09/08/22 00:05	
Molybdenum	ug/L	ND	1.0	09/08/22 00:05	

LABORATORY CONTROL SAMPLE: 3192408

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.8	100	80-120	
Arsenic	ug/L	40	39.3	98	80-120	
Barium	ug/L	40	38.9	97	80-120	
Beryllium	ug/L	40	39.9	100	80-120	
Cadmium	ug/L	40	37.9	95	80-120	
Cobalt	ug/L	40	41.9	105	80-120	
Lead	ug/L	40	40.0	100	80-120	
Molybdenum	ug/L	40	38.6	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192409 3192410

Parameter	Units	50324465001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.8	42.6	107	106	75-125	1	20	
Arsenic	ug/L	ND	40	40	38.8	39.1	97	97	75-125	1	20	
Barium	ug/L	37.8	40	40	72.4	73.3	87	89	75-125	1	20	
Beryllium	ug/L	ND	40	40	40.7	40.5	102	101	75-125	1	20	
Cadmium	ug/L	ND	40	40	37.1	37.2	93	93	75-125	0	20	
Cobalt	ug/L	ND	40	40	38.8	39.3	96	98	75-125	1	20	
Lead	ug/L	ND	40	40	39.4	40.1	98	100	75-125	2	20	
Molybdenum	ug/L	8.0	40	40	48.0	49.4	100	103	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694113
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3191382 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	09/02/22 12:36	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	09/02/22 12:36	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	09/02/22 12:36	

LABORATORY CONTROL SAMPLE: 3191383

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.5	107	90-110	

SAMPLE DUPLICATE: 3191384

Parameter	Units	50324896001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	87.0	88.6	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	87.0	88.6	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694489
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3193013 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/07/22 09:29	

LABORATORY CONTROL SAMPLE: 3193014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	280	93	80-120	

SAMPLE DUPLICATE: 3193015

Parameter	Units	50324837003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	296	292	1	10	

SAMPLE DUPLICATE: 3193016

Parameter	Units	50324864001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	711	707	1	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694981
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3195192 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	09/09/22 10:15	H3

LABORATORY CONTROL SAMPLE: 3195193

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	1.0	101	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195194 3195195

Parameter	Units	50324896003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.82	0.82	82	82	90-110	0	20	H3,M3

MATRIX SPIKE SAMPLE: 3195196

Parameter	Units	50324958001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	ND	1	0.44	41	90-110	H3,M0

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694102
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50324864001

SAMPLE DUPLICATE: 3191338

Parameter	Units	50324864001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

SAMPLE DUPLICATE: 3191339

Parameter	Units	50324837003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	0	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694314
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3192511 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/06/22 10:01	

LABORATORY CONTROL SAMPLE: 3192512

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192513 3192514

Parameter	Units	50324864001 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	0.52	0.51	101	99	90-110	3	20	

MATRIX SPIKE SAMPLE: 3192515

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.45	90	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694837
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50324864001

METHOD BLANK: 3194387 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	09/08/22 15:52	H3,N2

LABORATORY CONTROL SAMPLE: 3194388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.95	95	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194389 3194390

Parameter	Units	50324896003 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	0.94	0.97	94	97	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 3194391

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	108	90-110	H3,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694042
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3191182 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/01/22 20:49	
Nitrogen, Nitrite	mg/L	ND	0.10	09/01/22 20:49	

LABORATORY CONTROL SAMPLE: 3191183

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	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3191184 3191185

Parameter	Units	50324864001 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	107	107	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	109	109	90-110	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694312
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3192501 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/08/22 16:52	

LABORATORY CONTROL SAMPLE: 3192502

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192503 3192504

Parameter	Units	50324864001 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	0.31			1.9	1.8				2		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694580
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3193270 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/07/22 18:28	

LABORATORY CONTROL SAMPLE: 3193271

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193272 3193273

Parameter	Units	50324448012 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	1290J ug/L	40	40	40.1	40.0	97	97	80-120	0	20	

MATRIX SPIKE SAMPLE: 3193274

Parameter	Units	50324448014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1250J ug/L	40	40.0	97	80-120	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 694094
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324864001

METHOD BLANK: 3191309 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/06/22 18:39	

LABORATORY CONTROL SAMPLE: 3191310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3191311 3191312

Parameter	Units	50324864001 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	1.7	10	10	12.8	12.7	111	110	80-120	1	20	

MATRIX SPIKE SAMPLE: 3191313

Parameter	Units	50324471007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	3.3	10	14.2	110	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

Sample: MW-36A **Lab ID: 50324864001** Collected: 08/31/22 13:11 Received: 09/01/22 15:15 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	**0.167 ± 0.568 (1.10) C:NA T:98%**	pCi/L	09/16/22 14:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.13 ± 0.593 (1.06) C:71% T:91%**	pCi/L	09/22/22 15:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.30 ± 1.16 (2.16)**	pCi/L	09/23/22 13:21	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 530869
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50324864001

METHOD BLANK: 2574646
Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.638 ± 0.422 (0.805) C:75% T:78%	pCi/L	09/22/22 12:20	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

QC Batch: 530867
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50324864001

METHOD BLANK: 2574643 Matrix: Water
Associated Lab Samples: 50324864001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.217 ± 0.375 (0.670) C:NA T:81%	pCi/L	09/16/22 13:46	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324864

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324864001	**MW-36A**	EPA 9056	694234		
50324864001	**MW-36A**	EPA 3010	693578	EPA 6010	694858
50324864001	**MW-36A**	EPA 3010	694114	EPA 6010	694470
50324864001	**MW-36A**	EPA 200.2	694274	EPA 6020	694477
50324864001	**MW-36A**	EPA 903.1	530867		
50324864001	**MW-36A**	EPA 904.0	530869		
50324864001	**MW-36A**	Total Radium Calculation	535043		
50324864001	**MW-36A**	SM 2320B	694113		
50324864001	**MW-36A**	SM 2540C	694489		
50324864001	**MW-36A**	SM 4500-Cl G	694981		
50324864001	**MW-36A**	SM 4500-H+B	694102		
50324864001	**MW-36A**	SM 4500-S2-D	694314		
50324864001	**MW-36A**	HACH 8146	694837		
50324864001	**MW-36A**	EPA 353.2	694042		
50324864001	**MW-36A**	EPA 365.1	694312	EPA 365.1	694896
50324864001	**MW-36A**	SM 5310C	694580		
50324864001	**MW-36A**	SM 5310C	694094		

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CHAIN-OF-CUSTODY / Analytical Request Doc

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must b

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacel

WO# : 50324864

50324864

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7968 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Water	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/21

Regulatory Agency	
State / Location	
	IN

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate, Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum		Residual Chlorine (Y/N)	
1	MW-36A	WT	G			8-31-22	1311		11	3	3	4		1				X	X	X	X	X	X	X	X	X	X			
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb		8-31-22			9/1/22	1340				
Alkalinity - Total, Carb and Bicarb		9/1/22	1515		9/1/22	1515	1.2	Y	N	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:						
SIGNATURE of SAMPLER:		DATE Signed: 8-31-22				

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 8/11/22 1540

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(s):** 1.2 / 1.2 **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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

	Yes	No
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO2 / NO3	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 16:20	
Rush TAT Requested (4 days or less):		✓
Custody Signatures Present?	✓	
Containers Intact?:	✓	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓	
Extra labels on Terracore Vials? (soils only)		✓

	Yes	No	N/A
All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
	Present	Absent	N/A
Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Headspace Wisconsin Sulfide?			✓
	Present	Absent	No VOA Vials Sent
Headspace in VOA Vials (>6mm): See Containter Count form for details			✓
Trip Blank Present?		✓	
Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		VIALS						AMBER GLASS							PLASTIC									OTHER				Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
COC Line Item	WGFU	MeOH (only) SBS DI 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							
1												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 02, 2022. 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. Robert Miller, Haley & Aldrich

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Pace Analytical Services, LLC
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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

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 #: 460198
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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50324896001	**MW37A**	Water	09/01/22 13:40	09/02/22 09:20
50324896002	**MW36I**	Water	09/01/22 11:31	09/02/22 09:20
50324896003	**MW36B**	Water	09/01/22 09:40	09/02/22 09:20

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50324896001	**MW37A**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50324896002	**MW36I**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50324896003	**MW36B**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324896001	**MW37A**					
EPA 9056	Chloride	58.9	mg/L	2.5	09/04/22 12:26	
EPA 9056	Fluoride	0.11	mg/L	0.10	09/04/22 12:09	
EPA 9056	Sulfate	1890	mg/L	25.0	09/04/22 12:44	
EPA 6010	Aluminum	384	ug/L	200	09/08/22 17:56	
EPA 6010	Boron	13400	ug/L	100	09/08/22 17:56	
EPA 6010	Calcium	644000	ug/L	5000	09/08/22 19:11	
EPA 6010	Iron	13900	ug/L	100	09/08/22 17:56	
EPA 6010	Magnesium	22100	ug/L	1000	09/08/22 17:56	
EPA 6010	Manganese	1540	ug/L	10.0	09/08/22 17:56	
EPA 6010	Potassium	2570	ug/L	1000	09/08/22 17:56	
EPA 6010	Silica	14600	ug/L	450	09/08/22 17:56	N2
EPA 6010	Sodium	57600	ug/L	1000	09/08/22 17:56	
EPA 6010	Manganese, Dissolved	1600	ug/L	10.0	09/10/22 03:56	
EPA 6020	Barium	50.9	ug/L	1.0	09/08/22 00:34	
EPA 6020	Cobalt	1.1	ug/L	1.0	09/08/22 00:34	
EPA 6020	Molybdenum	193	ug/L	1.0	09/08/22 00:34	
EPA 903.1	Radium-226	0.000 ± 0.561 (1.16) C:NA T:91%	pCi/L		09/16/22 14:24	
EPA 904.0	Radium-228	0.195 ± 0.584 (1.31) C:68% T:83%	pCi/L		09/22/22 15:27	
Total Radium Calculation	Total Radium	0.195 ± 1.15 (2.47)	pCi/L		09/23/22 13:21	
SM 2320B	Alkalinity, Total as CaCO3	87.0	mg/L	10.0	09/02/22 12:36	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	87.0	mg/L	10.0	09/02/22 12:36	
SM 2540C	Total Dissolved Solids	2590	mg/L	40.0	09/07/22 10:00	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/06/22 13:37	H3
HACH 8146	Iron, Ferrous	1.4	mg/L	0.50	09/08/22 16:05	H3,N2
SM 5310C	Total Organic Carbon	2.3	mg/L	1.0	09/08/22 23:34	
SM 5310C	Dissolved Organic Carbon	3.5	mg/L	1.0	09/09/22 01:28	
50324896002	**MW36I**					
EPA 9056	Chloride	8.5	mg/L	0.25	09/04/22 13:36	
EPA 9056	Sulfate	325	mg/L	25.0	09/04/22 14:11	
EPA 6010	Boron	1000	ug/L	100	09/08/22 17:58	
EPA 6010	Calcium	142000	ug/L	1000	09/08/22 17:58	
EPA 6010	Iron	4680	ug/L	100	09/08/22 17:58	
EPA 6010	Magnesium	40100	ug/L	1000	09/08/22 17:58	
EPA 6010	Manganese	696	ug/L	10.0	09/08/22 17:58	
EPA 6010	Potassium	1700	ug/L	1000	09/08/22 17:58	
EPA 6010	Silica	12600	ug/L	450	09/08/22 17:58	N2
EPA 6010	Sodium	7500	ug/L	1000	09/08/22 17:58	
EPA 6010	Manganese, Dissolved	691	ug/L	10.0	09/10/22 03:58	
EPA 6020	Barium	78.4	ug/L	1.0	09/08/22 00:38	
EPA 6020	Molybdenum	1.1	ug/L	1.0	09/08/22 00:38	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324896002	**MW36I**					
EPA 903.1	Radium-226	-0.0871 ± 0.567 (1.23) C:NA T:93%	pCi/L		09/16/22 14:24	
EPA 904.0	Radium-228	-0.0113 ± 0.494 (1.15) C:70% T:89%	pCi/L		09/22/22 15:27	
Total Radium Calculation	Total Radium	0.000 ± 1.06 (2.38)	pCi/L		09/23/22 13:21	
SM 2320B	Alkalinity, Total as CaCO3	259	mg/L	10.0	09/02/22 12:36	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	259	mg/L	10.0	09/02/22 12:36	
SM 2540C	Total Dissolved Solids	670	mg/L	10.0	09/07/22 10:00	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	09/06/22 13:39	H3
EPA 365.1	Phosphate as P04	0.19	mg/L	0.15	09/09/22 14:15	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	09/08/22 23:43	
50324896003	**MW36B**					
EPA 9056	Chloride	5.7	mg/L	0.25	09/04/22 14:28	
EPA 9056	Fluoride	0.17	mg/L	0.10	09/04/22 14:28	
EPA 9056	Sulfate	26.7	mg/L	2.5	09/04/22 14:46	
EPA 6010	Aluminum	583	ug/L	200	09/08/22 18:00	
EPA 6010	Calcium	82700	ug/L	1000	09/08/22 18:00	
EPA 6010	Iron	374	ug/L	100	09/08/22 18:00	
EPA 6010	Magnesium	27000	ug/L	1000	09/08/22 18:00	
EPA 6010	Manganese	175	ug/L	10.0	09/08/22 18:00	
EPA 6010	Silica	16900	ug/L	450	09/08/22 18:00	N2
EPA 6010	Sodium	28200	ug/L	1000	09/08/22 18:00	
EPA 6010	Manganese, Dissolved	167	ug/L	10.0	09/10/22 04:00	
EPA 6020	Barium	88.3	ug/L	1.0	09/08/22 00:43	
EPA 6020	Molybdenum	4.6	ug/L	1.0	09/08/22 00:43	
EPA 903.1	Radium-226	0.0862 ± 0.696 (1.37) C:NA T:86%	pCi/L		09/16/22 14:24	
EPA 904.0	Radium-228	0.427 ± 0.482 (1.01) C:74% T:93%	pCi/L		09/22/22 15:27	
Total Radium Calculation	Total Radium	0.513 ± 1.18 (2.38)	pCi/L		09/23/22 13:21	
SM 2320B	Alkalinity, Total as CaCO3	331	mg/L	10.0	09/02/22 12:36	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	331	mg/L	10.0	09/02/22 12:36	
SM 2540C	Total Dissolved Solids	397	mg/L	10.0	09/07/22 10:00	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	09/06/22 13:39	H3
EPA 353.2	Nitrogen, Nitrate	5.6	mg/L	0.50	09/02/22 18:41	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Sample: MW37A **Lab ID: 50324896001** Collected: 09/01/22 13:40 Received: 09/02/22 09:20 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	**58.9**	mg/L	2.5	10		09/04/22 12:26	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		09/04/22 12:09	16984-48-8	
Sulfate	**1890**	mg/L	25.0	100		09/04/22 12:44	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**384**	ug/L	200	1	09/08/22 08:30	09/08/22 17:56	7429-90-5	
Boron	**13400**	ug/L	100	1	09/08/22 08:30	09/08/22 17:56	7440-42-8	
Calcium	**644000**	ug/L	5000	5	09/08/22 08:30	09/08/22 19:11	7440-70-2	
Iron	**13900**	ug/L	100	1	09/08/22 08:30	09/08/22 17:56	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/08/22 08:30	09/08/22 17:56	7439-93-2	
Magnesium	**22100**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:56	7439-95-4	
Manganese	**1540**	ug/L	10.0	1	09/08/22 08:30	09/08/22 17:56	7439-96-5	
Potassium	**2570**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:56	7440-09-7	
Silica	**14600**	ug/L	450	1	09/08/22 08:30	09/08/22 17:56	7631-86-9	N2
Sodium	**57600**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:56	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1600**	ug/L	10.0	1	09/09/22 09:05	09/10/22 03:56	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:34	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:34	7440-38-2	
Barium	**50.9**	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:34	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/06/22 15:37	09/08/22 00:34	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/06/22 15:37	09/08/22 00:34	7440-43-9	
Cobalt	**1.1**	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:34	7440-48-4	
Lead	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:34	7439-92-1	
Molybdenum	**193**	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:34	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**87.0**	mg/L	10.0	1		09/02/22 12:36		
Alkalinity,Bicarbonate (CaCO3)	**87.0**	mg/L	10.0	1		09/02/22 12:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/02/22 12:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2590**	mg/L	40.0	1		09/07/22 10:00		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/09/22 10:19	7782-50-5	H3

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Sample: MW37A **Lab ID: 50324896001** Collected: 09/01/22 13:40 Received: 09/02/22 09:20 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		09/06/22 13:37		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/06/22 10:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.4**	mg/L	0.50	2.5		09/08/22 16:05	15438-31-0	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		09/02/22 18:22	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/02/22 18:22	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	09/08/22 21:00	09/09/22 14:14		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.3**	mg/L	1.0	1		09/08/22 23:34	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.5**	mg/L	1.0	1		09/09/22 01:28		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Sample: MW36I **Lab ID: 50324896002** Collected: 09/01/22 11:31 Received: 09/02/22 09:20 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	**8.5**	mg/L	0.25	1		09/04/22 13:36	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/04/22 13:36	16984-48-8	
Sulfate	**325**	mg/L	25.0	100		09/04/22 14:11	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/08/22 08:30	09/08/22 17:58	7429-90-5	
Boron	**1000**	ug/L	100	1	09/08/22 08:30	09/08/22 17:58	7440-42-8	
Calcium	**142000**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:58	7440-70-2	
Iron	**4680**	ug/L	100	1	09/08/22 08:30	09/08/22 17:58	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/08/22 08:30	09/08/22 17:58	7439-93-2	
Magnesium	**40100**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:58	7439-95-4	
Manganese	**696**	ug/L	10.0	1	09/08/22 08:30	09/08/22 17:58	7439-96-5	
Potassium	**1700**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:58	7440-09-7	
Silica	**12600**	ug/L	450	1	09/08/22 08:30	09/08/22 17:58	7631-86-9	N2
Sodium	**7500**	ug/L	1000	1	09/08/22 08:30	09/08/22 17:58	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**691**	ug/L	10.0	1	09/09/22 09:05	09/10/22 03:58	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:38	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:38	7440-38-2	
Barium	**78.4**	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:38	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/06/22 15:37	09/08/22 00:38	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/06/22 15:37	09/08/22 00:38	7440-43-9	
Cobalt	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:38	7440-48-4	
Lead	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:38	7439-92-1	
Molybdenum	**1.1**	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:38	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**259**	mg/L	10.0	1		09/02/22 12:36		
Alkalinity,Bicarbonate (CaCO3)	**259**	mg/L	10.0	1		09/02/22 12:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/02/22 12:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**670**	mg/L	10.0	1		09/07/22 10:00		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/09/22 10:19	7782-50-5	H3

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Sample: MW36I **Lab ID: 50324896002** Collected: 09/01/22 11:31 Received: 09/02/22 09:20 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		09/06/22 13:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/06/22 10:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/08/22 16:05	15438-31-0	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		09/02/22 18:17	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/02/22 18:17	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.19**	mg/L	0.15	1	09/08/22 21:00	09/09/22 14:15		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.2**	mg/L	1.0	1		09/08/22 23:43	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		09/09/22 02:33		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Sample: MW36B **Lab ID: 50324896003** Collected: 09/01/22 09:40 Received: 09/02/22 09:20 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	**5.7**	mg/L	0.25	1		09/04/22 14:28	16887-00-6	
Fluoride	**0.17**	mg/L	0.10	1		09/04/22 14:28	16984-48-8	
Sulfate	**26.7**	mg/L	2.5	10		09/04/22 14:46	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**583**	ug/L	200	1	09/08/22 08:30	09/08/22 18:00	7429-90-5	
Boron	ND	ug/L	100	1	09/08/22 08:30	09/08/22 18:00	7440-42-8	
Calcium	**82700**	ug/L	1000	1	09/08/22 08:30	09/08/22 18:00	7440-70-2	
Iron	**374**	ug/L	100	1	09/08/22 08:30	09/08/22 18:00	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/08/22 08:30	09/08/22 18:00	7439-93-2	
Magnesium	**27000**	ug/L	1000	1	09/08/22 08:30	09/08/22 18:00	7439-95-4	
Manganese	**175**	ug/L	10.0	1	09/08/22 08:30	09/08/22 18:00	7439-96-5	
Potassium	ND	ug/L	1000	1	09/08/22 08:30	09/08/22 18:00	7440-09-7	
Silica	**16900**	ug/L	450	1	09/08/22 08:30	09/08/22 18:00	7631-86-9	N2
Sodium	**28200**	ug/L	1000	1	09/08/22 08:30	09/08/22 18:00	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**167**	ug/L	10.0	1	09/09/22 09:05	09/10/22 04:00	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:43	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:43	7440-38-2	
Barium	**88.3**	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:43	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/06/22 15:37	09/08/22 00:43	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/06/22 15:37	09/08/22 00:43	7440-43-9	
Cobalt	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:43	7440-48-4	
Lead	ND	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:43	7439-92-1	
Molybdenum	**4.6**	ug/L	1.0	1	09/06/22 15:37	09/08/22 00:43	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**331**	mg/L	10.0	1		09/02/22 12:36		
Alkalinity,Bicarbonate (CaCO3)	**331**	mg/L	10.0	1		09/02/22 12:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/02/22 12:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**397**	mg/L	10.0	1		09/07/22 10:00		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/09/22 10:17	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Sample: MW36B **Lab ID: 50324896003** Collected: 09/01/22 09:40 Received: 09/02/22 09:20 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	**7.7**	Std. Units	0.10	1		09/06/22 13:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/06/22 10:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/08/22 16:00	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**5.6**	mg/L	0.50	5		09/02/22 18:41	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	5		09/02/22 18:41	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/08/22 21:00	09/09/22 14:16		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		09/08/22 23:53	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		09/09/22 03:43		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694233
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3192226 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/03/22 23:40	
Fluoride	mg/L	ND	0.10	09/03/22 23:40	
Sulfate	mg/L	ND	0.25	09/03/22 23:40	

LABORATORY CONTROL SAMPLE: 3192227

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	0.53	106	80-120	
Sulfate	mg/L	2.5	2.7	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192228 3192229

Parameter	Units	50324465001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.9	12.5	12.5	26.4	26.4	100	100	80-120	0	15	
Fluoride	mg/L	0.17	0.5	0.5	0.69	0.69	103	103	80-120	0	15	
Sulfate	mg/L	31.2	25	25	57.0	57.2	103	104	80-120	0	15	

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

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 693578
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3189169 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/08/22 16:56	
Boron	ug/L	ND	100	09/08/22 16:56	
Calcium	ug/L	ND	1000	09/08/22 16:56	
Iron	ug/L	ND	100	09/08/22 16:56	
Lithium	ug/L	ND	20.0	09/08/22 16:56	
Magnesium	ug/L	ND	1000	09/08/22 16:56	
Manganese	ug/L	ND	10.0	09/08/22 16:56	
Potassium	ug/L	ND	1000	09/08/22 16:56	
Silica	ug/L	ND	450	09/08/22 16:56	N2
Sodium	ug/L	ND	1000	09/08/22 16:56	

LABORATORY CONTROL SAMPLE: 3189170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	80-120	
Boron	ug/L	1000	990	99	80-120	
Calcium	ug/L	10000	9950	100	80-120	
Iron	ug/L	10000	9480	95	80-120	
Lithium	ug/L	1000	979	98	80-120	
Magnesium	ug/L	10000	9720	97	80-120	
Manganese	ug/L	1000	950	95	80-120	
Potassium	ug/L	10000	9650	97	80-120	
Silica	ug/L	10700	10300	96	80-120	N2
Sodium	ug/L	10000	9900	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3189171 3189172

Parameter	Units	50324294005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10200	9830	102	98	75-125	4	20	
Boron	ug/L	447	1000	1000	1430	1400	98	95	75-125	2	20	
Calcium	ug/L	126000	10000	10000	134000	129000	79	29	75-125	4	20	P6
Iron	ug/L	2420	10000	10000	11800	11300	94	89	75-125	4	20	
Lithium	ug/L	ND	1000	1000	986	962	99	96	75-125	3	20	
Magnesium	ug/L	24500	10000	10000	33500	32400	90	79	75-125	3	20	
Manganese	ug/L	235	1000	1000	1150	1120	92	89	75-125	3	20	
Potassium	ug/L	19700	10000	10000	29600	28600	99	89	75-125	4	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3189171 3189172

Parameter	Units	50324294005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	13300	10700	10700	21800	22600	80	88	75-125	4	20	N2
Sodium	ug/L	33800	10000	10000	43200	42100	94	83	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694764
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3194071 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	09/10/22 03:04	

LABORATORY CONTROL SAMPLE: 3194072

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	989	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194073 3194074

Parameter	Units	50324433001 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	140	1000	1000	1110	1110	97	97	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694274
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3192407 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/08/22 00:05	
Arsenic	ug/L	ND	1.0	09/08/22 00:05	
Barium	ug/L	ND	1.0	09/08/22 00:05	
Beryllium	ug/L	ND	0.20	09/08/22 00:05	
Cadmium	ug/L	ND	0.20	09/08/22 00:05	
Cobalt	ug/L	ND	1.0	09/08/22 00:05	
Lead	ug/L	ND	1.0	09/08/22 00:05	
Molybdenum	ug/L	ND	1.0	09/08/22 00:05	

LABORATORY CONTROL SAMPLE: 3192408

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.8	100	80-120	
Arsenic	ug/L	40	39.3	98	80-120	
Barium	ug/L	40	38.9	97	80-120	
Beryllium	ug/L	40	39.9	100	80-120	
Cadmium	ug/L	40	37.9	95	80-120	
Cobalt	ug/L	40	41.9	105	80-120	
Lead	ug/L	40	40.0	100	80-120	
Molybdenum	ug/L	40	38.6	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192409 3192410

Parameter	Units	50324465001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.8	42.6	107	106	75-125	1	20	
Arsenic	ug/L	ND	40	40	38.8	39.1	97	97	75-125	1	20	
Barium	ug/L	37.8	40	40	72.4	73.3	87	89	75-125	1	20	
Beryllium	ug/L	ND	40	40	40.7	40.5	102	101	75-125	1	20	
Cadmium	ug/L	ND	40	40	37.1	37.2	93	93	75-125	0	20	
Cobalt	ug/L	ND	40	40	38.8	39.3	96	98	75-125	1	20	
Lead	ug/L	ND	40	40	39.4	40.1	98	100	75-125	2	20	
Molybdenum	ug/L	8.0	40	40	48.0	49.4	100	103	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694113 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3191382 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	09/02/22 12:36	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	09/02/22 12:36	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	09/02/22 12:36	

LABORATORY CONTROL SAMPLE: 3191383

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.5	107	90-110	

SAMPLE DUPLICATE: 3191384

Parameter	Units	50324896001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	87.0	88.6	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	87.0	88.6	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694491 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3193019 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/07/22 09:52	

LABORATORY CONTROL SAMPLE: 3193020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	285	95	80-120	

SAMPLE DUPLICATE: 3193021

Parameter	Units	50324837001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	336	346	3	10	

SAMPLE DUPLICATE: 3193022

Parameter	Units	50324837002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	295	301	2	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694981 | Analysis Method: SM 4500-Cl G
QC Batch Method: SM 4500-Cl G | Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3195192 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	09/09/22 10:15	H3

LABORATORY CONTROL SAMPLE: 3195193

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	1.0	101	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195194 3195195

Parameter	Units	50324896003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.82	0.82	82	82	90-110	0	20	H3,M3

MATRIX SPIKE SAMPLE: 3195196

Parameter	Units	50324958001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	ND	1	0.44	41	90-110	H3,M0

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694345
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

SAMPLE DUPLICATE: 3192598

Parameter	Units	50324896001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	1	2	H3

SAMPLE DUPLICATE: 3192599

Parameter	Units	50324996001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.2	1	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694314
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3192511 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/06/22 10:01	

LABORATORY CONTROL SAMPLE: 3192512

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192513 3192514

Parameter	Units	50324864001 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	0.52	0.51	101	99	90-110	3	20	

MATRIX SPIKE SAMPLE: 3192515

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.45	90	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694837 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3194387 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	09/08/22 15:52	H3,N2

LABORATORY CONTROL SAMPLE: 3194388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.95	95	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194389 3194390

Parameter	Units	50324896003 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	0.94	0.97	94	97	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 3194391

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	108	90-110	H3,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694206
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3192022 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/02/22 18:05	
Nitrogen, Nitrite	mg/L	ND	0.10	09/02/22 18:05	

LABORATORY CONTROL SAMPLE: 3192023

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	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192024 3192025

Parameter	Units	50324896003 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	5.6	1	1	6.6	6.6	102	100	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	98	98	90-110	0	20	

MATRIX SPIKE SAMPLE: 3192026

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	4.9	1	5.5	62	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	98	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694900 | 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: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3194826 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/09/22 13:58	

LABORATORY CONTROL SAMPLE: 3194827

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194828 3194829

Parameter	Units	50324465001 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			1.4	1.5				4		

MATRIX SPIKE SAMPLE: 3194830

Parameter	Units	50324645001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	2.8		4.7			

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694800 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3194202 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/08/22 18:41	

LABORATORY CONTROL SAMPLE: 3194203

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: 3194204 3194205

Parameter	Units	50324465001 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	10.3	97	96	80-120	0	20	

MATRIX SPIKE SAMPLE: 3194206

Parameter	Units	50324465004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.3	10	11.9	96	80-120	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 694810
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 3194237 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/09/22 00:48	

LABORATORY CONTROL SAMPLE: 3194238

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: 3194239 3194240

Parameter	Units	50324896001 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	3.5	20	20	22.7	23.0	96	98	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Sample: MW37A **Lab ID: 50324896001** Collected: 09/01/22 13:40 Received: 09/02/22 09:20 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 ± 0.561 (1.16) C:NA T:91%**	pCi/L	09/16/22 14:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.195 ± 0.584 (1.31) C:68% T:83%**	pCi/L	09/22/22 15:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.195 ± 1.15 (2.47)**	pCi/L	09/23/22 13:21	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Sample: MW36I **Lab ID: 50324896002** Collected: 09/01/22 11:31 Received: 09/02/22 09:20 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	**-0.0871 ± 0.567 (1.23) C:NA T:93%**	pCi/L	09/16/22 14:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0113 ± 0.494 (1.15) C:70% T:89%**	pCi/L	09/22/22 15:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 1.06 (2.38)**	pCi/L	09/23/22 13:21	7440-14-4	

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Sample: MW36B **Lab ID: 50324896003** Collected: 09/01/22 09:40 Received: 09/02/22 09:20 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	**0.0862 ± 0.696 (1.37) C:NA T:86%**	pCi/L	09/16/22 14:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.427 ± 0.482 (1.01) C:74% T:93%**	pCi/L	09/22/22 15:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.513 ± 1.18 (2.38)**	pCi/L	09/23/22 13:21	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 530869
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 2574646 Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.638 ± 0.422 (0.805) C:75% T:78%	pCi/L	09/22/22 12:20	

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: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

QC Batch: 530867
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50324896001, 50324896002, 50324896003

METHOD BLANK: 2574643
Matrix: Water
Associated Lab Samples: 50324896001, 50324896002, 50324896003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.217 ± 0.375 (0.670) C:NA T:81%	pCi/L	09/16/22 13:46	

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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(317)228-3100

QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324896001	**MW37A**	EPA 9056	694233		
50324896002	**MW36I**	EPA 9056	694233		
50324896003	**MW36B**	EPA 9056	694233		
50324896001	**MW37A**	EPA 3010	693578	EPA 6010	694858
50324896002	**MW36I**	EPA 3010	693578	EPA 6010	694858
50324896003	**MW36B**	EPA 3010	693578	EPA 6010	694858
50324896001	**MW37A**	EPA 3010	694764	EPA 6010	695133
50324896002	**MW36I**	EPA 3010	694764	EPA 6010	695133
50324896003	**MW36B**	EPA 3010	694764	EPA 6010	695133
50324896001	**MW37A**	EPA 200.2	694274	EPA 6020	694477
50324896002	**MW36I**	EPA 200.2	694274	EPA 6020	694477
50324896003	**MW36B**	EPA 200.2	694274	EPA 6020	694477
50324896001	**MW37A**	EPA 903.1	530867		
50324896002	**MW36I**	EPA 903.1	530867		
50324896003	**MW36B**	EPA 903.1	530867		
50324896001	**MW37A**	EPA 904.0	530869		
50324896002	**MW36I**	EPA 904.0	530869		
50324896003	**MW36B**	EPA 904.0	530869		
50324896001	**MW37A**	Total Radium Calculation	535043		
50324896002	**MW36I**	Total Radium Calculation	535043		
50324896003	**MW36B**	Total Radium Calculation	535043		
50324896001	**MW37A**	SM 2320B	694113		
50324896002	**MW36I**	SM 2320B	694113		
50324896003	**MW36B**	SM 2320B	694113		
50324896001	**MW37A**	SM 2540C	694491		
50324896002	**MW36I**	SM 2540C	694491		
50324896003	**MW36B**	SM 2540C	694491		
50324896001	**MW37A**	SM 4500-Cl G	694981		
50324896002	**MW36I**	SM 4500-Cl G	694981		
50324896003	**MW36B**	SM 4500-Cl G	694981		
50324896001	**MW37A**	SM 4500-H+B	694345		
50324896002	**MW36I**	SM 4500-H+B	694345		
50324896003	**MW36B**	SM 4500-H+B	694345		
50324896001	**MW37A**	SM 4500-S2-D	694314		
50324896002	**MW36I**	SM 4500-S2-D	694314		
50324896003	**MW36B**	SM 4500-S2-D	694314		
50324896001	**MW37A**	HACH 8146	694837		
50324896002	**MW36I**	HACH 8146	694837		
50324896003	**MW36B**	HACH 8146	694837		
50324896001	**MW37A**	EPA 353.2	694206		
50324896002	**MW36I**	EPA 353.2	694206		
50324896003	**MW36B**	EPA 353.2	694206		

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324896

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324896001	**MW37A**	EPA 365.1	694900	EPA 365.1	695068
50324896002	**MW36I**	EPA 365.1	694900	EPA 365.1	695068
50324896003	**MW36B**	EPA 365.1	694900	EPA 365.1	695068
50324896001	**MW37A**	SM 5310C	694800		
50324896002	**MW36I**	SM 5310C	694800		
50324896003	**MW36B**	SM 5310C	694800		
50324896001	**MW37A**	SM 5310C	694810		
50324896002	**MW36I**	SM 5310C	694810		
50324896003	**MW36B**	SM 5310C	694810		

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Pace

CHAIN-OF-CUSTODY / Analytical Request Do

WO# : 50324896

50324896

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mus

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pac

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax	Project Name:	AES PB 2022 On-Site MW Water	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/21

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate,Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW37A	WT	G			9/1	1340		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		001
2	MW36I	WT	G			9/1	1131		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		002
3	MW36B	WT	G			9/1	~~0910~~		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		003
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb	Mohammed Barkmit	9/11/2022	1500	fedex						
Alkalinity - Total, Carb and Bicarb	fedex			Amber Hardin	9/2/22	0920	0.1	Y	Y	Y
							0.6	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:	Mohammed Barkmit					
SIGNATURE of SAMPLER:		DATE Signed: 9/11/2022				

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 09/2/22 10:02 AH

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(s):** 0.1/0.1 | 0.6/0.6 | | | **(Initial/Corrected)** ~~RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)~~

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
   Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.**			
Short Hold Time Analysis (48 hours or less)? **Analysis:** Nitrate	✓		Circle: HNO3 (<2) 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: 1030			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)		✓	
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID		✓	Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS: Sample Pt M36I Time on Containers says 0940 COC Says 1131 / Sample Pt M36B time on Containers Say 11:31 COC says 0940. (AH 9/2/22)

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	MeOH (only) / SBS / DI / R	VIALS: DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	Syringe Kit			Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
2												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
3												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 02, 2022. 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. Robert Miller, Haley & Aldrich

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

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 #: 460198
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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7726 Moller Road
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(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50324958001	**MW37I**	Water	09/02/22 09:05	09/02/22 14:51
50324958002	**MW37B**	Water	09/02/22 10:35	09/02/22 14:51

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50324958001	**MW37I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50324958002	**MW37B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW, DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324958001	**MW37I**					
EPA 9056	Chloride	55.4	mg/L	2.5	09/12/22 19:00	
EPA 9056	Sulfate	1590	mg/L	25.0	09/12/22 19:16	
EPA 6010	Boron	12600	ug/L	100	09/15/22 23:09	
EPA 6010	Calcium	676000	ug/L	5000	09/15/22 23:14	
EPA 6010	Iron	9010	ug/L	100	09/15/22 23:09	
EPA 6010	Magnesium	26500	ug/L	1000	09/15/22 23:09	
EPA 6010	Manganese	2400	ug/L	10.0	09/15/22 23:09	
EPA 6010	Potassium	5620	ug/L	1000	09/15/22 23:09	
EPA 6010	Silica	12200	ug/L	450	09/15/22 23:09	N2
EPA 6010	Sodium	49700	ug/L	1000	09/15/22 23:09	
EPA 6010	Manganese, Dissolved	2360	ug/L	10.0	09/16/22 02:43	
EPA 6020	Barium	41.4	ug/L	1.0	09/10/22 12:36	
EPA 6020	Cobalt	1.1	ug/L	1.0	09/10/22 12:36	
EPA 6020	Molybdenum	93.1	ug/L	1.0	09/10/22 12:36	
EPA 903.1	Radium-226	0.554 ± 0.679 (1.12) C:NA T:97%	pCi/L		09/16/22 14:24	
EPA 904.0	Radium-228	0.402 ± 0.542 (1.16) C:67% T:88%	pCi/L		09/22/22 15:28	
Total Radium Calculation	Total Radium	0.956 ± 1.22 (2.28)	pCi/L		09/23/22 13:21	
SM 2320B	Alkalinity, Total as CaCO3	98.8	mg/L	10.0	09/03/22 11:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	98.8	mg/L	10.0	09/03/22 11:29	
SM 2540C	Total Dissolved Solids	2580	mg/L	40.0	09/07/22 10:04	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/06/22 13:45	H3
HACH 8146	Iron, Ferrous	1.2	mg/L	0.50	09/08/22 16:05	H3,N2
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	09/13/22 01:28	
SM 5310C	Dissolved Organic Carbon	1.3	mg/L	1.0	09/09/22 05:07	
50324958002	**MW37B**					
EPA 9056	Chloride	8.2	mg/L	0.25	09/12/22 19:32	
EPA 9056	Sulfate	101	mg/L	2.5	09/12/22 19:48	
EPA 6010	Boron	689	ug/L	100	09/15/22 23:11	
EPA 6010	Calcium	156000	ug/L	1000	09/15/22 23:11	
EPA 6010	Iron	247	ug/L	100	09/15/22 23:11	
EPA 6010	Magnesium	36800	ug/L	1000	09/15/22 23:11	
EPA 6010	Manganese	435	ug/L	10.0	09/15/22 23:11	
EPA 6010	Silica	14500	ug/L	450	09/15/22 23:11	N2
EPA 6010	Sodium	5840	ug/L	1000	09/15/22 23:11	
EPA 6010	Manganese, Dissolved	406	ug/L	10.0	09/16/22 02:45	
EPA 6020	Barium	68.3	ug/L	1.0	09/16/22 04:19	
EPA 6020	Molybdenum	1.1	ug/L	1.0	09/16/22 04:19	
EPA 903.1	Radium-226	0.290 ± 0.826 (1.53) C:NA T:86%	pCi/L		09/16/22 14:24	

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Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324958002	**MW37B**					
EPA 904.0	Radium-228	0.365 ± 0.386 (0.805) C:73% T:88%	pCi/L		09/22/22 12:23	
Total Radium Calculation	Total Radium	0.655 ± 1.21 (2.34)	pCi/L		09/23/22 13:21	
SM 2320B	Alkalinity, Total as CaCO3	385	mg/L	10.0	09/03/22 11:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	385	mg/L	10.0	09/03/22 11:29	
SM 2540C	Total Dissolved Solids	608	mg/L	10.0	09/07/22 10:04	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	09/06/22 13:46	H3
EPA 353.2	Nitrogen, Nitrate	4.9	mg/L	0.10	09/02/22 18:35	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	09/13/22 02:01	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Sample: MW37I **Lab ID: 50324958001** Collected: 09/02/22 09:05 Received: 09/02/22 14:51 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	**55.4**	mg/L	2.5	10		09/12/22 19:00	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/12/22 18:44	16984-48-8	
Sulfate	**1590**	mg/L	25.0	100		09/12/22 19:16	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/15/22 09:13	09/15/22 23:09	7429-90-5	
Boron	**12600**	ug/L	100	1	09/15/22 09:13	09/15/22 23:09	7440-42-8	
Calcium	**676000**	ug/L	5000	5	09/15/22 09:13	09/15/22 23:14	7440-70-2	
Iron	**9010**	ug/L	100	1	09/15/22 09:13	09/15/22 23:09	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/15/22 09:13	09/15/22 23:09	7439-93-2	
Magnesium	**26500**	ug/L	1000	1	09/15/22 09:13	09/15/22 23:09	7439-95-4	
Manganese	**2400**	ug/L	10.0	1	09/15/22 09:13	09/15/22 23:09	7439-96-5	
Potassium	**5620**	ug/L	1000	1	09/15/22 09:13	09/15/22 23:09	7440-09-7	
Silica	**12200**	ug/L	450	1	09/15/22 09:13	09/15/22 23:09	7631-86-9	N2
Sodium	**49700**	ug/L	1000	1	09/15/22 09:13	09/15/22 23:09	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2360**	ug/L	10.0	1	09/15/22 09:05	09/16/22 02:43	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:36	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:36	7440-38-2	
Barium	**41.4**	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:36	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/09/22 07:20	09/12/22 15:06	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/09/22 07:20	09/10/22 12:36	7440-43-9	
Cobalt	**1.1**	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:36	7440-48-4	
Lead	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:36	7439-92-1	
Molybdenum	**93.1**	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:36	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**98.8**	mg/L	10.0	1		09/03/22 11:29		
Alkalinity,Bicarbonate (CaCO3)	**98.8**	mg/L	10.0	1		09/03/22 11:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/03/22 11:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2580**	mg/L	40.0	1		09/07/22 10:04		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/09/22 10:20	7782-50-5	H3

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Sample: MW37I **Lab ID: 50324958001** Collected: 09/02/22 09:05 Received: 09/02/22 14:51 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		09/06/22 13:45		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/06/22 10:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**1.2**	mg/L	0.50	2.5		09/08/22 16:05	15438-31-0	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		09/02/22 18:33	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/02/22 18:33	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	09/13/22 09:30	09/14/22 13:15		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.2**	mg/L	1.0	1		09/13/22 01:28	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.3**	mg/L	1.0	1		09/09/22 05:07		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Sample: MW37B **Lab ID: 50324958002** Collected: 09/02/22 10:35 Received: 09/02/22 14:51 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	**8.2**	mg/L	0.25	1		09/12/22 19:32	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/12/22 19:32	16984-48-8	
Sulfate	**101**	mg/L	2.5	10		09/12/22 19:48	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/15/22 09:13	09/15/22 23:11	7429-90-5	
Boron	**689**	ug/L	100	1	09/15/22 09:13	09/15/22 23:11	7440-42-8	
Calcium	**156000**	ug/L	1000	1	09/15/22 09:13	09/15/22 23:11	7440-70-2	
Iron	**247**	ug/L	100	1	09/15/22 09:13	09/15/22 23:11	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/15/22 09:13	09/15/22 23:11	7439-93-2	
Magnesium	**36800**	ug/L	1000	1	09/15/22 09:13	09/15/22 23:11	7439-95-4	
Manganese	**435**	ug/L	10.0	1	09/15/22 09:13	09/15/22 23:11	7439-96-5	
Potassium	ND	ug/L	1000	1	09/15/22 09:13	09/15/22 23:11	7440-09-7	
Silica	**14500**	ug/L	450	1	09/15/22 09:13	09/15/22 23:11	7631-86-9	N2
Sodium	**5840**	ug/L	1000	1	09/15/22 09:13	09/15/22 23:11	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**406**	ug/L	10.0	1	09/15/22 09:05	09/16/22 02:45	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/09/22 07:20	09/16/22 04:19	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/09/22 07:20	09/16/22 04:19	7440-38-2	
Barium	**68.3**	ug/L	1.0	1	09/09/22 07:20	09/16/22 04:19	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/09/22 07:20	09/16/22 04:19	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/09/22 07:20	09/16/22 04:19	7440-43-9	
Cobalt	ND	ug/L	1.0	1	09/09/22 07:20	09/16/22 04:19	7440-48-4	
Lead	ND	ug/L	1.0	1	09/09/22 07:20	09/16/22 04:19	7439-92-1	
Molybdenum	**1.1**	ug/L	1.0	1	09/09/22 07:20	09/16/22 04:19	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**385**	mg/L	10.0	1		09/03/22 11:29		
Alkalinity,Bicarbonate (CaCO3)	**385**	mg/L	10.0	1		09/03/22 11:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/03/22 11:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**608**	mg/L	10.0	1		09/07/22 10:04		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/09/22 10:30	7782-50-5	H3

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(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Sample: MW37B **Lab ID: 50324958002** Collected: 09/02/22 10:35 Received: 09/02/22 14:51 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		09/06/22 13:46		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/06/22 10:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/08/22 16:05	15438-31-0	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		09/02/22 18:35	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/02/22 18:35	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	09/13/22 09:30	09/14/22 13:31		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.3**	mg/L	1.0	1		09/13/22 02:01	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		09/09/22 05:33		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694411
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3192810 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/14/22 10:38	
Fluoride	mg/L	ND	0.10	09/14/22 10:38	
Sulfate	mg/L	ND	0.25	09/14/22 10:38	

LABORATORY CONTROL SAMPLE: 3192811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	92	80-120	
Fluoride	mg/L	0.5	0.50	100	80-120	
Sulfate	mg/L	2.5	2.6	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192812 3192813

Parameter	Units	50324834008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.4	1.2	1.2	3.6	3.7	92	103	80-120	4	15	
Fluoride	mg/L	ND	0.5	0.5	0.43	0.43	87	87	80-120	0	15	
Sulfate	mg/L	6.9	2.5	2.5	9.2	9.3	91	96	80-120	2	15	

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

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 695607
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3198231 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/15/22 23:05	
Boron	ug/L	ND	100	09/15/22 23:05	
Calcium	ug/L	ND	1000	09/15/22 23:05	
Iron	ug/L	ND	100	09/15/22 23:05	
Lithium	ug/L	ND	20.0	09/15/22 23:05	
Magnesium	ug/L	ND	1000	09/15/22 23:05	
Manganese	ug/L	ND	10.0	09/15/22 23:05	
Potassium	ug/L	ND	1000	09/15/22 23:05	
Silica	ug/L	ND	450	09/15/22 23:05	N2
Sodium	ug/L	ND	1000	09/15/22 23:05	

LABORATORY CONTROL SAMPLE: 3198232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	80-120	
Boron	ug/L	1000	1020	102	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Iron	ug/L	10000	10200	102	80-120	
Lithium	ug/L	1000	1040	104	80-120	
Magnesium	ug/L	10000	9880	99	80-120	
Manganese	ug/L	1000	1020	102	80-120	
Potassium	ug/L	10000	10400	104	80-120	
Silica	ug/L	10700	10300	97	80-120	N2
Sodium	ug/L	10000	10200	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198233 3198234

Parameter	Units	50324837003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	9950	10200	99	102	75-125	2	20	
Boron	ug/L	ND	1000	1000	1030	1070	101	105	75-125	3	20	
Calcium	ug/L	81.9 mg/L	10000	10000	89200	94800	73	129	75-125	6	20	P6
Iron	ug/L	2.1 mg/L	10000	10000	12000	12400	99	103	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1030	1050	103	105	75-125	2	20	
Magnesium	ug/L	22.5 mg/L	10000	10000	31600	33200	92	107	75-125	5	20	
Manganese	ug/L	0.083 mg/L	1000	1000	1070	1100	99	102	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198233 3198234

Parameter	Units	50324837003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Potassium	ug/L	ND	10000	10000	11000	11300	103	106	75-125	3	20	
Silica	ug/L	17.1 mg/L	10700	10700	26800	28200	90	103	75-125	5	20	N2
Sodium	ug/L	6.8 mg/L	10000	10000	16600	17200	98	104	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 695595
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3198198 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	09/16/22 01:55	

LABORATORY CONTROL SAMPLE: 3198199

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198200 3198201

Parameter	Units	50324837003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	0.082 mg/L	1000	1000	1090	1100	101	102	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694723
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3193935 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/10/22 11:45	
Arsenic	ug/L	ND	1.0	09/10/22 11:45	
Barium	ug/L	ND	1.0	09/10/22 11:45	
Beryllium	ug/L	ND	0.20	09/10/22 11:45	
Cadmium	ug/L	ND	0.20	09/10/22 11:45	
Cobalt	ug/L	ND	1.0	09/10/22 11:45	
Lead	ug/L	ND	1.0	09/10/22 11:45	
Molybdenum	ug/L	ND	1.0	09/10/22 11:45	

LABORATORY CONTROL SAMPLE: 3193936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.4	104	80-120	
Arsenic	ug/L	40	37.9	95	80-120	
Barium	ug/L	40	39.6	99	80-120	
Beryllium	ug/L	40	38.6	96	80-120	
Cadmium	ug/L	40	40.4	101	80-120	
Cobalt	ug/L	40	40.7	102	80-120	
Lead	ug/L	40	40.6	101	80-120	
Molybdenum	ug/L	40	41.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193937 3193938

Parameter	Units	50325037001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.5	41.3	104	103	75-125	0	20	
Arsenic	ug/L	4.5	40	40	41.8	41.2	93	92	75-125	1	20	
Barium	ug/L	29.1	40	40	70.0	70.0	102	102	75-125	0	20	
Beryllium	ug/L	ND	40	40	43.1	42.7	108	107	75-125	1	20	CC
Cadmium	ug/L	ND	40	40	37.2	37.1	93	93	75-125	0	20	
Cobalt	ug/L	1.9	40	40	39.4	39.1	94	93	75-125	1	20	
Lead	ug/L	ND	40	40	40.8	40.8	102	102	75-125	0	20	
Molybdenum	ug/L	2.3	40	40	43.7	43.7	103	104	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694228
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3192180 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	09/03/22 11:29	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	09/03/22 11:29	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	09/03/22 11:29	

LABORATORY CONTROL SAMPLE: 3192181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.6	95	90-110	

SAMPLE DUPLICATE: 3192182

Parameter	Units	50324973014 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	387	398	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	387	398	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694491
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3193019 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/07/22 09:52	

LABORATORY CONTROL SAMPLE: 3193020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	285	95	80-120	

SAMPLE DUPLICATE: 3193021

Parameter	Units	50324837001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	336	346	3	10	

SAMPLE DUPLICATE: 3193022

Parameter	Units	50324837002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	295	301	2	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694981
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3195192 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	09/09/22 10:15	H3

LABORATORY CONTROL SAMPLE: 3195193

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	1.0	101	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195194 3195195

Parameter	Units	50324896003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.82	0.82	82	82	90-110	0	20	H3,M3

MATRIX SPIKE SAMPLE: 3195196

Parameter	Units	50324958001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	ND	1	0.44	41	90-110	H3,M0

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694345
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

SAMPLE DUPLICATE: 3192598

Parameter	Units	50324896001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	1	2	H3

SAMPLE DUPLICATE: 3192599

Parameter	Units	50324996001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.2	1	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694314
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3192511 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/06/22 10:01	

LABORATORY CONTROL SAMPLE: 3192512

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192513 3192514

Parameter	Units	50324864001 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	0.52	0.51	101	99	90-110	3	20	

MATRIX SPIKE SAMPLE: 3192515

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.45	90	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694837
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3194387 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	09/08/22 15:52	H3,N2

LABORATORY CONTROL SAMPLE: 3194388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.95	95	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194389 3194390

Parameter	Units	50324896003 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	0.94	0.97	94	97	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 3194391

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	108	90-110	H3,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694206
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3192022 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/02/22 18:05	
Nitrogen, Nitrite	mg/L	ND	0.10	09/02/22 18:05	

LABORATORY CONTROL SAMPLE: 3192023

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	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192024 3192025

Parameter	Units	50324896003 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	5.6	1	1	6.6	6.6	102	100	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	98	98	90-110	0	20	

MATRIX SPIKE SAMPLE: 3192026

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	4.9	1	5.5	62	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	98	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 695325
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001

METHOD BLANK: 3197095 Matrix: Water
Associated Lab Samples: 50324958001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/14/22 13:11	

LABORATORY CONTROL SAMPLE: 3197096

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197104 3197105

Parameter	Units	50324958001 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	1.4				3		

MATRIX SPIKE SAMPLE: 3197106

Parameter	Units	50325524001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.7			

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 695328
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958002

METHOD BLANK: 3197111 Matrix: Water
Associated Lab Samples: 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/14/22 13:29	

LABORATORY CONTROL SAMPLE: 3197112

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197113 3197114

Parameter	Units	50325588001 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	7.9			9.5	9.4				1		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 695237
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3196839 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/13/22 00:31	

LABORATORY CONTROL SAMPLE: 3196840

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.5	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196841 3196842

Parameter	Units	50325192001 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	12.3	20	20	33.0	32.4	103	100	80-120	2	20	

MATRIX SPIKE SAMPLE: 3196843

Parameter	Units	50325207001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	4.6	10	14.9	103	80-120	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 694810
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 3194237 Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/09/22 00:48	

LABORATORY CONTROL SAMPLE: 3194238

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: 3194239 3194240

Parameter	Units	50324896001 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	3.5	20	20	22.7	23.0	96	98	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Sample: MW37I **Lab ID: 50324958001** Collected: 09/02/22 09:05 Received: 09/02/22 14:51 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	**0.554 ± 0.679 (1.12) C:NA T:97%**	pCi/L	09/16/22 14:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.402 ± 0.542 (1.16) C:67% T:88%**	pCi/L	09/22/22 15:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.956 ± 1.22 (2.28)**	pCi/L	09/23/22 13:21	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Sample: MW37B **Lab ID: 50324958002** Collected: 09/02/22 10:35 Received: 09/02/22 14:51 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	**0.290 ± 0.826 (1.53) C:NA T:86%**	pCi/L	09/16/22 14:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.365 ± 0.386 (0.805) C:73% T:88%**	pCi/L	09/22/22 12:23	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.655 ± 1.21 (2.34)**	pCi/L	09/23/22 13:21	7440-14-4	

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 530869
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 2574646
Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.638 ± 0.422 (0.805) C:75% T:78%	pCi/L	09/22/22 12:20	

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

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(317)228-3100

QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

QC Batch: 530867
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50324958001, 50324958002

METHOD BLANK: 2574643
Matrix: Water
Associated Lab Samples: 50324958001, 50324958002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.217 ± 0.375 (0.670) C:NA T:81%	pCi/L	09/16/22 13:46	

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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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

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

CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50324958

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324958001	**MW37I**	EPA 9056	694411		
50324958002	**MW37B**	EPA 9056	694411		
50324958001	**MW37I**	EPA 3010	695607	EPA 6010	696073
50324958002	**MW37B**	EPA 3010	695607	EPA 6010	696073
50324958001	**MW37I**	EPA 3010	695595	EPA 6010	696078
50324958002	**MW37B**	EPA 3010	695595	EPA 6010	696078
50324958001	**MW37I**	EPA 200.2	694723	EPA 6020	695049
50324958002	**MW37B**	EPA 200.2	694723	EPA 6020	695049
50324958001	**MW37I**	EPA 903.1	530867		
50324958002	**MW37B**	EPA 903.1	530867		
50324958001	**MW37I**	EPA 904.0	530869		
50324958002	**MW37B**	EPA 904.0	530869		
50324958001	**MW37I**	Total Radium Calculation	535043		
50324958002	**MW37B**	Total Radium Calculation	535043		
50324958001	**MW37I**	SM 2320B	694228		
50324958002	**MW37B**	SM 2320B	694228		
50324958001	**MW37I**	SM 2540C	694491		
50324958002	**MW37B**	SM 2540C	694491		
50324958001	**MW37I**	SM 4500-Cl G	694981		
50324958002	**MW37B**	SM 4500-Cl G	694981		
50324958001	**MW37I**	SM 4500-H+B	694345		
50324958002	**MW37B**	SM 4500-H+B	694345		
50324958001	**MW37I**	SM 4500-S2-D	694314		
50324958002	**MW37B**	SM 4500-S2-D	694314		
50324958001	**MW37I**	HACH 8146	694837		
50324958002	**MW37B**	HACH 8146	694837		
50324958001	**MW37I**	EPA 353.2	694206		
50324958002	**MW37B**	EPA 353.2	694206		
50324958001	**MW37I**	EPA 365.1	695325	EPA 365.1	695775
50324958002	**MW37B**	EPA 365.1	695328	EPA 365.1	695776
50324958001	**MW37I**	SM 5310C	695237		
50324958002	**MW37B**	SM 5310C	695237		
50324958001	**MW37I**	SM 5310C	694810		
50324958002	**MW37B**	SM 5310C	694810		

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Pace

CHAIN-OF-CUSTODY / Analytical Request D

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mus

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pa

WO# : 50324958

50324958

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Water	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/21

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate, Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum	Residual Chlorine (Y/N)
1	MW37I	WT	G			9/2/22	0905		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2	MW37B	WT	G			9/2/22	1035			3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb	Mohammed Bazlamit	9/2/22	1451		9/2/22	1451	1-2	Y	N	Y
Alkalinity - Total, Carb and Bicarb										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Mohammed Bazlamit		
SIGNATURE of SAMPLER:		DATE Signed:	9/2/22

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

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 9/2/22 1506

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(s):** 1.2 | 1.2 _____ _____ _____
   (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)
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
   Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO2 / NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 15:50			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID		✓	Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?			✓

COMMENTS: ~~Received on BP3U labled "MW37" with a time of 1035, missing one BP3U from sample point "MW37B" (MCS 9/2/22)~~ hrp 9/2/22

COC PAGE ____ of ____

Sampie Container Count

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	MeOH (only) / SBS / DI: R	VIALS: DG9H VG9H	VOA VIAL HS (>8mm)	VIALS: VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	Syringe Kit			Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1												1	1			2	1	3	1	1	1		1					SW	✓	✓		✓
2												1	1			2	1	1	1	1	1		1					SW	✓	✓		✓
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	
GN	General	AG3C	250mL NaOH amber glass	

Plastic

BP1B	1L NaOH plastic		
BP1N	1L HNO3 plastic		
BP1S	1L H2SO4 plastic		
BP1U	1L unpreserved plastic		
BP1Z	1L NaOH, Zn, Ac		
BP2N	500mL HNO3 plastic		
BP2C	500mL NaOH plastic		
BP2S	500mL H2SO4 plastic		
BP2U	500mL unpreserved plastic		
BP2Z	500mL NaOH, Zn Ac		
BP3B	250mL NaOH plastic		
BP3N	250mL HNO3 plastic		
BP3F	250mL HNO3 plastic-field filtered		
BP3U	250mL unpreserved plastic		
BP3S	250mL H2SO4 plastic		
BP3Z	250mL NaOH, ZnAc plastic		
BP4U	125mL unpreserved plastic		
BP4N	125mL HNO3 plastic		
BP4S	125mL H2SO4 plastic		

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 07, 2022. 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. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

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 #: 460198
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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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50325120001	**MW-40I**	Water	09/06/22 11:52	09/07/22 09:00
50325120002	**MW-40B**	Water	09/06/22 13:36	09/07/22 09:00
50325120003	**DUP-2**	Water	09/06/22 00:00	09/07/22 09:00

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50325120001	**MW-40I**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50325120002	**MW-40B**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50325120003	**DUP-2**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325120001	**MW-40I**					
EPA 9056	Chloride	119	mg/L	25.0	09/08/22 19:03	
EPA 9056	Sulfate	1710	mg/L	25.0	09/08/22 19:03	
EPA 6010	Boron	22900	ug/L	100	09/15/22 14:00	
EPA 6010	Calcium	611000	ug/L	5000	09/15/22 15:15	
EPA 6010	Iron	11300	ug/L	100	09/15/22 14:00	
EPA 6010	Magnesium	56100	ug/L	1000	09/15/22 14:00	
EPA 6010	Manganese	1900	ug/L	10.0	09/15/22 14:00	
EPA 6010	Potassium	14400	ug/L	1000	09/15/22 14:00	
EPA 6010	Silica	12600	ug/L	450	09/15/22 14:00	N2
EPA 6010	Sodium	51300	ug/L	1000	09/15/22 14:00	
EPA 6010	Manganese, Dissolved	1690	ug/L	10.0	09/14/22 01:03	
EPA 6020	Barium	50.9	ug/L	1.0	09/10/22 12:48	
EPA 6020	Cobalt	1.0	ug/L	1.0	09/10/22 12:48	
EPA 6020	Molybdenum	203	ug/L	2.0	09/12/22 12:39	
EPA 903.1	Radium-226	0.0726 ± 0.427 (0.872) C:NA T:97%	pCi/L		09/16/22 15:59	
EPA 904.0	Radium-228	0.490 ± 0.571 (1.20) C:67% T:90%	pCi/L		09/22/22 19:31	
Total Radium Calculation	Total Radium	0.563 ± 0.998 (2.07)	pCi/L		09/23/22 13:27	
SM 2320B	Alkalinity, Total as CaCO3	116	mg/L	10.0	09/08/22 13:51	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	116	mg/L	10.0	09/08/22 13:51	
SM 2540C	Total Dissolved Solids	2560	mg/L	40.0	09/08/22 12:30	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/08/22 13:32	H3
HACH 8146	Iron, Ferrous	2.0	mg/L	0.50	09/08/22 16:11	H3,N2
SM 5310C	Total Organic Carbon	2.1	mg/L	1.0	09/12/22 22:19	
SM 5310C	Dissolved Organic Carbon	2.2	mg/L	1.0	09/09/22 04:03	
50325120002	**MW-40B**					
EPA 9056	Chloride	18.8	mg/L	2.5	09/08/22 20:30	
EPA 9056	Fluoride	0.17	mg/L	0.10	09/08/22 20:13	
EPA 9056	Sulfate	100	mg/L	2.5	09/08/22 20:30	
EPA 6010	Aluminum	357	ug/L	200	09/15/22 14:02	
EPA 6010	Boron	1160	ug/L	100	09/15/22 14:02	
EPA 6010	Calcium	104000	ug/L	1000	09/15/22 14:02	
EPA 6010	Iron	966	ug/L	100	09/15/22 14:02	
EPA 6010	Magnesium	26100	ug/L	1000	09/15/22 14:02	
EPA 6010	Manganese	125	ug/L	10.0	09/15/22 14:02	
EPA 6010	Silica	12200	ug/L	450	09/15/22 14:02	N2
EPA 6010	Sodium	11300	ug/L	1000	09/15/22 14:02	
EPA 6010	Manganese, Dissolved	81.9	ug/L	10.0	09/14/22 01:05	
EPA 6020	Barium	39.4	ug/L	1.0	09/10/22 12:52	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325120002	**MW-40B**					
EPA 903.1	Radium-226	0.819 ± 0.544 (0.247) C:NA T:92%	pCi/L		09/16/22 15:59	
EPA 904.0	Radium-228	0.341 ± 0.546 (1.19) C:73% T:88%	pCi/L		09/22/22 19:31	
Total Radium Calculation	Total Radium	1.16 ± 1.09 (1.44)	pCi/L		09/23/22 13:27	
SM 2320B	Alkalinity, Total as CaCO3	234	mg/L	10.0	09/08/22 13:51	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	234	mg/L	10.0	09/08/22 13:51	
SM 2540C	Total Dissolved Solids	447	mg/L	10.0	09/08/22 12:32	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	09/08/22 13:33	H3
EPA 353.2	Nitrogen, Nitrate	8.6	mg/L	0.50	09/08/22 09:38	
50325120003	**DUP-2**					
EPA 9056	Chloride	119	mg/L	25.0	09/08/22 21:40	
EPA 9056	Sulfate	1710	mg/L	25.0	09/08/22 21:40	
EPA 6010	Boron	22600	ug/L	100	09/15/22 14:04	
EPA 6010	Calcium	598000	ug/L	5000	09/15/22 15:17	
EPA 6010	Iron	11200	ug/L	100	09/15/22 14:04	
EPA 6010	Magnesium	55400	ug/L	1000	09/15/22 14:04	
EPA 6010	Manganese	1880	ug/L	10.0	09/15/22 14:04	
EPA 6010	Potassium	14400	ug/L	1000	09/15/22 14:04	
EPA 6010	Silica	12500	ug/L	450	09/15/22 14:04	N2
EPA 6010	Sodium	50800	ug/L	1000	09/15/22 14:04	
EPA 6010	Manganese, Dissolved	1820	ug/L	10.0	09/14/22 01:07	
EPA 6020	Barium	49.8	ug/L	1.0	09/10/22 13:04	
EPA 6020	Cobalt	1.0	ug/L	1.0	09/10/22 13:04	
EPA 6020	Molybdenum	200	ug/L	2.0	09/12/22 12:43	
EPA 903.1	Radium-226	1.31 ± 0.722 (0.643) C:NA T:88%	pCi/L		09/16/22 15:59	
EPA 904.0	Radium-228	0.139 ± 0.490 (1.11) C:70% T:95%	pCi/L		09/22/22 19:30	
Total Radium Calculation	Total Radium	1.45 ± 1.21 (1.75)	pCi/L		09/23/22 13:27	
SM 2320B	Alkalinity, Total as CaCO3	115	mg/L	10.0	09/08/22 13:51	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	115	mg/L	10.0	09/08/22 13:51	
SM 2540C	Total Dissolved Solids	2550	mg/L	40.0	09/08/22 12:32	
SM 4500-Cl G	Chlorine, Total Residual	0.10	mg/L	0.10	09/09/22 10:30	H3
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/08/22 13:34	H3
HACH 8146	Iron, Ferrous	2.0	mg/L	0.50	09/08/22 16:11	H3,N2
SM 5310C	Total Organic Carbon	2.0	mg/L	1.0	09/12/22 22:40	
SM 5310C	Dissolved Organic Carbon	2.0	mg/L	1.0	09/09/22 04:48	

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(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Sample: MW-40I **Lab ID: 50325120001** Collected: 09/06/22 11:52 Received: 09/07/22 09:00 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	**119**	mg/L	25.0	100		09/08/22 19:03	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/08/22 18:28	16984-48-8	
Sulfate	**1710**	mg/L	25.0	100		09/08/22 19:03	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/14/22 11:06	09/15/22 14:00	7429-90-5	
Boron	**22900**	ug/L	100	1	09/14/22 11:06	09/15/22 14:00	7440-42-8	
Calcium	**611000**	ug/L	5000	5	09/14/22 11:06	09/15/22 15:15	7440-70-2	
Iron	**11300**	ug/L	100	1	09/14/22 11:06	09/15/22 14:00	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/14/22 11:06	09/15/22 14:00	7439-93-2	
Magnesium	**56100**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:00	7439-95-4	
Manganese	**1900**	ug/L	10.0	1	09/14/22 11:06	09/15/22 14:00	7439-96-5	
Potassium	**14400**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:00	7440-09-7	
Silica	**12600**	ug/L	450	1	09/14/22 11:06	09/15/22 14:00	7631-86-9	N2
Sodium	**51300**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:00	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1690**	ug/L	10.0	1	09/13/22 09:35	09/14/22 01:03	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:48	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:48	7440-38-2	
Barium	**50.9**	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:48	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/09/22 07:20	09/14/22 05:14	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/09/22 07:20	09/10/22 12:48	7440-43-9	
Cobalt	**1.0**	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:48	7440-48-4	
Lead	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:48	7439-92-1	
Molybdenum	**203**	ug/L	2.0	2	09/09/22 07:20	09/12/22 12:39	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**116**	mg/L	10.0	1		09/08/22 13:51		
Alkalinity,Bicarbonate (CaCO3)	**116**	mg/L	10.0	1		09/08/22 13:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/08/22 13:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2560**	mg/L	40.0	1		09/08/22 12:30		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/09/22 10:31	7782-50-5	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Sample: MW-40I **Lab ID: 50325120001** Collected: 09/06/22 11:52 Received: 09/07/22 09:00 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		09/08/22 13:32		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/09/22 11:50	18496-25-8	P4
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**2.0**	mg/L	0.50	2.5		09/08/22 16:11	15438-31-0	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		09/08/22 09:16	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/08/22 09:16	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	09/13/22 09:30	09/14/22 13:18		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.1**	mg/L	1.0	1		09/12/22 22:19	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		09/09/22 04:03		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Sample: MW-40B **Lab ID: 50325120002** Collected: 09/06/22 13:36 Received: 09/07/22 09:00 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	**18.8**	mg/L	2.5	10		09/08/22 20:30	16887-00-6	
Fluoride	**0.17**	mg/L	0.10	1		09/08/22 20:13	16984-48-8	
Sulfate	**100**	mg/L	2.5	10		09/08/22 20:30	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**357**	ug/L	200	1	09/14/22 11:06	09/15/22 14:02	7429-90-5	
Boron	**1160**	ug/L	100	1	09/14/22 11:06	09/15/22 14:02	7440-42-8	
Calcium	**104000**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:02	7440-70-2	
Iron	**966**	ug/L	100	1	09/14/22 11:06	09/15/22 14:02	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/14/22 11:06	09/15/22 14:02	7439-93-2	
Magnesium	**26100**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:02	7439-95-4	
Manganese	**125**	ug/L	10.0	1	09/14/22 11:06	09/15/22 14:02	7439-96-5	
Potassium	ND	ug/L	1000	1	09/14/22 11:06	09/15/22 14:02	7440-09-7	
Silica	**12200**	ug/L	450	1	09/14/22 11:06	09/15/22 14:02	7631-86-9	N2
Sodium	**11300**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:02	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**81.9**	ug/L	10.0	1	09/13/22 09:35	09/14/22 01:05	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:52	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:52	7440-38-2	
Barium	**39.4**	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:52	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/09/22 07:20	09/14/22 05:18	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/09/22 07:20	09/10/22 12:52	7440-43-9	
Cobalt	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:52	7440-48-4	
Lead	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:52	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 12:52	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**234**	mg/L	10.0	1		09/08/22 13:51		
Alkalinity,Bicarbonate (CaCO3)	**234**	mg/L	10.0	1		09/08/22 13:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/08/22 13:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**447**	mg/L	10.0	1		09/08/22 12:32		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/09/22 10:31	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Sample: MW-40B **Lab ID: 50325120002** Collected: 09/06/22 13:36 Received: 09/07/22 09:00 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		09/08/22 13:33		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/09/22 11:50	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/08/22 16:14	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**8.6**	mg/L	0.50	5		09/08/22 09:38	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	5		09/08/22 09:38	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	09/13/22 09:30	09/14/22 13:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		09/12/22 22:28	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		09/09/22 04:28		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Sample: DUP-2 **Lab ID: 50325120003** Collected: 09/06/22 00:00 Received: 09/07/22 09:00 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	**119**	mg/L	25.0	100		09/08/22 21:40	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/08/22 21:05	16984-48-8	
Sulfate	**1710**	mg/L	25.0	100		09/08/22 21:40	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/14/22 11:06	09/15/22 14:04	7429-90-5	
Boron	**22600**	ug/L	100	1	09/14/22 11:06	09/15/22 14:04	7440-42-8	
Calcium	**598000**	ug/L	5000	5	09/14/22 11:06	09/15/22 15:17	7440-70-2	
Iron	**11200**	ug/L	100	1	09/14/22 11:06	09/15/22 14:04	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/14/22 11:06	09/15/22 14:04	7439-93-2	
Magnesium	**55400**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:04	7439-95-4	
Manganese	**1880**	ug/L	10.0	1	09/14/22 11:06	09/15/22 14:04	7439-96-5	
Potassium	**14400**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:04	7440-09-7	
Silica	**12500**	ug/L	450	1	09/14/22 11:06	09/15/22 14:04	7631-86-9	N2
Sodium	**50800**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:04	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1820**	ug/L	10.0	1	09/13/22 09:35	09/14/22 01:07	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 13:04	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 13:04	7440-38-2	
Barium	**49.8**	ug/L	1.0	1	09/09/22 07:20	09/10/22 13:04	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/09/22 07:20	09/14/22 05:22	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/09/22 07:20	09/10/22 13:04	7440-43-9	
Cobalt	**1.0**	ug/L	1.0	1	09/09/22 07:20	09/10/22 13:04	7440-48-4	
Lead	ND	ug/L	1.0	1	09/09/22 07:20	09/10/22 13:04	7439-92-1	
Molybdenum	**200**	ug/L	2.0	2	09/09/22 07:20	09/12/22 12:43	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**115**	mg/L	10.0	1		09/08/22 13:51		
Alkalinity,Bicarbonate (CaCO3)	**115**	mg/L	10.0	1		09/08/22 13:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/08/22 13:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2550**	mg/L	40.0	1		09/08/22 12:32		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	**0.10**	mg/L	0.10	1		09/09/22 10:30	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Sample: DUP-2 **Lab ID: 50325120003** Collected: 09/06/22 00:00 Received: 09/07/22 09:00 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	**7.0**	Std. Units	0.10	1		09/08/22 13:34		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/09/22 11:50	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**2.0**	mg/L	0.50	2.5		09/08/22 16:11	15438-31-0	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		09/08/22 09:12	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/08/22 09:12	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	09/13/22 09:30	09/14/22 13:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.0**	mg/L	1.0	1		09/12/22 22:40	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.0**	mg/L	1.0	1		09/09/22 04:48		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694794
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3194179 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/08/22 17:53	
Fluoride	mg/L	ND	0.10	09/08/22 17:53	
Sulfate	mg/L	ND	0.25	09/08/22 17:53	

LABORATORY CONTROL SAMPLE: 3194180

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	0.53	106	80-120	
Sulfate	mg/L	2.5	2.7	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194181 3194182

Parameter	Units	50324837003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.4	1.2	1.2	7.8	7.8	109	109	80-120	0	15	
Fluoride	mg/L	0.16	0.5	0.5	0.68	0.68	104	105	80-120	1	15	
Sulfate	mg/L	13.3	2.5	2.5	16.0	16.0	107	108	80-120	0	15	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 695299
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3197021 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/15/22 13:57	
Boron	ug/L	ND	100	09/15/22 13:57	
Calcium	ug/L	ND	1000	09/15/22 13:57	
Iron	ug/L	ND	100	09/15/22 13:57	
Lithium	ug/L	ND	20.0	09/15/22 13:57	
Magnesium	ug/L	ND	1000	09/15/22 13:57	
Manganese	ug/L	ND	10.0	09/15/22 13:57	
Potassium	ug/L	ND	1000	09/15/22 13:57	
Silica	ug/L	ND	450	09/15/22 13:57	N2
Sodium	ug/L	ND	1000	09/15/22 13:57	

LABORATORY CONTROL SAMPLE: 3197022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9990	100	80-120	
Boron	ug/L	1000	1010	101	80-120	
Calcium	ug/L	10000	10000	100	80-120	
Iron	ug/L	10000	9990	100	80-120	
Lithium	ug/L	1000	1030	103	80-120	
Magnesium	ug/L	10000	9670	97	80-120	
Manganese	ug/L	1000	987	99	80-120	
Potassium	ug/L	10000	9730	97	80-120	
Silica	ug/L	10700	10300	96	80-120	N2
Sodium	ug/L	10000	9980	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197023 3197024

Parameter	Units	50324842001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	638	10000	10000	10800	10600	102	99	75-125	3	20	
Boron	ug/L	112	1000	1000	1140	1110	103	100	75-125	2	20	
Calcium	ug/L	148000	10000	10000	161000	158000	130	96	75-125	2	20	P6
Iron	ug/L	6290	10000	10000	16300	15900	101	96	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1060	1030	105	102	75-125	3	20	
Magnesium	ug/L	64200	10000	10000	76200	74100	120	99	75-125	3	20	
Manganese	ug/L	835	1000	1000	1840	1790	100	96	75-125	2	20	
Potassium	ug/L	1470	10000	10000	12000	11600	105	101	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197023 3197024

Parameter	Units	50324842001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	22400	10700	10700	33300	32700	103	96	75-125	2	20	N2
Sodium	ug/L	28600	10000	10000	39700	38500	111	99	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197025 3197026

Parameter	Units	50324877001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5690	10000	10000	18500	18200	128	125	75-125	2	20	M0
Boron	ug/L	ND	1000	1000	1060	1060	102	103	75-125	0	20	
Calcium	ug/L	224000	10000	10000	234000	230000	104	60	75-125	2	20	E,P6
Iron	ug/L	9150	10000	10000	19300	19000	102	98	75-125	2	20	CC
Lithium	ug/L	ND	1000	1000	1050	1070	104	106	75-125	2	20	
Magnesium	ug/L	36700	10000	10000	46900	46000	102	93	75-125	2	20	
Manganese	ug/L	2340	1000	1000	3320	3280	99	94	75-125	1	20	
Potassium	ug/L	7870	10000	10000	19200	19200	113	113	75-125	0	20	
Silica	ug/L	25300	10700	10700	45500	42000	188	156	75-125	8	20	N2
Sodium	ug/L	111000	10000	10000	125000	124000	141	128	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 695006
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3195336 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	09/14/22 00:12	

LABORATORY CONTROL SAMPLE: 3195337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	880	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195338 3195339

Parameter	Units	50324842003 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	97.4	1000	1000	1030	1050	93	95	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694723
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3193935 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/10/22 11:45	
Arsenic	ug/L	ND	1.0	09/10/22 11:45	
Barium	ug/L	ND	1.0	09/10/22 11:45	
Beryllium	ug/L	ND	0.20	09/10/22 11:45	
Cadmium	ug/L	ND	0.20	09/10/22 11:45	
Cobalt	ug/L	ND	1.0	09/10/22 11:45	
Lead	ug/L	ND	1.0	09/10/22 11:45	
Molybdenum	ug/L	ND	1.0	09/10/22 11:45	

LABORATORY CONTROL SAMPLE: 3193936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.4	104	80-120	
Arsenic	ug/L	40	37.9	95	80-120	
Barium	ug/L	40	39.6	99	80-120	
Beryllium	ug/L	40	38.6	96	80-120	
Cadmium	ug/L	40	40.4	101	80-120	
Cobalt	ug/L	40	40.7	102	80-120	
Lead	ug/L	40	40.6	101	80-120	
Molybdenum	ug/L	40	41.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193937 3193938

Parameter	Units	50325037001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.5	41.3	104	103	75-125	0	20	
Arsenic	ug/L	4.5	40	40	41.8	41.2	93	92	75-125	1	20	
Barium	ug/L	29.1	40	40	70.0	70.0	102	102	75-125	0	20	
Beryllium	ug/L	ND	40	40	43.1	42.7	108	107	75-125	1	20	CC
Cadmium	ug/L	ND	40	40	37.2	37.1	93	93	75-125	0	20	
Cobalt	ug/L	1.9	40	40	39.4	39.1	94	93	75-125	1	20	
Lead	ug/L	ND	40	40	40.8	40.8	102	102	75-125	0	20	
Molybdenum	ug/L	2.3	40	40	43.7	43.7	103	104	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694791 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3194159 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	09/08/22 13:51	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	09/08/22 13:51	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	09/08/22 13:51	

LABORATORY CONTROL SAMPLE: 3194160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.4	107	90-110	

SAMPLE DUPLICATE: 3194161

Parameter	Units	50325186001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	242	247	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	242	247	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3194162

Parameter	Units	50325116006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	289	293	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	289	293	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694759 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3194058 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/08/22 12:23	

LABORATORY CONTROL SAMPLE: 3194059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	284	95	80-120	

SAMPLE DUPLICATE: 3194060

Parameter	Units	50325018001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	336	339	1	10	

SAMPLE DUPLICATE: 3194068

Parameter	Units	50325249001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	428	403	6	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694981
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3195192 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	09/09/22 10:15	H3

LABORATORY CONTROL SAMPLE: 3195193

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	1.0	101	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195194 3195195

Parameter	Units	50324896003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.82	0.82	82	82	90-110	0	20	H3,M3

MATRIX SPIKE SAMPLE: 3195196

Parameter	Units	50324958001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	ND	1	0.44	41	90-110	H3,M0

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694798
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

SAMPLE DUPLICATE: 3194195

Parameter	Units	50324632002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	1	2	H3

SAMPLE DUPLICATE: 3194196

Parameter	Units	50325248002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	0	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694957
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3195102 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/09/22 11:50	

LABORATORY CONTROL SAMPLE: 3195103

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195104 3195105

Parameter	Units	50324632002 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	0.52	0.51	101	99	90-110	2	20	

MATRIX SPIKE SAMPLE: 3195106

Parameter	Units	50325265001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.27	54	90-110	M0

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REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694837 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3194387 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	09/08/22 15:52	H3,N2

LABORATORY CONTROL SAMPLE: 3194388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.95	95	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194389 3194390

Parameter	Units	50324896003 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	0.94	0.97	94	97	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 3194391

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	108	90-110	H3,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694720
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3193921 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/08/22 09:09	
Nitrogen, Nitrite	mg/L	ND	0.10	09/08/22 09:09	

LABORATORY CONTROL SAMPLE: 3193922

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	102	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193923 3193924

Parameter	Units	50325116002 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	108	108	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	111	111	90-110	0	20	M3

MATRIX SPIKE SAMPLE: 3194057

Parameter	Units	50325249003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.8	1	2.8	92	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.99	99	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 695325 | 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: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3197095 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/14/22 13:11	

LABORATORY CONTROL SAMPLE: 3197096

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197104 3197105

Parameter	Units	50324958001 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	1.4				3		

MATRIX SPIKE SAMPLE: 3197106

Parameter	Units	50325524001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.7			

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 695235 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3196834 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/12/22 18:13	

LABORATORY CONTROL SAMPLE: 3196835

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196836 3196837

Parameter	Units	50324684003 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	1.9	10	10	11.3	11.4	94	95	80-120	1	20	

MATRIX SPIKE SAMPLE: 3196838

Parameter	Units	50324684004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.4	10	12.0	96	80-120	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 694810
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 3194237 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/09/22 00:48	

LABORATORY CONTROL SAMPLE: 3194238

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: 3194239 3194240

Parameter	Units	50324896001 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	3.5	20	20	22.7	23.0	96	98	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Sample: MW-40I **Lab ID: 50325120001** Collected: 09/06/22 11:52 Received: 09/07/22 09:00 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	**0.0726 ± 0.427 (0.872) C:NA T:97%**	pCi/L	09/16/22 15:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.490 ± 0.571 (1.20) C:67% T:90%**	pCi/L	09/22/22 19:31	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.563 ± 0.998 (2.07)**	pCi/L	09/23/22 13:27	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Sample: MW-40B **Lab ID: 50325120002** Collected: 09/06/22 13:36 Received: 09/07/22 09:00 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	**0.819 ± 0.544 (0.247) C:NA T:92%**	pCi/L	09/16/22 15:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.341 ± 0.546 (1.19) C:73% T:88%**	pCi/L	09/22/22 19:31	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.16 ± 1.09 (1.44)**	pCi/L	09/23/22 13:27	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Sample: DUP-2 **Lab ID: 50325120003** Collected: 09/06/22 00:00 Received: 09/07/22 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.31 ± 0.722 (0.643) C:NA T:88%**	pCi/L	09/16/22 15:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.139 ± 0.490 (1.11) C:70% T:95%**	pCi/L	09/22/22 19:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.45 ± 1.21 (1.75)**	pCi/L	09/23/22 13:27	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 531556
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 2578534 Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.268 (0.545) C:NA T:99%	pCi/L	09/16/22 15:42	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

QC Batch: 531557
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325120001, 50325120002, 50325120003

METHOD BLANK: 2578535
Matrix: Water
Associated Lab Samples: 50325120001, 50325120002, 50325120003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.480 ± 0.352 (0.688) C:75% T:91%	pCi/L	09/22/22 12:23	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

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

CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
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.
P4	Sample field preservation does not meet EPA or method recommendations for this analysis.
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: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325120001	**MW-40I**	EPA 9056	694794		
50325120002	**MW-40B**	EPA 9056	694794		
50325120003	**DUP-2**	EPA 9056	694794		
50325120001	**MW-40I**	EPA 3010	695299	EPA 6010	695915
50325120002	**MW-40B**	EPA 3010	695299	EPA 6010	695915
50325120003	**DUP-2**	EPA 3010	695299	EPA 6010	695915
50325120001	**MW-40I**	EPA 3010	695006	EPA 6010	695627
50325120002	**MW-40B**	EPA 3010	695006	EPA 6010	695627
50325120003	**DUP-2**	EPA 3010	695006	EPA 6010	695627
50325120001	**MW-40I**	EPA 200.2	694723	EPA 6020	695049
50325120002	**MW-40B**	EPA 200.2	694723	EPA 6020	695049
50325120003	**DUP-2**	EPA 200.2	694723	EPA 6020	695049
50325120001	**MW-40I**	EPA 903.1	531556		
50325120002	**MW-40B**	EPA 903.1	531556		
50325120003	**DUP-2**	EPA 903.1	531556		
50325120001	**MW-40I**	EPA 904.0	531557		
50325120002	**MW-40B**	EPA 904.0	531557		
50325120003	**DUP-2**	EPA 904.0	531557		
50325120001	**MW-40I**	Total Radium Calculation	535048		
50325120002	**MW-40B**	Total Radium Calculation	535048		
50325120003	**DUP-2**	Total Radium Calculation	535048		
50325120001	**MW-40I**	SM 2320B	694791		
50325120002	**MW-40B**	SM 2320B	694791		
50325120003	**DUP-2**	SM 2320B	694791		
50325120001	**MW-40I**	SM 2540C	694759		
50325120002	**MW-40B**	SM 2540C	694759		
50325120003	**DUP-2**	SM 2540C	694759		
50325120001	**MW-40I**	SM 4500-Cl G	694981		
50325120002	**MW-40B**	SM 4500-Cl G	694981		
50325120003	**DUP-2**	SM 4500-Cl G	694981		
50325120001	**MW-40I**	SM 4500-H+B	694798		
50325120002	**MW-40B**	SM 4500-H+B	694798		
50325120003	**DUP-2**	SM 4500-H+B	694798		
50325120001	**MW-40I**	SM 4500-S2-D	694957		
50325120002	**MW-40B**	SM 4500-S2-D	694957		
50325120003	**DUP-2**	SM 4500-S2-D	694957		
50325120001	**MW-40I**	HACH 8146	694837		
50325120002	**MW-40B**	HACH 8146	694837		
50325120003	**DUP-2**	HACH 8146	694837		
50325120001	**MW-40I**	EPA 353.2	694720		
50325120002	**MW-40B**	EPA 353.2	694720		
50325120003	**DUP-2**	EPA 353.2	694720		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325120

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325120001	**MW-40I**	EPA 365.1	695325	EPA 365.1	695775
50325120002	**MW-40B**	EPA 365.1	695325	EPA 365.1	695775
50325120003	**DUP-2**	EPA 365.1	695325	EPA 365.1	695775
50325120001	**MW-40I**	SM 5310C	695235		
50325120002	**MW-40B**	SM 5310C	695235		
50325120003	**DUP-2**	SM 5310C	695235		
50325120001	**MW-40I**	SM 5310C	694810		
50325120002	**MW-40B**	SM 5310C	694810		
50325120003	**DUP-2**	SM 5310C	694810		

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Pace

CHAIN-OF-CUSTODY / Analytic

WO# : 50325120

50325120

The Chain-of-Custody is a LEGAL DOCUMENT.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Condition

Of

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Water	Pace Project Manager:	hayden.putl@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/21

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate,Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW40I	WT	G			9/6/22	1152		11	3	3	4		1															001
2	MW40B	WT	G			9/6/22	1336		11	3	3	4		1															002
3	DUP-2	WT	G			9/6/22	0000		11	3	3	4		1															003
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb	Mohammed Bazlamit	9/8/22	1515	fedex						
Alkalinity - Total, Carb and Bicarb	fedex			Amber Hardi	9/7/22	0900	1.4	Y	Y	Y
							1.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Mohammed Bazlamit		
SIGNATURE of SAMPLER:		DATE Signed:	9/6/22

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

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 9/7/22 1015 AH

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(s):** 1.5/1.4 | 1.1/1.0 | | |
   (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
   Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2)** **H2SO4 (<2)** **NaOH (>10)** **NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO2/NO3	✓	MCS 9/7				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1216			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)		✓	
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			—
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		MeOH (only)		VIALS						AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																													Red	Yellow	Green	Black
		DI																															
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 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1													1	1			2	1	2	1	1	1		1					WT	✓	✓		8
2													↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	✓	✓		✓
3													✓	✓			✓	✓	✓	✓	✓	✓		✓					✓	✓	✓		✓
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 08, 2022. 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. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

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 #: 460198
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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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50325265001	**MW-40A**	Water	09/07/22 10:25	09/08/22 09:45
50325265002	**MW-44B**	Water	09/07/22 13:14	09/08/22 09:45

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50325265001	**MW-40A**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TRK	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50325265002	**MW-44B**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TRK	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325265001	**MW-40A**					
EPA 9056	Chloride	114	mg/L	25.0	09/11/22 06:19	
EPA 9056	Sulfate	1580	mg/L	25.0	09/11/22 06:19	
EPA 6010	Boron	22800	ug/L	100	09/14/22 14:41	
EPA 6010	Calcium	592000	ug/L	5000	09/14/22 15:31	
EPA 6010	Iron	13100	ug/L	100	09/14/22 14:41	
EPA 6010	Lithium	22.1	ug/L	20.0	09/14/22 14:41	
EPA 6010	Magnesium	36100	ug/L	1000	09/14/22 14:41	
EPA 6010	Manganese	1510	ug/L	10.0	09/14/22 14:41	
EPA 6010	Potassium	12700	ug/L	1000	09/14/22 14:41	
EPA 6010	Silica	11500	ug/L	450	09/14/22 14:41	N2
EPA 6010	Sodium	49700	ug/L	1000	09/14/22 14:41	
EPA 6010	Manganese, Dissolved	1460	ug/L	10.0	09/14/22 01:13	
EPA 6020	Barium	67.2	ug/L	1.0	09/12/22 21:15	
EPA 6020	Cobalt	1.1	ug/L	1.0	09/12/22 21:15	
EPA 6020	Molybdenum	142	ug/L	1.0	09/12/22 21:15	
EPA 903.1	Radium-226	0.519 ± 0.406 (0.477) C:NA T:97%	pCi/L		09/18/22 14:20	
EPA 904.0	Radium-228	0.0488 ± 0.576 (1.33) C:66% T:87%	pCi/L		09/15/22 16:21	
Total Radium Calculation	Total Radium	0.568 ± 0.982 (1.81)	pCi/L		09/23/22 14:27	
SM 2320B	Alkalinity, Total as CaCO3	61.6	mg/L	10.0	09/09/22 14:15	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	61.6	mg/L	10.0	09/09/22 14:15	
SM 2540C	Total Dissolved Solids	2560	mg/L	40.0	09/09/22 10:19	
SM 4500-Cl G	Chlorine, Total Residual	0.13	mg/L	0.10	09/09/22 10:43	H3
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/12/22 13:44	H3
HACH 8146	Iron, Ferrous	3.8	mg/L	1.0	09/08/22 16:14	H3,N2
SM 5310C	Total Organic Carbon	6.6	mg/L	4.0	09/13/22 11:43	
SM 5310C	Dissolved Organic Carbon	6.4	mg/L	1.0	09/13/22 18:16	
50325265002	**MW-44B**					
EPA 9056	Chloride	114	mg/L	2.5	09/11/22 06:53	
EPA 9056	Fluoride	0.11	mg/L	0.10	09/11/22 06:36	
EPA 9056	Sulfate	166	mg/L	2.5	09/11/22 06:53	
EPA 6010	Aluminum	224	ug/L	200	09/14/22 14:43	
EPA 6010	Boron	1100	ug/L	100	09/14/22 14:43	
EPA 6010	Calcium	187000	ug/L	1000	09/14/22 14:43	
EPA 6010	Iron	7680	ug/L	100	09/14/22 14:43	
EPA 6010	Magnesium	42400	ug/L	1000	09/14/22 14:43	
EPA 6010	Manganese	1550	ug/L	10.0	09/14/22 14:43	
EPA 6010	Potassium	2040	ug/L	1000	09/14/22 14:43	
EPA 6010	Silica	19600	ug/L	450	09/14/22 14:43	N2
EPA 6010	Sodium	39300	ug/L	1000	09/14/22 14:43	
EPA 6010	Manganese, Dissolved	1520	ug/L	10.0	09/14/22 01:15	

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325265002	**MW-44B**					
EPA 6020	Arsenic	1.7	ug/L	1.0	09/12/22 21:19	
EPA 6020	Barium	163	ug/L	1.0	09/12/22 21:19	
EPA 6020	Molybdenum	8.1	ug/L	1.0	09/12/22 21:19	
EPA 903.1	Radium-226	0.988 ± 0.575 (0.612) C:NA T:96%	pCi/L		09/18/22 14:20	
EPA 904.0	Radium-228	1.55 ± 0.701 (1.16) C:72% T:82%	pCi/L		09/15/22 16:21	
Total Radium Calculation	Total Radium	2.54 ± 1.28 (1.77)	pCi/L		09/23/22 14:27	
SM 2320B	Alkalinity, Total as CaCO3	433	mg/L	10.0	09/09/22 14:15	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	433	mg/L	10.0	09/09/22 14:15	
SM 2540C	Total Dissolved Solids	834	mg/L	20.0	09/09/22 10:19	
SM 4500-Cl G	Chlorine, Total Residual	0.14	mg/L	0.10	09/09/22 10:43	H3
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/12/22 13:45	H3
HACH 8146	Iron, Ferrous	3.1	mg/L	1.0	09/08/22 16:14	H3,N2
EPA 365.1	Phosphate as P04	0.74	mg/L	0.15	09/14/22 10:32	
SM 5310C	Dissolved Organic Carbon	2.4	mg/L	1.0	09/13/22 19:17	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Sample: MW-40A **Lab ID: 50325265001** Collected: 09/07/22 10:25 Received: 09/08/22 09:45 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	**114**	mg/L	25.0	100		09/11/22 06:19	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/11/22 05:44	16984-48-8	
Sulfate	**1580**	mg/L	25.0	100		09/11/22 06:19	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/13/22 11:33	09/14/22 14:41	7429-90-5	
Boron	**22800**	ug/L	100	1	09/13/22 11:33	09/14/22 14:41	7440-42-8	
Calcium	**592000**	ug/L	5000	5	09/13/22 11:33	09/14/22 15:31	7440-70-2	
Iron	**13100**	ug/L	100	1	09/13/22 11:33	09/14/22 14:41	7439-89-6	
Lithium	**22.1**	ug/L	20.0	1	09/13/22 11:33	09/14/22 14:41	7439-93-2	
Magnesium	**36100**	ug/L	1000	1	09/13/22 11:33	09/14/22 14:41	7439-95-4	
Manganese	**1510**	ug/L	10.0	1	09/13/22 11:33	09/14/22 14:41	7439-96-5	
Potassium	**12700**	ug/L	1000	1	09/13/22 11:33	09/14/22 14:41	7440-09-7	
Silica	**11500**	ug/L	450	1	09/13/22 11:33	09/14/22 14:41	7631-86-9	N2
Sodium	**49700**	ug/L	1000	1	09/13/22 11:33	09/14/22 14:41	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1460**	ug/L	10.0	1	09/13/22 09:35	09/14/22 01:13	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:15	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:15	7440-38-2	
Barium	**67.2**	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:15	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/10/22 11:10	09/12/22 21:15	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/10/22 11:10	09/12/22 21:15	7440-43-9	
Cobalt	**1.1**	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:15	7440-48-4	
Lead	ND	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:15	7439-92-1	
Molybdenum	**142**	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:15	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**61.6**	mg/L	10.0	1		09/09/22 14:15		
Alkalinity,Bicarbonate (CaCO3)	**61.6**	mg/L	10.0	1		09/09/22 14:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/09/22 14:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2560**	mg/L	40.0	1		09/09/22 10:19		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	**0.13**	mg/L	0.10	1		09/09/22 10:43	7782-50-5	H3

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Sample: MW-40A **Lab ID: 50325265001** Collected: 09/07/22 10:25 Received: 09/08/22 09:45 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		09/12/22 13:44		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/09/22 11:50	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**3.8**	mg/L	1.0	5		09/08/22 16:14	15438-31-0	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		09/08/22 18:39	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/08/22 18:39	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	09/12/22 11:00	09/14/22 10:31		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**6.6**	mg/L	4.0	4		09/13/22 11:43	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**6.4**	mg/L	1.0	1		09/13/22 18:16		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Sample: MW-44B **Lab ID: 50325265002** Collected: 09/07/22 13:14 Received: 09/08/22 09:45 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	**114**	mg/L	2.5	10		09/11/22 06:53	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		09/11/22 06:36	16984-48-8	
Sulfate	**166**	mg/L	2.5	10		09/11/22 06:53	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**224**	ug/L	200	1	09/13/22 11:33	09/14/22 14:43	7429-90-5	
Boron	**1100**	ug/L	100	1	09/13/22 11:33	09/14/22 14:43	7440-42-8	
Calcium	**187000**	ug/L	1000	1	09/13/22 11:33	09/14/22 14:43	7440-70-2	
Iron	**7680**	ug/L	100	1	09/13/22 11:33	09/14/22 14:43	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/13/22 11:33	09/14/22 14:43	7439-93-2	
Magnesium	**42400**	ug/L	1000	1	09/13/22 11:33	09/14/22 14:43	7439-95-4	
Manganese	**1550**	ug/L	10.0	1	09/13/22 11:33	09/14/22 14:43	7439-96-5	
Potassium	**2040**	ug/L	1000	1	09/13/22 11:33	09/14/22 14:43	7440-09-7	
Silica	**19600**	ug/L	450	1	09/13/22 11:33	09/14/22 14:43	7631-86-9	N2
Sodium	**39300**	ug/L	1000	1	09/13/22 11:33	09/14/22 14:43	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	09/13/22 09:35	09/14/22 01:15	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:19	7440-36-0	
Arsenic	**1.7**	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:19	7440-38-2	
Barium	**163**	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:19	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/10/22 11:10	09/12/22 21:19	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/10/22 11:10	09/12/22 21:19	7440-43-9	
Cobalt	ND	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:19	7440-48-4	
Lead	ND	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:19	7439-92-1	
Molybdenum	**8.1**	ug/L	1.0	1	09/10/22 11:10	09/12/22 21:19	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**433**	mg/L	10.0	1		09/09/22 14:15		
Alkalinity,Bicarbonate (CaCO3)	**433**	mg/L	10.0	1		09/09/22 14:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/09/22 14:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**834**	mg/L	20.0	1		09/09/22 10:19		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	**0.14**	mg/L	0.10	1		09/09/22 10:43	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Sample: MW-44B **Lab ID: 50325265002** Collected: 09/07/22 13:14 Received: 09/08/22 09:45 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		09/12/22 13:45		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/09/22 11:50	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**3.1**	mg/L	1.0	5		09/08/22 16:14	15438-31-0	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		09/08/22 18:42	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/08/22 18:42	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.74**	mg/L	0.15	1	09/12/22 11:00	09/14/22 10:32		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	4.0	4		09/12/22 21:30	7440-44-0	D3
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.4**	mg/L	1.0	1		09/13/22 19:17		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 694872
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3194602 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/09/22 11:42	
Fluoride	mg/L	ND	0.10	09/09/22 11:42	
Sulfate	mg/L	ND	0.25	09/09/22 11:42	

LABORATORY CONTROL SAMPLE: 3194603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.1	89	80-120	
Fluoride	mg/L	0.5	0.46	93	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194604 3194605

Parameter	Units	50325116001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	12.0	1.2	1.2	13.3	13.2	102	98	80-120	0	15	E
Fluoride	mg/L	2.0	0.5	0.5	2.5	2.5	95	94	80-120	0	15	
Sulfate	mg/L	17.2	2.5	2.5	19.9	19.7	106	100	80-120	1	15	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 695154
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3196485 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/14/22 14:33	
Boron	ug/L	ND	100	09/14/22 14:33	
Calcium	ug/L	ND	1000	09/14/22 14:33	
Iron	ug/L	ND	100	09/14/22 14:33	
Lithium	ug/L	ND	20.0	09/14/22 14:33	
Magnesium	ug/L	ND	1000	09/14/22 14:33	
Manganese	ug/L	ND	10.0	09/14/22 14:33	
Potassium	ug/L	ND	1000	09/14/22 14:33	
Silica	ug/L	ND	450	09/14/22 14:33	N2
Sodium	ug/L	ND	1000	09/14/22 14:33	

LABORATORY CONTROL SAMPLE: 3196486

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9460	95	80-120	
Boron	ug/L	1000	996	100	80-120	
Calcium	ug/L	10000	9580	96	80-120	
Iron	ug/L	10000	9740	97	80-120	
Lithium	ug/L	1000	997	100	80-120	
Magnesium	ug/L	10000	9540	95	80-120	
Manganese	ug/L	1000	949	95	80-120	
Potassium	ug/L	10000	9400	94	80-120	
Silica	ug/L	10700	10100	94	80-120	N2
Sodium	ug/L	10000	9910	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196487 3196488

Parameter	Units	50324744021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	9850	10000	98	100	75-125	2	20	
Boron	ug/L	ND	1000	1000	1020	1040	99	101	75-125	2	20	
Calcium	ug/L	82200	10000	10000	88200	93200	60	109	75-125	5	20	P6
Iron	ug/L	115	10000	10000	9730	9890	96	98	75-125	2	20	CH
Lithium	ug/L	ND	1000	1000	1020	1040	101	102	75-125	2	20	
Magnesium	ug/L	66400	10000	10000	73300	77600	69	112	75-125	6	20	P6
Manganese	ug/L	ND	1000	1000	950	969	94	96	75-125	2	20	
Potassium	ug/L	1020	10000	10000	10600	10800	96	98	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196487 3196488

Parameter	Units	50324744021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	16300	10700	10700	25700	26900	88	99	75-125	4	20	N2
Sodium	ug/L	6300	10000	10000	16000	16500	97	102	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 695006
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3195336 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	09/14/22 00:12	

LABORATORY CONTROL SAMPLE: 3195337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	880	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195338 3195339

Parameter	Units	50324842003 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	97.4	1000	1000	1030	1050	93	95	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 694947
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3195065 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/12/22 21:07	
Arsenic	ug/L	ND	1.0	09/12/22 21:07	
Barium	ug/L	ND	1.0	09/12/22 21:07	
Beryllium	ug/L	ND	0.20	09/12/22 21:07	
Cadmium	ug/L	ND	0.20	09/12/22 21:07	
Cobalt	ug/L	ND	1.0	09/12/22 21:07	
Lead	ug/L	ND	1.0	09/12/22 21:07	
Molybdenum	ug/L	ND	1.0	09/12/22 21:07	

LABORATORY CONTROL SAMPLE: 3195066

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.3	106	80-120	
Arsenic	ug/L	40	39.9	100	80-120	
Barium	ug/L	40	39.3	98	80-120	
Beryllium	ug/L	40	42.7	107	80-120	
Cadmium	ug/L	40	39.2	98	80-120	
Cobalt	ug/L	40	41.7	104	80-120	
Lead	ug/L	40	41.8	105	80-120	
Molybdenum	ug/L	40	41.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195067 3195068

Parameter	Units	50325343011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	43.2	44.1	108	110	75-125	2	20	
Arsenic	ug/L	15.7	40	40	55.2	55.0	99	98	75-125	0	20	
Barium	ug/L	60.9	40	40	102	102	103	102	75-125	1	20	
Beryllium	ug/L	ND	40	40	44.1	43.9	110	110	75-125	1	20	CC
Cadmium	ug/L	ND	40	40	38.1	38.4	95	96	75-125	1	20	
Cobalt	ug/L	ND	40	40	45.7	45.2	99	98	75-125	1	20	
Lead	ug/L	ND	40	40	41.2	41.3	103	103	75-125	0	20	
Molybdenum	ug/L	3.6	40	40	43.4	44.0	99	101	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 695008
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3195344 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	09/09/22 14:15	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	09/09/22 14:15	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	09/09/22 14:15	

LABORATORY CONTROL SAMPLE: 3195345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.4	99	90-110	

SAMPLE DUPLICATE: 3195346

Parameter	Units	50325265001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	61.6	62.5	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	61.6	62.5	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3195347

Parameter	Units	50325334003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	230	235	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	230	235	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 694955
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3195094 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/09/22 10:12	

LABORATORY CONTROL SAMPLE: 3195095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	277	92	80-120	

SAMPLE DUPLICATE: 3195096

Parameter	Units	50325126004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	146000 ug/L	152	4	10	

SAMPLE DUPLICATE: 3195097

Parameter	Units	50325126005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	165000 ug/L	162	2	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 694981
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3195192 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	09/09/22 10:15	H3

LABORATORY CONTROL SAMPLE: 3195193

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	1.0	101	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195194 3195195

Parameter	Units	50324896003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.82	0.82	82	82	90-110	0	20	H3,M3

MATRIX SPIKE SAMPLE: 3195196

Parameter	Units	50324958001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	ND	1	0.44	41	90-110	H3,M0

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 695301
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

SAMPLE DUPLICATE: 3197031

Parameter	Units	50325440005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	2	H3

SAMPLE DUPLICATE: 3197032

Parameter	Units	50325318004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

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REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 694957
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3195102 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/09/22 11:50	

LABORATORY CONTROL SAMPLE: 3195103

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195104 3195105

Parameter	Units	50324632002 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	0.52	0.51	101	99	90-110	2	20	

MATRIX SPIKE SAMPLE: 3195106

Parameter	Units	50325265001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.27	54	90-110	M0

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 694837
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3194387 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	09/08/22 15:52	H3,N2

LABORATORY CONTROL SAMPLE: 3194388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.95	95	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194389 3194390

Parameter	Units	50324896003 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	0.94	0.97	94	97	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 3194391

Parameter	Units	50324958002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	108	90-110	H3,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 694877
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3194647 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/08/22 18:35	
Nitrogen, Nitrite	mg/L	ND	0.10	09/08/22 18:35	

LABORATORY CONTROL SAMPLE: 3194648

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.1	105	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194649 3194650

Parameter	Units	50325334003 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	2.8	1	1	3.7	3.7	91	91	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	105	105	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195073 3195074

Parameter	Units	50325343011 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	0.99	0.99	97	98	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	101	102	90-110	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 695216
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3196793 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/14/22 10:18	

LABORATORY CONTROL SAMPLE: 3196794

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196795 3196796

Parameter	Units	50324745001 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	1.5				0		

MATRIX SPIKE SAMPLE: 3196797

Parameter	Units	50325265001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.4			

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 695235
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3196834 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/12/22 18:13	

LABORATORY CONTROL SAMPLE: 3196835

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196836 3196837

Parameter	Units	50324684003 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	1.9	10	10	11.3	11.4	94	95	80-120	1	20	

MATRIX SPIKE SAMPLE: 3196838

Parameter	Units	50324684004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.4	10	12.0	96	80-120	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 695241
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 3196848 Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/13/22 17:37	

LABORATORY CONTROL SAMPLE: 3196849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.6	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196850 3196851

Parameter	Units	50325265001 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	6.4	10	10	16.1	16.0	97	96	80-120	1	20	

MATRIX SPIKE SAMPLE: 3196852

Parameter	Units	50325265002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.4	10	12.1	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Sample: MW-40A **Lab ID: 50325265001** Collected: 09/07/22 10:25 Received: 09/08/22 09:45 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	**0.519 ± 0.406 (0.477) C:NA T:97%**	pCi/L	09/18/22 14:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0488 ± 0.576 (1.33) C:66% T:87%**	pCi/L	09/15/22 16:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.568 ± 0.982 (1.81)**	pCi/L	09/23/22 14:27	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Sample: MW-44B **Lab ID: 50325265002** Collected: 09/07/22 13:14 Received: 09/08/22 09:45 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	**0.988 ± 0.575 (0.612) C:NA T:96%**	pCi/L	09/18/22 14:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.55 ± 0.701 (1.16) C:72% T:82%**	pCi/L	09/15/22 16:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.54 ± 1.28 (1.77)**	pCi/L	09/23/22 14:27	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 531727
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 2579629
Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.263 (0.535) C:NA T:99%	pCi/L	09/18/22 14:02	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

QC Batch: 531732
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325265001, 50325265002

METHOD BLANK: 2579651
Matrix: Water
Associated Lab Samples: 50325265001, 50325265002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.782 ± 0.408 (0.724) C:75% T:88%	pCi/L	09/15/22 13:06	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

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

CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325265

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325265001	**MW-40A**	EPA 9056	694872		
50325265002	**MW-44B**	EPA 9056	694872		
50325265001	**MW-40A**	EPA 3010	695154	EPA 6010	695756
50325265002	**MW-44B**	EPA 3010	695154	EPA 6010	695756
50325265001	**MW-40A**	EPA 3010	695006	EPA 6010	695627
50325265002	**MW-44B**	EPA 3010	695006	EPA 6010	695627
50325265001	**MW-40A**	EPA 200.2	694947	EPA 6020	695198
50325265002	**MW-44B**	EPA 200.2	694947	EPA 6020	695198
50325265001	**MW-40A**	EPA 903.1	531727		
50325265002	**MW-44B**	EPA 903.1	531727		
50325265001	**MW-40A**	EPA 904.0	531732		
50325265002	**MW-44B**	EPA 904.0	531732		
50325265001	**MW-40A**	Total Radium Calculation	535085		
50325265002	**MW-44B**	Total Radium Calculation	535085		
50325265001	**MW-40A**	SM 2320B	695008		
50325265002	**MW-44B**	SM 2320B	695008		
50325265001	**MW-40A**	SM 2540C	694955		
50325265002	**MW-44B**	SM 2540C	694955		
50325265001	**MW-40A**	SM 4500-Cl G	694981		
50325265002	**MW-44B**	SM 4500-Cl G	694981		
50325265001	**MW-40A**	SM 4500-H+B	695301		
50325265002	**MW-44B**	SM 4500-H+B	695301		
50325265001	**MW-40A**	SM 4500-S2-D	694957		
50325265002	**MW-44B**	SM 4500-S2-D	694957		
50325265001	**MW-40A**	HACH 8146	694837		
50325265002	**MW-44B**	HACH 8146	694837		
50325265001	**MW-40A**	EPA 353.2	694877		
50325265002	**MW-44B**	EPA 353.2	694877		
50325265001	**MW-40A**	EPA 365.1	695216	EPA 365.1	695724
50325265002	**MW-44B**	EPA 365.1	695216	EPA 365.1	695724
50325265001	**MW-40A**	SM 5310C	695235		
50325265002	**MW-44B**	SM 5310C	695235		
50325265001	**MW-40A**	SM 5310C	695241		
50325265002	**MW-44B**	SM 5310C	695241		

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Pace

CHAIN-OF-CUSTODY / Analytic

WO# : 50325265

50325265

The Chain-of-Custody is a LEGAL DOCUMENT.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Condition

Of

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:			
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accoun		
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis		
	Suite 100, Indianapolis, IN 46256			Address:		Regulatory Agency	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:			
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Water	Pace Project Manager:	hayden.putt@pacelabs.com,	State / Location	
Requested Due Date:		Project #:		Pace Profile #:	10498/21	IN	

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate,Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW40A	5	G			9/7/22	1025		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
2	~~MW44S~~ MW-44B hrp 9/8/22	5	G			9/7/22	1314		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb	Mohammed Bazlamit	9/7/22	1415	Fedex						
Alkalinity - Total, Carb and Bicarb	Fedex	9/8/22	0945		9/8/22	0945	0.8	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:	Mohammed Bazlamit					
SIGNATURE of SAMPLER:		DATE Signed: 9/7/22				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 9/8/22 @ 1101 DF

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(s):** 0.8/0.8 | | | |
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. **Packing Material:** ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☒ Other plastic bags

6. **Ice Type:** ☒ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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)		X	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** Circle: ~~HNO3 (<2)~~ ~~H2SO4 (<2)~~ NaOH (>10) ~~NaOH/ZnAc (>9)~~ Any non-conformance to pH recommendations will be noted on the container count form			
Short Hold Time Analysis (48 hours or less)? **Analysis:** Nitrate	X					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1140		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A X
Rush TAT Requested (4 days or less):		X	Residual Chlorine Check (Total/Amenable/Free Cyanide)			X
Custody Signatures Present?	X		Headspace Wisconsin Sulfide?			X
Containers Intact?:	X		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent X
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	X		Trip Blank Present?		X	
Extra labels on Terracore Vials? (soils only)		NA	Trip Blank Custody Seals?:			X

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	VIALS: MeOH (only) / SBS / DI / R	VIALS: DG9H VG9H	VIALS: VOA VIAL HS (>6mm)	VIALS: VG9U	VIALS: DG9U	VIALS: VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	Syringe Kit			Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1												12	1			2	1	2	1	1	1		1					WT	✓	✓		✓
2												12	1			2	1	2	1	1	1		1					WT	✓	✓		✓
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
VGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
VGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
GFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
G1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
G1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
N	General	AG3C	250mL NaOH amber glass

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 09, 2022. 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. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

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 #: 460198
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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Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50325419001	**MW-44A**	Water	09/08/22 10:15	09/09/22 09:15
50325419002	**MW-44I**	Water	09/08/22 12:18	09/09/22 09:15
50325419003	**MW-43B**	Water	09/08/22 13:36	09/09/22 09:15

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50325419001	**MW-44A**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TRK	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50325419002	**MW-44I**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TRK	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50325419003	**MW-43B**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TRK	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325419001	**MW-44A**					
EPA 9056	Chloride	73.4	mg/L	2.5	09/13/22 15:12	
EPA 9056	Fluoride	0.10	mg/L	0.10	09/13/22 14:55	
EPA 9056	Sulfate	538	mg/L	25.0	09/13/22 15:30	
EPA 6010	Boron	1980	ug/L	100	09/15/22 14:31	
EPA 6010	Calcium	268000	ug/L	2000	09/15/22 16:33	
EPA 6010	Iron	13600	ug/L	100	09/15/22 14:31	
EPA 6010	Magnesium	52400	ug/L	1000	09/15/22 14:31	
EPA 6010	Manganese	897	ug/L	10.0	09/15/22 14:31	
EPA 6010	Potassium	2750	ug/L	1000	09/15/22 14:31	
EPA 6010	Silica	19600	ug/L	450	09/15/22 14:31	N2
EPA 6010	Sodium	39400	ug/L	1000	09/15/22 14:31	
EPA 6010	Manganese, Dissolved	851	ug/L	10.0	09/13/22 22:30	
EPA 6020	Arsenic	1.1	ug/L	1.0	09/13/22 10:00	
EPA 6020	Barium	63.3	ug/L	1.0	09/13/22 10:00	
EPA 6020	Molybdenum	62.3	ug/L	1.0	09/13/22 10:00	
EPA 903.1	Radium-226	0.106 ± 0.486 (0.289) C:NA T:96%	pCi/L		09/19/22 15:27	
EPA 904.0	Radium-228	0.268 ± 0.362 (0.771) C:82% T:95%	pCi/L		09/28/22 14:38	
Total Radium Calculation	Total Radium	0.374 ± 0.848 (1.06)	pCi/L		09/30/22 10:13	
SM 2320B	Alkalinity, Total as CaCO3	359	mg/L	10.0	09/12/22 17:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	359	mg/L	10.0	09/12/22 17:39	
SM 2540C	Total Dissolved Solids	1210	mg/L	20.0	09/14/22 11:45	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	09/12/22 13:48	H3
EPA 365.1	Phosphate as P04	0.47	mg/L	0.15	09/14/22 13:21	
SM 5310C	Total Organic Carbon	3.1	mg/L	1.0	09/13/22 17:49	
SM 5310C	Dissolved Organic Carbon	1.8	mg/L	1.0	09/13/22 19:56	
50325419002	**MW-44I**					
EPA 9056	Chloride	75.9	mg/L	2.5	09/13/22 16:05	
EPA 9056	Sulfate	446	mg/L	25.0	09/13/22 16:22	
EPA 6010	Boron	666	ug/L	100	09/15/22 14:33	
EPA 6010	Calcium	250000	ug/L	2000	09/15/22 16:35	
EPA 6010	Iron	12300	ug/L	100	09/15/22 14:33	
EPA 6010	Magnesium	55500	ug/L	1000	09/15/22 14:33	
EPA 6010	Manganese	950	ug/L	10.0	09/15/22 14:33	
EPA 6010	Potassium	2010	ug/L	1000	09/15/22 14:33	
EPA 6010	Silica	20500	ug/L	450	09/15/22 14:33	N2
EPA 6010	Sodium	27200	ug/L	1000	09/15/22 14:33	
EPA 6010	Manganese, Dissolved	891	ug/L	10.0	09/13/22 22:32	
EPA 6020	Barium	79.6	ug/L	1.0	09/13/22 10:04	
EPA 6020	Molybdenum	27.3	ug/L	1.0	09/13/22 10:04	

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Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325419002	**MW-44I**					
EPA 903.1	Radium-226	0.0786 ± 0.462 (0.944) C:NA T:92%	pCi/L		09/19/22 15:27	
EPA 904.0	Radium-228	0.571 ± 0.394 (0.755) C:84% T:90%	pCi/L		09/28/22 14:38	
Total Radium Calculation	Total Radium	0.650 ± 0.856 (1.70)	pCi/L		09/30/22 10:13	
SM 2320B	Alkalinity, Total as CaCO3	381	mg/L	10.0	09/12/22 17:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	381	mg/L	10.0	09/12/22 17:39	
SM 2540C	Total Dissolved Solids	1080	mg/L	20.0	09/14/22 11:46	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	09/12/22 13:49	H3
EPA 365.1	Phosphate as P04	0.61	mg/L	0.15	09/14/22 13:22	
SM 5310C	Total Organic Carbon	2.7	mg/L	1.0	09/13/22 18:22	
SM 5310C	Dissolved Organic Carbon	2.6	mg/L	1.0	09/13/22 20:16	
50325419003	**MW-43B**					
EPA 9056	Chloride	49.4	mg/L	2.5	09/13/22 16:57	
EPA 9056	Fluoride	0.10	mg/L	0.10	09/13/22 16:40	
EPA 9056	Sulfate	281	mg/L	25.0	09/13/22 17:14	
EPA 6010	Boron	1130	ug/L	100	09/15/22 14:35	
EPA 6010	Calcium	219000	ug/L	2000	09/15/22 16:37	
EPA 6010	Iron	3220	ug/L	100	09/15/22 14:35	
EPA 6010	Magnesium	48000	ug/L	1000	09/15/22 14:35	
EPA 6010	Manganese	2550	ug/L	10.0	09/15/22 14:35	
EPA 6010	Potassium	2280	ug/L	1000	09/15/22 14:35	
EPA 6010	Silica	14100	ug/L	450	09/15/22 14:35	N2
EPA 6010	Sodium	27100	ug/L	1000	09/15/22 14:35	
EPA 6010	Manganese, Dissolved	2420	ug/L	10.0	09/13/22 22:34	
EPA 6020	Barium	132	ug/L	1.0	09/13/22 10:16	
EPA 6020	Cobalt	4.3	ug/L	1.0	09/13/22 10:16	
EPA 6020	Molybdenum	10.3	ug/L	1.0	09/13/22 10:16	
EPA 903.1	Radium-226	1.08 ± 0.758 (1.000) C:NA T:89%	pCi/L		09/19/22 15:27	
EPA 904.0	Radium-228	0.664 ± 0.329 (0.554) C:75% T:91%	pCi/L		09/28/22 12:20	
Total Radium Calculation	Total Radium	1.74 ± 1.09 (1.55)	pCi/L		09/30/22 10:13	
SM 2320B	Alkalinity, Total as CaCO3	455	mg/L	10.0	09/12/22 17:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	455	mg/L	10.0	09/12/22 17:39	
SM 2540C	Total Dissolved Solids	912	mg/L	20.0	09/14/22 11:46	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/12/22 13:50	H3

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325419003	**MW-43B**					
SM 5310C	Total Organic Carbon	3.5	mg/L	1.0	09/13/22 18:43	
SM 5310C	Dissolved Organic Carbon	3.8	mg/L	1.0	09/13/22 20:36	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Sample: MW-44A **Lab ID: 50325419001** Collected: 09/08/22 10:15 Received: 09/09/22 09:15 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	**73.4**	mg/L	2.5	10		09/13/22 15:12	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		09/13/22 14:55	16984-48-8	
Sulfate	**538**	mg/L	25.0	100		09/13/22 15:30	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/14/22 11:06	09/15/22 14:31	7429-90-5	
Boron	**1980**	ug/L	100	1	09/14/22 11:06	09/15/22 14:31	7440-42-8	
Calcium	**268000**	ug/L	2000	2	09/14/22 11:06	09/15/22 16:33	7440-70-2	
Iron	**13600**	ug/L	100	1	09/14/22 11:06	09/15/22 14:31	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/14/22 11:06	09/15/22 14:31	7439-93-2	
Magnesium	**52400**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:31	7439-95-4	
Manganese	**897**	ug/L	10.0	1	09/14/22 11:06	09/15/22 14:31	7439-96-5	
Potassium	**2750**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:31	7440-09-7	
Silica	**19600**	ug/L	450	1	09/14/22 11:06	09/15/22 14:31	7631-86-9	N2
Sodium	**39400**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:31	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**851**	ug/L	10.0	1	09/13/22 10:05	09/13/22 22:30	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:00	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:00	7440-38-2	
Barium	**63.3**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:00	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:00	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:00	7440-43-9	
Cobalt	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:00	7440-48-4	
Lead	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:00	7439-92-1	
Molybdenum	**62.3**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:00	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**359**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Bicarbonate (CaCO3)	**359**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/12/22 17:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1210**	mg/L	20.0	1		09/14/22 11:45		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/15/22 17:36	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Sample: MW-44A **Lab ID: 50325419001** Collected: 09/08/22 10:15 Received: 09/09/22 09:15 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		09/12/22 13:48		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/14/22 10:21	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/15/22 18:35	15438-31-0	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		09/09/22 15:00	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/09/22 15:00	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.47**	mg/L	0.15	1	09/13/22 09:30	09/14/22 13:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**3.1**	mg/L	1.0	1		09/13/22 17:49	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.8**	mg/L	1.0	1		09/13/22 19:56		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Sample: MW-44I **Lab ID: 50325419002** Collected: 09/08/22 12:18 Received: 09/09/22 09:15 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	**75.9**	mg/L	2.5	10		09/13/22 16:05	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/13/22 15:47	16984-48-8	
Sulfate	**446**	mg/L	25.0	100		09/13/22 16:22	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/14/22 11:06	09/15/22 14:33	7429-90-5	
Boron	**666**	ug/L	100	1	09/14/22 11:06	09/15/22 14:33	7440-42-8	
Calcium	**250000**	ug/L	2000	2	09/14/22 11:06	09/15/22 16:35	7440-70-2	
Iron	**12300**	ug/L	100	1	09/14/22 11:06	09/15/22 14:33	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/14/22 11:06	09/15/22 14:33	7439-93-2	
Magnesium	**55500**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:33	7439-95-4	
Manganese	**950**	ug/L	10.0	1	09/14/22 11:06	09/15/22 14:33	7439-96-5	
Potassium	**2010**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:33	7440-09-7	
Silica	**20500**	ug/L	450	1	09/14/22 11:06	09/15/22 14:33	7631-86-9	N2
Sodium	**27200**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:33	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**891**	ug/L	10.0	1	09/13/22 10:05	09/13/22 22:32	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:04	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:04	7440-38-2	
Barium	**79.6**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:04	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:04	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:04	7440-43-9	
Cobalt	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:04	7440-48-4	
Lead	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:04	7439-92-1	
Molybdenum	**27.3**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:04	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**381**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Bicarbonate (CaCO3)	**381**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/12/22 17:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1080**	mg/L	20.0	1		09/14/22 11:46		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/15/22 17:37	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Sample: MW-44I **Lab ID: 50325419002** Collected: 09/08/22 12:18 Received: 09/09/22 09:15 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		09/12/22 13:49		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/14/22 10:21	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/15/22 18:35	15438-31-0	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		09/09/22 15:17	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/09/22 15:17	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.61**	mg/L	0.15	1	09/13/22 09:30	09/14/22 13:22		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.7**	mg/L	1.0	1		09/13/22 18:22	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.6**	mg/L	1.0	1		09/13/22 20:16		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Sample: MW-43B **Lab ID: 50325419003** Collected: 09/08/22 13:36 Received: 09/09/22 09:15 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	**49.4**	mg/L	2.5	10		09/13/22 16:57	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		09/13/22 16:40	16984-48-8	
Sulfate	**281**	mg/L	25.0	100		09/13/22 17:14	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/14/22 11:06	09/15/22 14:35	7429-90-5	
Boron	**1130**	ug/L	100	1	09/14/22 11:06	09/15/22 14:35	7440-42-8	
Calcium	**219000**	ug/L	2000	2	09/14/22 11:06	09/15/22 16:37	7440-70-2	
Iron	**3220**	ug/L	100	1	09/14/22 11:06	09/15/22 14:35	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/14/22 11:06	09/15/22 14:35	7439-93-2	
Magnesium	**48000**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:35	7439-95-4	
Manganese	**2550**	ug/L	10.0	1	09/14/22 11:06	09/15/22 14:35	7439-96-5	
Potassium	**2280**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:35	7440-09-7	
Silica	**14100**	ug/L	450	1	09/14/22 11:06	09/15/22 14:35	7631-86-9	N2
Sodium	**27100**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:35	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2420**	ug/L	10.0	1	09/13/22 10:05	09/13/22 22:34	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:16	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:16	7440-38-2	
Barium	**132**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:16	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:16	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:16	7440-43-9	
Cobalt	**4.3**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:16	7440-48-4	
Lead	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:16	7439-92-1	
Molybdenum	**10.3**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:16	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**455**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Bicarbonate (CaCO3)	**455**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/12/22 17:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**912**	mg/L	20.0	1		09/14/22 11:46		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/15/22 17:37	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Sample: MW-43B **Lab ID: 50325419003** Collected: 09/08/22 13:36 Received: 09/09/22 09:15 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		09/12/22 13:50		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/14/22 10:21	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/15/22 18:36	15438-31-0	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		09/09/22 15:24	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/09/22 15:24	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/13/22 09:30	09/14/22 13:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**3.5**	mg/L	1.0	1		09/13/22 18:43	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.8**	mg/L	1.0	1		09/13/22 20:36		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695476
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3197577 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/13/22 10:26	
Fluoride	mg/L	ND	0.10	09/13/22 10:26	
Sulfate	mg/L	ND	0.25	09/13/22 10:26	

LABORATORY CONTROL SAMPLE: 3197578

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.3	103	80-120	
Fluoride	mg/L	0.5	0.54	108	80-120	
Sulfate	mg/L	2.5	2.8	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197579 3197580

Parameter	Units	50325558001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	11.4	1.2	1.2	12.8	12.8	116	115	80-120	0	15	E
Fluoride	mg/L	0.86	0.5	0.5	1.4	1.4	108	104	80-120	2	15	
Sulfate	mg/L	167	25	25	188	188	86	86	80-120	0	15	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695605
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3198227 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/15/22 14:06	
Boron	ug/L	ND	100	09/16/22 10:40	
Calcium	ug/L	ND	1000	09/15/22 14:06	
Iron	ug/L	ND	100	09/15/22 14:06	
Lithium	ug/L	ND	20.0	09/15/22 14:06	
Magnesium	ug/L	ND	1000	09/15/22 14:06	
Manganese	ug/L	ND	10.0	09/15/22 14:06	
Potassium	ug/L	ND	1000	09/15/22 14:06	
Silica	ug/L	ND	450	09/15/22 14:06	N2
Sodium	ug/L	ND	1000	09/15/22 14:06	

LABORATORY CONTROL SAMPLE: 3198228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9960	100	80-120	
Boron	ug/L	1000	1050	105	80-120	
Calcium	ug/L	10000	10200	102	80-120	
Iron	ug/L	10000	10000	100	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	10000	9690	97	80-120	
Manganese	ug/L	1000	991	99	80-120	
Potassium	ug/L	10000	9750	98	80-120	
Silica	ug/L	10700	10300	97	80-120	N2
Sodium	ug/L	10000	9900	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198229 3198230

Parameter	Units	50325536003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2310	10000	10000	13000	13000	107	107	75-125	0	20	
Boron	ug/L	ND	1000	1000	1120	1130	104	105	75-125	1	20	
Calcium	ug/L	179000	10000	10000	190000	194000	116	151	75-125	2	20	P6
Iron	ug/L	5600	10000	10000	15600	15700	100	101	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1100	1110	108	110	75-125	1	20	
Magnesium	ug/L	35400	10000	10000	45600	46100	102	108	75-125	1	20	
Manganese	ug/L	576	1000	1000	1570	1590	100	102	75-125	1	20	
Potassium	ug/L	7560	10000	10000	18200	18400	106	108	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198229 3198230

Parameter	Units	50325536003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	22000	10700	10700	36000	31900	131	92	75-125	12	20	N2
Sodium	ug/L	51100	10000	10000	62200	63300	111	122	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695294
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3197001 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	09/13/22 21:59	

LABORATORY CONTROL SAMPLE: 3197002

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	1000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197003 3197004

Parameter	Units	50325153007 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	17.2	1000	1000	990	983	97	97	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197005 3197006

Parameter	Units	50325536003 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	433	1000	1000	1410	1450	98	101	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695151
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3196430 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/13/22 09:48	
Arsenic	ug/L	ND	1.0	09/13/22 09:48	
Barium	ug/L	ND	1.0	09/13/22 09:48	
Beryllium	ug/L	ND	0.20	09/13/22 09:48	
Cadmium	ug/L	ND	0.20	09/13/22 09:48	
Cobalt	ug/L	ND	1.0	09/13/22 09:48	
Lead	ug/L	ND	1.0	09/13/22 09:48	
Molybdenum	ug/L	ND	1.0	09/13/22 09:48	

LABORATORY CONTROL SAMPLE: 3196431

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.2	105	80-120	
Arsenic	ug/L	40	39.2	98	80-120	
Barium	ug/L	40	39.7	99	80-120	
Beryllium	ug/L	40	39.8	99	80-120	
Cadmium	ug/L	40	41.0	102	80-120	
Cobalt	ug/L	40	41.4	104	80-120	
Lead	ug/L	40	41.6	104	80-120	
Molybdenum	ug/L	40	41.5	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196432 3196433

Parameter	Units	50325336001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<2.0	40	40	41.3	41.5	101	101	75-125	1	20	
Arsenic	ug/L	2.0	40	40	37.7	37.5	89	89	75-125	0	20	
Barium	ug/L	56.4	40	40	98.1	96.8	104	101	75-125	1	20	
Beryllium	ug/L	<1.0	40	40	42.1	41.6	105	104	75-125	1	20	
Cadmium	ug/L	<0.20	40	40	38.9	38.7	97	97	75-125	1	20	
Cobalt	ug/L	<15.0	40	40	40.2	40.3	98	98	75-125	0	20	
Lead	ug/L	5.9	40	40	47.6	47.7	104	105	75-125	0	20	
Molybdenum	ug/L	21.7	40	40	65.4	62.0	109	101	75-125	5	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695249 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3196863 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	09/12/22 17:39	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	09/12/22 17:39	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	09/12/22 17:39	

LABORATORY CONTROL SAMPLE: 3196864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	46.5	93	90-110	

SAMPLE DUPLICATE: 3196865

Parameter	Units	50325419001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	359	363	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	359	363	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3196866

Parameter	Units	50325523005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	602	626	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	602	626	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695708 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3198583 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/14/22 11:36	

LABORATORY CONTROL SAMPLE: 3198584

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	286	95	80-120	

SAMPLE DUPLICATE: 3198585

Parameter	Units	50325405003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	665	661	1	10	

SAMPLE DUPLICATE: 3198586

Parameter	Units	50325407003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1310	1300	1	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 696042
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3200123 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	09/15/22 17:34	H3

LABORATORY CONTROL SAMPLE: 3200124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	0.98	98	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200125 3200126

Parameter	Units	50325762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.84	0.83	84	83	90-110	1	20	H3,M3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695301
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

SAMPLE DUPLICATE: 3197031

Parameter	Units	50325440005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	2	H3

SAMPLE DUPLICATE: 3197032

Parameter	Units	50325318004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695670
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3198457 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/14/22 10:21	

LABORATORY CONTROL SAMPLE: 3198458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.49	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198459 3198460

Parameter	Units	50323135002 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	0.44	0.45	87	90	90-110	3	20	M0

MATRIX SPIKE SAMPLE: 3198461

Parameter	Units	50325351004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.48	95	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 696043
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3200131 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	09/15/22 18:35	H3,N2

LABORATORY CONTROL SAMPLE: 3200132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	104	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200133 3200134

Parameter	Units	50325762001 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	107	106	90-110	2	20	H3,N2

MATRIX SPIKE SAMPLE: 3200137

Parameter	Units	50325519001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	0.98	98	90-110	H3,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695036
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3195457 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/09/22 14:25	
Nitrogen, Nitrite	mg/L	ND	0.10	09/09/22 14:25	

LABORATORY CONTROL SAMPLE: 3195458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	102	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195459 3195460

Parameter	Units	50325407003 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	0.22	0.24	22	24	90-110	6	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.69	0.68	66	66	90-110	1	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195461 3195462

Parameter	Units	50325402011 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	0.96	0.96	95	95	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	100	100	90-110	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695325 | 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: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3197095 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/14/22 13:11	

LABORATORY CONTROL SAMPLE: 3197096

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197104 3197105

Parameter	Units	50324958001 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	1.4				3		

MATRIX SPIKE SAMPLE: 3197106

Parameter	Units	50325524001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.7			

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695496 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3197674 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/13/22 17:27	

LABORATORY CONTROL SAMPLE: 3197675

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: 3197676 3197677

Parameter	Units	50325419001 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	3.1	10	10	12.2	12.3	92	92	80-120	0	20	

MATRIX SPIKE SAMPLE: 3197678

Parameter	Units	50325419002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.7	10	12.0	93	80-120	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 695241 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 3196848 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/13/22 17:37	

LABORATORY CONTROL SAMPLE: 3196849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.6	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196850 3196851

Parameter	Units	50325265001 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	6.4	10	10	16.1	16.0	97	96	80-120	1	20	

MATRIX SPIKE SAMPLE: 3196852

Parameter	Units	50325265002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.4	10	12.1	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Sample: MW-44A **Lab ID: 50325419001** Collected: 09/08/22 10:15 Received: 09/09/22 09:15 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	**0.106 ± 0.486 (0.289) C:NA T:96%**	pCi/L	09/19/22 15:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.268 ± 0.362 (0.771) C:82% T:95%**	pCi/L	09/28/22 14:38	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.374 ± 0.848 (1.06)**	pCi/L	09/30/22 10:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Sample: MW-44I **Lab ID: 50325419002** Collected: 09/08/22 12:18 Received: 09/09/22 09:15 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	**0.0786 ± 0.462 (0.944) C:NA T:92%**	pCi/L	09/19/22 15:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.571 ± 0.394 (0.755) C:84% T:90%**	pCi/L	09/28/22 14:38	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.650 ± 0.856 (1.70)**	pCi/L	09/30/22 10:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Sample: MW-43B **Lab ID: 50325419003** Collected: 09/08/22 13:36 Received: 09/09/22 09:15 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	**1.08 ± 0.758 (1.000) C:NA T:89%**	pCi/L	09/19/22 15:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.664 ± 0.329 (0.554) C:75% T:91%**	pCi/L	09/28/22 12:20	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.74 ± 1.09 (1.55)**	pCi/L	09/30/22 10:13	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 532072
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 2581259
Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.765 ± 0.375 (0.646) C:81% T:87%	pCi/L	09/28/22 12:18	

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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

QC Batch: 532071
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325419001, 50325419002, 50325419003

METHOD BLANK: 2581258 Matrix: Water
Associated Lab Samples: 50325419001, 50325419002, 50325419003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.211 ± 0.323 (0.846) C:NA T:85%	pCi/L	09/19/22 15:27	

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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(317)228-3100

QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

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

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325419001	**MW-44A**	EPA 9056	695476		
50325419002	**MW-44I**	EPA 9056	695476		
50325419003	**MW-43B**	EPA 9056	695476		
50325419001	**MW-44A**	EPA 3010	695605	EPA 6010	695995
50325419002	**MW-44I**	EPA 3010	695605	EPA 6010	695995
50325419003	**MW-43B**	EPA 3010	695605	EPA 6010	695995
50325419001	**MW-44A**	EPA 3010	695294	EPA 6010	695621
50325419002	**MW-44I**	EPA 3010	695294	EPA 6010	695621
50325419003	**MW-43B**	EPA 3010	695294	EPA 6010	695621
50325419001	**MW-44A**	EPA 200.2	695151	EPA 6020	695204
50325419002	**MW-44I**	EPA 200.2	695151	EPA 6020	695204
50325419003	**MW-43B**	EPA 200.2	695151	EPA 6020	695204
50325419001	**MW-44A**	EPA 903.1	532071		
50325419002	**MW-44I**	EPA 903.1	532071		
50325419003	**MW-43B**	EPA 903.1	532071		
50325419001	**MW-44A**	EPA 904.0	532072		
50325419002	**MW-44I**	EPA 904.0	532072		
50325419003	**MW-43B**	EPA 904.0	532072		
50325419001	**MW-44A**	Total Radium Calculation	536563		
50325419002	**MW-44I**	Total Radium Calculation	536563		
50325419003	**MW-43B**	Total Radium Calculation	536563		
50325419001	**MW-44A**	SM 2320B	695249		
50325419002	**MW-44I**	SM 2320B	695249		
50325419003	**MW-43B**	SM 2320B	695249		
50325419001	**MW-44A**	SM 2540C	695708		
50325419002	**MW-44I**	SM 2540C	695708		
50325419003	**MW-43B**	SM 2540C	695708		
50325419001	**MW-44A**	SM 4500-Cl G	696042		
50325419002	**MW-44I**	SM 4500-Cl G	696042		
50325419003	**MW-43B**	SM 4500-Cl G	696042		
50325419001	**MW-44A**	SM 4500-H+B	695301		
50325419002	**MW-44I**	SM 4500-H+B	695301		
50325419003	**MW-43B**	SM 4500-H+B	695301		
50325419001	**MW-44A**	SM 4500-S2-D	695670		
50325419002	**MW-44I**	SM 4500-S2-D	695670		
50325419003	**MW-43B**	SM 4500-S2-D	695670		
50325419001	**MW-44A**	HACH 8146	696043		
50325419002	**MW-44I**	HACH 8146	696043		
50325419003	**MW-43B**	HACH 8146	696043		
50325419001	**MW-44A**	EPA 353.2	695036		
50325419002	**MW-44I**	EPA 353.2	695036		
50325419003	**MW-43B**	EPA 353.2	695036		

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325419

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325419001	**MW-44A**	EPA 365.1	695325	EPA 365.1	695775
50325419002	**MW-44I**	EPA 365.1	695325	EPA 365.1	695775
50325419003	**MW-43B**	EPA 365.1	695325	EPA 365.1	695775
50325419001	**MW-44A**	SM 5310C	695496		
50325419002	**MW-44I**	SM 5310C	695496		
50325419003	**MW-43B**	SM 5310C	695496		
50325419001	**MW-44A**	SM 5310C	695241		
50325419002	**MW-44I**	SM 5310C	695241		
50325419003	**MW-43B**	SM 5310C	695241		

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WO# : 50325419

50325419

Pace

CHAIN-OF-CUSTODY / Analytical Re

The Chain-of-Custody is a LEGAL DOCUMENT. All releva

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at

Section A	Section B	Section C
Required Client Information:	**Required Project Information:**	**Invoice Information:**
Company: Atlas Indianapolis	Report To: Mark Breting	Attention: Accounts Payable - Paula Sedam
Address: 7988 Centerpoint Drive	Copy To:	Company Name: Atlas Indianapolis
Suite 100, Indianapolis, IN 46256		Address:
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:
Phone: 317-313-8306 Fax:	Project Name: AES PB 2022 On-Site MW Water	Pace Project Manager: hayden.putt@pacelabs.com,
Requested Due Date:	Project #:	Pace Profile #: 10498/21

Regulatory Agency
State / Location
IN

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate,Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum	Residual Chlorine (Y/N)	Requested Analysis Filtered (Y/N)
1	MW44A	WT	G			9/9/22	1015		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		001
2	MW 44I	WT	G			9/8/22	1258		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		002
3	MW43B	WT	G			9/8/22	1336		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		003
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb	Mohammed Barlamit	9/8/22	1520	Fed Ex						
Alkalinity - Total, Carb and Bicarb	Fed Ex	9/9/22	0915	BSubhani	9/9/22	0915	See Cust	Y	Y	Y

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER: Mohammed Barlamit	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER: DATE Signed: 9/8/22				

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BS 9/9/22 1025

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(s):** 1.7/0.8 | 1.6/0.7 | | | **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)
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
   Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** Circle: **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: Nitrate / Nitrite	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1050			Present	Absent	N/A ✓
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

OC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

OC line em	WGFU	MeOH (only) / SBS / DI / R	VIALS: DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	Syringe Kit			Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/ZnAc >9
1													1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
2													1	1			1	1	1	1	1	1		1					1	1	1		1
3													1	1			1	1	1	1	1	1		1					1	1	1		1
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

tainer Codes

Glass

H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
P	40mL TSP amber vial	BG1U	1L unpreserved glass
S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
H	40mL HCl clear vial	AG1H	1L HCl amber glass
T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
J	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
U	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
U	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
J	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
	General	AG3C	250mL NaOH amber glass

Plastic

BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
BP1U	1L unpreserved plastic		
BP1Z	1L NaOH, Zn, Ac		
BP2N	500mL HNO3 plastic		
BP2C	500mL NaOH plastic		
BP2S	500mL H2SO4 plastic		
BP2U	500mL unpreserved plastic		
BP2Z	500mL NaOH, Zn Ac		
BP3B	250mL NaOH plastic		
BP3N	250mL HNO3 plastic		
BP3F	250mL HNO3 plastic-field filtered		
BP3U	250mL unpreserved plastic		
BP3S	250mL H2SO4 plastic		
BP3Z	250mL NaOH, ZnAc plastic		

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 09, 2022. 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. Robert Miller, Haley & Aldrich

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

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 #: 460198
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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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50325524001	**MW-43A**	Water	09/09/22 13:32	09/09/22 16:52
50325524002	**MW-43I**	Water	09/09/22 11:06	09/09/22 16:52
50325524003	**DUP-1**	Water	09/09/22 00:00	09/09/22 16:52

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50325524001	**MW-43A**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TRK	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50325524002	**MW-43I**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TRK	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50325524003	**DUP-1**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TRK	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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7726 Moller Road
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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325524001	**MW-43A**					
EPA 9056	Chloride	121	mg/L	2.5	09/13/22 18:24	
EPA 9056	Fluoride	0.13	mg/L	0.10	09/13/22 18:07	
EPA 9056	Sulfate	1270	mg/L	25.0	09/13/22 18:41	
EPA 6010	Boron	10000	ug/L	100	09/15/22 14:46	
EPA 6010	Calcium	468000	ug/L	3000	09/15/22 16:39	
EPA 6010	Iron	12000	ug/L	100	09/15/22 14:46	
EPA 6010	Magnesium	38200	ug/L	1000	09/15/22 14:46	
EPA 6010	Manganese	1610	ug/L	10.0	09/15/22 14:46	
EPA 6010	Potassium	16600	ug/L	1000	09/15/22 14:46	
EPA 6010	Silica	14800	ug/L	450	09/15/22 14:46	N2
EPA 6010	Sodium	61700	ug/L	1000	09/15/22 14:46	
EPA 6010	Manganese, Dissolved	1540	ug/L	10.0	09/13/22 22:36	
EPA 6020	Barium	50.8	ug/L	1.0	09/13/22 10:20	
EPA 6020	Cobalt	1.1	ug/L	1.0	09/13/22 10:20	
EPA 6020	Molybdenum	182	ug/L	1.0	09/13/22 10:20	
EPA 903.1	Radium-226	0.000 ± 0.456 (0.988) C:NA T:85%	pCi/L		09/20/22 13:57	
EPA 904.0	Radium-228	1.30 ± 0.502 (0.763) C:79% T:86%	pCi/L		09/29/22 15:11	
Total Radium Calculation	Total Radium	1.30 ± 0.958 (1.75)	pCi/L		09/30/22 15:22	
SM 2320B	Alkalinity, Total as CaCO3	175	mg/L	10.0	09/12/22 17:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	175	mg/L	10.0	09/12/22 17:39	
SM 2540C	Total Dissolved Solids	2030	mg/L	40.0	09/14/22 11:48	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	09/12/22 13:51	H3
HACH 8146	Iron, Ferrous	0.46	mg/L	0.20	09/15/22 18:38	H3,N2
SM 5310C	Dissolved Organic Carbon	2.5	mg/L	1.0	09/13/22 21:34	
50325524002	**MW-43I**					
EPA 9056	Chloride	69.8	mg/L	2.5	09/13/22 19:16	
EPA 9056	Fluoride	0.12	mg/L	0.10	09/13/22 18:59	
EPA 9056	Sulfate	396	mg/L	25.0	09/13/22 19:34	
EPA 6010	Boron	1560	ug/L	100	09/15/22 14:48	
EPA 6010	Calcium	257000	ug/L	2000	09/15/22 16:41	
EPA 6010	Iron	9570	ug/L	100	09/15/22 14:48	
EPA 6010	Magnesium	52300	ug/L	1000	09/15/22 14:48	
EPA 6010	Manganese	2160	ug/L	10.0	09/15/22 14:48	
EPA 6010	Potassium	4710	ug/L	1000	09/15/22 14:48	
EPA 6010	Silica	16900	ug/L	450	09/15/22 14:48	N2
EPA 6010	Sodium	37500	ug/L	1000	09/15/22 14:48	
EPA 6010	Manganese, Dissolved	2010	ug/L	10.0	09/13/22 22:39	
EPA 6020	Arsenic	1.9	ug/L	1.0	09/13/22 10:24	
EPA 6020	Barium	101	ug/L	1.0	09/13/22 10:24	
EPA 6020	Cobalt	1.8	ug/L	1.0	09/13/22 10:24	

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(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325524002	**MW-43I**					
EPA 6020	Molybdenum	77.3	ug/L	1.0	09/13/22 10:24	
EPA 903.1	Radium-226	0.225 ± 0.571 (1.06) C:NA T:93%	pCi/L		09/20/22 13:57	
EPA 904.0	Radium-228	0.665 ± 0.455 (0.873) C:81% T:74%	pCi/L		09/29/22 15:12	
Total Radium Calculation	Total Radium	0.890 ± 1.03 (1.93)	pCi/L		09/30/22 15:22	
SM 2320B	Alkalinity, Total as CaCO3	431	mg/L	10.0	09/12/22 17:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	431	mg/L	10.0	09/12/22 17:39	
SM 2540C	Total Dissolved Solids	1110	mg/L	20.0	09/14/22 11:49	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	09/12/22 13:52	H3
SM 5310C	Total Organic Carbon	2.3	mg/L	1.0	09/13/22 19:04	
SM 5310C	Dissolved Organic Carbon	3.0	mg/L	1.0	09/13/22 21:54	
50325524003	**DUP-1**					
EPA 9056	Chloride	69.6	mg/L	2.5	09/13/22 20:09	
EPA 9056	Fluoride	0.12	mg/L	0.10	09/13/22 19:51	
EPA 9056	Sulfate	399	mg/L	25.0	09/13/22 20:26	
EPA 6010	Boron	1560	ug/L	100	09/15/22 14:50	
EPA 6010	Calcium	253000	ug/L	2000	09/15/22 16:49	
EPA 6010	Iron	9620	ug/L	100	09/15/22 14:50	
EPA 6010	Magnesium	52700	ug/L	1000	09/15/22 14:50	
EPA 6010	Manganese	2170	ug/L	10.0	09/15/22 14:50	
EPA 6010	Potassium	4690	ug/L	1000	09/15/22 14:50	
EPA 6010	Silica	16300	ug/L	450	09/15/22 14:50	N2
EPA 6010	Sodium	37500	ug/L	1000	09/15/22 14:50	
EPA 6010	Manganese, Dissolved	2020	ug/L	10.0	09/13/22 22:41	
EPA 6020	Arsenic	1.9	ug/L	1.0	09/13/22 10:28	
EPA 6020	Barium	98.6	ug/L	1.0	09/13/22 10:28	
EPA 6020	Cobalt	1.7	ug/L	1.0	09/13/22 10:28	
EPA 6020	Molybdenum	76.8	ug/L	1.0	09/13/22 10:28	
EPA 903.1	Radium-226	0.309 ± 0.607 (1.09) C:NA T:91%	pCi/L		09/20/22 14:17	
EPA 904.0	Radium-228	0.336 ± 0.403 (0.852) C:80% T:78%	pCi/L		09/29/22 15:12	
Total Radium Calculation	Total Radium	0.645 ± 1.01 (1.94)	pCi/L		09/30/22 15:22	
SM 2320B	Alkalinity, Total as CaCO3	432	mg/L	10.0	09/12/22 17:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	432	mg/L	10.0	09/12/22 17:39	
SM 2540C	Total Dissolved Solids	1110	mg/L	20.0	09/14/22 11:49	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	09/12/22 13:54	H3

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325524003	**DUP-1**					
SM 5310C	Total Organic Carbon	2.5	mg/L	1.0	09/13/22 19:35	
SM 5310C	Dissolved Organic Carbon	2.5	mg/L	1.0	09/13/22 22:14	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Sample: MW-43A **Lab ID: 50325524001** Collected: 09/09/22 13:32 Received: 09/09/22 16:52 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	**121**	mg/L	2.5	10		09/13/22 18:24	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		09/13/22 18:07	16984-48-8	
Sulfate	**1270**	mg/L	25.0	100		09/13/22 18:41	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/14/22 11:06	09/15/22 14:46	7429-90-5	
Boron	**10000**	ug/L	100	1	09/14/22 11:06	09/15/22 14:46	7440-42-8	
Calcium	**468000**	ug/L	3000	3	09/14/22 11:06	09/15/22 16:39	7440-70-2	
Iron	**12000**	ug/L	100	1	09/14/22 11:06	09/15/22 14:46	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/14/22 11:06	09/15/22 14:46	7439-93-2	
Magnesium	**38200**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:46	7439-95-4	
Manganese	**1610**	ug/L	10.0	1	09/14/22 11:06	09/15/22 14:46	7439-96-5	
Potassium	**16600**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:46	7440-09-7	
Silica	**14800**	ug/L	450	1	09/14/22 11:06	09/15/22 14:46	7631-86-9	N2
Sodium	**61700**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:46	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1540**	ug/L	10.0	1	09/13/22 10:05	09/13/22 22:36	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:20	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:20	7440-38-2	
Barium	**50.8**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:20	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:20	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:20	7440-43-9	
Cobalt	**1.1**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:20	7440-48-4	
Lead	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:20	7439-92-1	
Molybdenum	**182**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:20	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**175**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Bicarbonate (CaCO3)	**175**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/12/22 17:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2030**	mg/L	40.0	1		09/14/22 11:48		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/15/22 17:37	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Sample: MW-43A **Lab ID: 50325524001** Collected: 09/09/22 13:32 Received: 09/09/22 16:52 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		09/12/22 13:51		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/14/22 10:21	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.46**	mg/L	0.20	1		09/15/22 18:38	15438-31-0	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		09/10/22 10:57	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/10/22 10:57	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	09/13/22 09:30	09/14/22 13:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	4.0	4		09/13/22 18:53	7440-44-0	D3
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.5**	mg/L	1.0	1		09/13/22 21:34		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Sample: MW-43I **Lab ID: 50325524002** Collected: 09/09/22 11:06 Received: 09/09/22 16:52 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	**69.8**	mg/L	2.5	10		09/13/22 19:16	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	1		09/13/22 18:59	16984-48-8	
Sulfate	**396**	mg/L	25.0	100		09/13/22 19:34	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/14/22 11:06	09/15/22 14:48	7429-90-5	
Boron	**1560**	ug/L	100	1	09/14/22 11:06	09/15/22 14:48	7440-42-8	
Calcium	**257000**	ug/L	2000	2	09/14/22 11:06	09/15/22 16:41	7440-70-2	
Iron	**9570**	ug/L	100	1	09/14/22 11:06	09/15/22 14:48	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/14/22 11:06	09/15/22 14:48	7439-93-2	
Magnesium	**52300**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:48	7439-95-4	
Manganese	**2160**	ug/L	10.0	1	09/14/22 11:06	09/15/22 14:48	7439-96-5	
Potassium	**4710**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:48	7440-09-7	
Silica	**16900**	ug/L	450	1	09/14/22 11:06	09/15/22 14:48	7631-86-9	N2
Sodium	**37500**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:48	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2010**	ug/L	10.0	1	09/13/22 10:05	09/13/22 22:39	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:24	7440-36-0	
Arsenic	**1.9**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:24	7440-38-2	
Barium	**101**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:24	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:24	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:24	7440-43-9	
Cobalt	**1.8**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:24	7440-48-4	
Lead	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:24	7439-92-1	
Molybdenum	**77.3**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:24	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**431**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Bicarbonate (CaCO3)	**431**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/12/22 17:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1110**	mg/L	20.0	1		09/14/22 11:49		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/15/22 17:37	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Sample: MW-43I **Lab ID: 50325524002** Collected: 09/09/22 11:06 Received: 09/09/22 16:52 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		09/12/22 13:52		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/14/22 10:21	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/15/22 18:36	15438-31-0	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		09/10/22 10:36	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/10/22 10:36	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	09/13/22 09:30	09/14/22 13:25		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.3**	mg/L	1.0	1		09/13/22 19:04	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.0**	mg/L	1.0	1		09/13/22 21:54		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Sample: DUP-1 **Lab ID: 50325524003** Collected: 09/09/22 00:00 Received: 09/09/22 16:52 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	**69.6**	mg/L	2.5	10		09/13/22 20:09	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	1		09/13/22 19:51	16984-48-8	
Sulfate	**399**	mg/L	25.0	100		09/13/22 20:26	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/14/22 11:06	09/15/22 14:50	7429-90-5	
Boron	**1560**	ug/L	100	1	09/14/22 11:06	09/15/22 14:50	7440-42-8	
Calcium	**253000**	ug/L	2000	2	09/14/22 11:06	09/15/22 16:49	7440-70-2	
Iron	**9620**	ug/L	100	1	09/14/22 11:06	09/15/22 14:50	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/14/22 11:06	09/15/22 14:50	7439-93-2	
Magnesium	**52700**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:50	7439-95-4	
Manganese	**2170**	ug/L	10.0	1	09/14/22 11:06	09/15/22 14:50	7439-96-5	
Potassium	**4690**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:50	7440-09-7	
Silica	**16300**	ug/L	450	1	09/14/22 11:06	09/15/22 14:50	7631-86-9	N2
Sodium	**37500**	ug/L	1000	1	09/14/22 11:06	09/15/22 14:50	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2020**	ug/L	10.0	1	09/13/22 10:05	09/13/22 22:41	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:28	7440-36-0	
Arsenic	**1.9**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:28	7440-38-2	
Barium	**98.6**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:28	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:28	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/11/22 15:45	09/13/22 10:28	7440-43-9	
Cobalt	**1.7**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:28	7440-48-4	
Lead	ND	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:28	7439-92-1	
Molybdenum	**76.8**	ug/L	1.0	1	09/11/22 15:45	09/13/22 10:28	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**432**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Bicarbonate (CaCO3)	**432**	mg/L	10.0	1		09/12/22 17:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/12/22 17:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1110**	mg/L	20.0	1		09/14/22 11:49		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/15/22 17:37	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Sample: DUP-1 **Lab ID: 50325524003** Collected: 09/09/22 00:00 Received: 09/09/22 16:52 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	**6.9**	Std. Units	0.10	1		09/12/22 13:54		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/14/22 10:21	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/15/22 18:36	15438-31-0	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		09/10/22 10:31	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/10/22 10:31	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	09/13/22 09:30	09/14/22 13:26		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.5**	mg/L	1.0	1		09/13/22 19:35	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.5**	mg/L	1.0	1		09/13/22 22:14		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695476
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3197577 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/13/22 10:26	
Fluoride	mg/L	ND	0.10	09/13/22 10:26	
Sulfate	mg/L	ND	0.25	09/13/22 10:26	

LABORATORY CONTROL SAMPLE: 3197578

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.3	103	80-120	
Fluoride	mg/L	0.5	0.54	108	80-120	
Sulfate	mg/L	2.5	2.8	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197579 3197580

Parameter	Units	50325558001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	11.4	1.2	1.2	12.8	12.8	116	115	80-120	0	15	E
Fluoride	mg/L	0.86	0.5	0.5	1.4	1.4	108	104	80-120	2	15	
Sulfate	mg/L	167	25	25	188	188	86	86	80-120	0	15	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695605
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3198227 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/15/22 14:06	
Boron	ug/L	ND	100	09/16/22 10:40	
Calcium	ug/L	ND	1000	09/15/22 14:06	
Iron	ug/L	ND	100	09/15/22 14:06	
Lithium	ug/L	ND	20.0	09/15/22 14:06	
Magnesium	ug/L	ND	1000	09/15/22 14:06	
Manganese	ug/L	ND	10.0	09/15/22 14:06	
Potassium	ug/L	ND	1000	09/15/22 14:06	
Silica	ug/L	ND	450	09/15/22 14:06	N2
Sodium	ug/L	ND	1000	09/15/22 14:06	

LABORATORY CONTROL SAMPLE: 3198228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9960	100	80-120	
Boron	ug/L	1000	1050	105	80-120	
Calcium	ug/L	10000	10200	102	80-120	
Iron	ug/L	10000	10000	100	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	10000	9690	97	80-120	
Manganese	ug/L	1000	991	99	80-120	
Potassium	ug/L	10000	9750	98	80-120	
Silica	ug/L	10700	10300	97	80-120	N2
Sodium	ug/L	10000	9900	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198229 3198230

Parameter	Units	50325536003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2310	10000	10000	13000	13000	107	107	75-125	0	20	
Boron	ug/L	ND	1000	1000	1120	1130	104	105	75-125	1	20	
Calcium	ug/L	179000	10000	10000	190000	194000	116	151	75-125	2	20	P6
Iron	ug/L	5600	10000	10000	15600	15700	100	101	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1100	1110	108	110	75-125	1	20	
Magnesium	ug/L	35400	10000	10000	45600	46100	102	108	75-125	1	20	
Manganese	ug/L	576	1000	1000	1570	1590	100	102	75-125	1	20	
Potassium	ug/L	7560	10000	10000	18200	18400	106	108	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198229 3198230

Parameter	Units	50325536003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	22000	10700	10700	36000	31900	131	92	75-125	12	20	N2
Sodium	ug/L	51100	10000	10000	62200	63300	111	122	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695294
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3197001 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	09/13/22 21:59	

LABORATORY CONTROL SAMPLE: 3197002

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	1000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197003 3197004

Parameter	Units	50325153007 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	17.2	1000	1000	990	983	97	97	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197005 3197006

Parameter	Units	50325536003 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	433	1000	1000	1410	1450	98	101	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695151
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3196430 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/13/22 09:48	
Arsenic	ug/L	ND	1.0	09/13/22 09:48	
Barium	ug/L	ND	1.0	09/13/22 09:48	
Beryllium	ug/L	ND	0.20	09/13/22 09:48	
Cadmium	ug/L	ND	0.20	09/13/22 09:48	
Cobalt	ug/L	ND	1.0	09/13/22 09:48	
Lead	ug/L	ND	1.0	09/13/22 09:48	
Molybdenum	ug/L	ND	1.0	09/13/22 09:48	

LABORATORY CONTROL SAMPLE: 3196431

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.2	105	80-120	
Arsenic	ug/L	40	39.2	98	80-120	
Barium	ug/L	40	39.7	99	80-120	
Beryllium	ug/L	40	39.8	99	80-120	
Cadmium	ug/L	40	41.0	102	80-120	
Cobalt	ug/L	40	41.4	104	80-120	
Lead	ug/L	40	41.6	104	80-120	
Molybdenum	ug/L	40	41.5	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196432 3196433

Parameter	Units	50325336001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<2.0	40	40	41.3	41.5	101	101	75-125	1	20	
Arsenic	ug/L	2.0	40	40	37.7	37.5	89	89	75-125	0	20	
Barium	ug/L	56.4	40	40	98.1	96.8	104	101	75-125	1	20	
Beryllium	ug/L	<1.0	40	40	42.1	41.6	105	104	75-125	1	20	
Cadmium	ug/L	<0.20	40	40	38.9	38.7	97	97	75-125	1	20	
Cobalt	ug/L	<15.0	40	40	40.2	40.3	98	98	75-125	0	20	
Lead	ug/L	5.9	40	40	47.6	47.7	104	105	75-125	0	20	
Molybdenum	ug/L	21.7	40	40	65.4	62.0	109	101	75-125	5	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695249 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3196863 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	09/12/22 17:39	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	09/12/22 17:39	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	09/12/22 17:39	

LABORATORY CONTROL SAMPLE: 3196864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	46.5	93	90-110	

SAMPLE DUPLICATE: 3196865

Parameter	Units	50325419001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	359	363	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	359	363	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3196866

Parameter	Units	50325523005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	602	626	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	602	626	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695708 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3198583 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/14/22 11:36	

LABORATORY CONTROL SAMPLE: 3198584

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	286	95	80-120	

SAMPLE DUPLICATE: 3198585

Parameter	Units	50325405003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	665	661	1	10	

SAMPLE DUPLICATE: 3198586

Parameter	Units	50325407003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1310	1300	1	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 696042
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3200123 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	09/15/22 17:34	H3

LABORATORY CONTROL SAMPLE: 3200124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	0.98	98	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200125 3200126

Parameter	Units	50325762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.84	0.83	84	83	90-110	1	20	H3,M3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695301
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

SAMPLE DUPLICATE: 3197031

Parameter	Units	50325440005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	2	H3

SAMPLE DUPLICATE: 3197032

Parameter	Units	50325318004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695670 | 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: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3198457 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/14/22 10:21	

LABORATORY CONTROL SAMPLE: 3198458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.49	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198459 3198460

Parameter	Units	50323135002 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	0.44	0.45	87	90	90-110	3	20	M0

MATRIX SPIKE SAMPLE: 3198461

Parameter	Units	50325351004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.48	95	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 696043 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3200131 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	09/15/22 18:35	H3,N2

LABORATORY CONTROL SAMPLE: 3200132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	104	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200133 3200134

Parameter	Units	50325762001 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	107	106	90-110	2	20	H3,N2

MATRIX SPIKE SAMPLE: 3200137

Parameter	Units	50325519001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	0.98	98	90-110	H3,N2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695140
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3196311 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/10/22 10:27	
Nitrogen, Nitrite	mg/L	ND	0.10	09/10/22 10:27	

LABORATORY CONTROL SAMPLE: 3196312

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	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196313 3196314

Parameter	Units	50325517002 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	7.1	1	1	8.2	8.2	107	110	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	102	102	90-110	0	20	

MATRIX SPIKE SAMPLE: 3196315

Parameter	Units	50325517001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	103	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.1	106	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695325 | 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: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3197095 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/14/22 13:11	

LABORATORY CONTROL SAMPLE: 3197096

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197104 3197105

Parameter	Units	50324958001 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	1.4				3		

MATRIX SPIKE SAMPLE: 3197106

Parameter	Units	50325524001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.7			

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695496 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3197674 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/13/22 17:27	

LABORATORY CONTROL SAMPLE: 3197675

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: 3197676 3197677

Parameter	Units	50325419001 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	3.1	10	10	12.2	12.3	92	92	80-120	0	20	

MATRIX SPIKE SAMPLE: 3197678

Parameter	Units	50325419002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.7	10	12.0	93	80-120	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 695241 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 3196848 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/13/22 17:37	

LABORATORY CONTROL SAMPLE: 3196849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.6	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196850 3196851

Parameter	Units	50325265001 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	6.4	10	10	16.1	16.0	97	96	80-120	1	20	

MATRIX SPIKE SAMPLE: 3196852

Parameter	Units	50325265002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.4	10	12.1	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Sample: MW-43A **Lab ID: 50325524001** Collected: 09/09/22 13:32 Received: 09/09/22 16:52 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 ± 0.456 (0.988) C:NA T:85%**	pCi/L	09/20/22 13:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.30 ± 0.502 (0.763) C:79% T:86%**	pCi/L	09/29/22 15:11	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.30 ± 0.958 (1.75)**	pCi/L	09/30/22 15:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Sample: MW-43I **Lab ID: 50325524002** Collected: 09/09/22 11:06 Received: 09/09/22 16:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.225 ± 0.571 (1.06) C:NA T:93%**	pCi/L	09/20/22 13:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.665 ± 0.455 (0.873) C:81% T:74%**	pCi/L	09/29/22 15:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.890 ± 1.03 (1.93)**	pCi/L	09/30/22 15:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Sample: DUP-1 **Lab ID: 50325524003** Collected: 09/09/22 00:00 Received: 09/09/22 16:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.309 ± 0.607 (1.09) C:NA T:91%**	pCi/L	09/20/22 14:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.336 ± 0.403 (0.852) C:80% T:78%**	pCi/L	09/29/22 15:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.645 ± 1.01 (1.94)**	pCi/L	09/30/22 15:22	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 532661
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 2583991
Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.256 ± 0.356 (0.594) C:NA T:87%	pCi/L	09/20/22 13:35	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

QC Batch: 532662
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325524001, 50325524002, 50325524003

METHOD BLANK: 2583994 Matrix: Water
Associated Lab Samples: 50325524001, 50325524002, 50325524003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.251 ± 0.344 (0.735) C:81% T:83%	pCi/L	09/29/22 15:08	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

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

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325524001	**MW-43A**	EPA 9056	695476		
50325524002	**MW-43I**	EPA 9056	695476		
50325524003	**DUP-1**	EPA 9056	695476		
50325524001	**MW-43A**	EPA 3010	695605	EPA 6010	695995
50325524002	**MW-43I**	EPA 3010	695605	EPA 6010	695995
50325524003	**DUP-1**	EPA 3010	695605	EPA 6010	695995
50325524001	**MW-43A**	EPA 3010	695294	EPA 6010	695621
50325524002	**MW-43I**	EPA 3010	695294	EPA 6010	695621
50325524003	**DUP-1**	EPA 3010	695294	EPA 6010	695621
50325524001	**MW-43A**	EPA 200.2	695151	EPA 6020	695204
50325524002	**MW-43I**	EPA 200.2	695151	EPA 6020	695204
50325524003	**DUP-1**	EPA 200.2	695151	EPA 6020	695204
50325524001	**MW-43A**	EPA 903.1	532661		
50325524002	**MW-43I**	EPA 903.1	532661		
50325524003	**DUP-1**	EPA 903.1	532661		
50325524001	**MW-43A**	EPA 904.0	532662		
50325524002	**MW-43I**	EPA 904.0	532662		
50325524003	**DUP-1**	EPA 904.0	532662		
50325524001	**MW-43A**	Total Radium Calculation	536691		
50325524002	**MW-43I**	Total Radium Calculation	536691		
50325524003	**DUP-1**	Total Radium Calculation	536691		
50325524001	**MW-43A**	SM 2320B	695249		
50325524002	**MW-43I**	SM 2320B	695249		
50325524003	**DUP-1**	SM 2320B	695249		
50325524001	**MW-43A**	SM 2540C	695708		
50325524002	**MW-43I**	SM 2540C	695708		
50325524003	**DUP-1**	SM 2540C	695708		
50325524001	**MW-43A**	SM 4500-Cl G	696042		
50325524002	**MW-43I**	SM 4500-Cl G	696042		
50325524003	**DUP-1**	SM 4500-Cl G	696042		
50325524001	**MW-43A**	SM 4500-H+B	695301		
50325524002	**MW-43I**	SM 4500-H+B	695301		
50325524003	**DUP-1**	SM 4500-H+B	695301		
50325524001	**MW-43A**	SM 4500-S2-D	695670		
50325524002	**MW-43I**	SM 4500-S2-D	695670		
50325524003	**DUP-1**	SM 4500-S2-D	695670		
50325524001	**MW-43A**	HACH 8146	696043		
50325524002	**MW-43I**	HACH 8146	696043		
50325524003	**DUP-1**	HACH 8146	696043		
50325524001	**MW-43A**	EPA 353.2	695140		
50325524002	**MW-43I**	EPA 353.2	695140		
50325524003	**DUP-1**	EPA 353.2	695140		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325524

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325524001	**MW-43A**	EPA 365.1	695325	EPA 365.1	695775
50325524002	**MW-43I**	EPA 365.1	695325	EPA 365.1	695775
50325524003	**DUP-1**	EPA 365.1	695325	EPA 365.1	695775
50325524001	**MW-43A**	SM 5310C	695496		
50325524002	**MW-43I**	SM 5310C	695496		
50325524003	**DUP-1**	SM 5310C	695496		
50325524001	**MW-43A**	SM 5310C	695241		
50325524002	**MW-43I**	SM 5310C	695241		
50325524003	**DUP-1**	SM 5310C	695241		

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CHAIN-OF-CUSTODY / Analytical Requ

WO# : 50325524

50325524

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at http

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paul	
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis	
	Suite 100, Indianapolis, IN 46256			Address:		Regulatory Agency
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:		
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Water	Pace Project Manager:	hayden.putt@pacelabs.com,	State / Location
Requested Due Date:		Project #:		Pace Profile #:	10498/21	IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate,Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum	Residual Chlorine (Y/N)
1	MW43A	GW	G			9/9/22	1332		3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2	MW43I	GW	G			9/9/22	1406		3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3	DUP-1	GW	G			9/9/22	0000		3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb	Mohammed Bazlamit	9/9/22	1652		9/9/22	16:52	1.5	Y	N	Y
Alkalinity - Total, Carb and Bicarb										

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	Mohammed Bazlamit		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:		DATE Signed: 9/9/22				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: IBTM 9/8/22 17:30

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(s):** 1.5/1.5 | 4.6/4.6 | | |
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. **Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☑ None IBTM ☐ Other _____

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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

	Yes	No
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		X
Short Hold Time Analysis (48 hours or less)? **Analysis:** Nitrate/Nitrite 353.2	X	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1813	
Rush TAT Requested (4 days or less):		X
Custody Signatures Present?	X	
Containers Intact?:	X	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	X	
Extra labels on Terracore Vials? (soils only)		

	Yes	No	N/A
All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	X		
	Present	Absent	N/A
Residual Chlorine Check (SVOC 625 Pest/PCB 608)			X
Residual Chlorine Check (Total/Amenable/Free Cyanide)			X
Headspace Wisconsin Sulfide?			X
	Present	Absent	No VOA Vials Sent
Headspace in VOA Vials (>6mm): See Containter Count form for details			X
Trip Blank Present?		X	
Trip Blank Custody Seals?:			X

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		VIALS						AMBER GLASS							PLASTIC										OTHER				Matrix	Nitric Red	Sulfuric Yellow	Sodium Hydroxide Green	Sodium Hydroxide/ ZnAc Black
		MeOH (only) SBS DI																	mcs919														
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				HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1												2				2	1	2	12	1	1		1					✓	✓		✓
2												↓				↓	↓	↓	↓	↓	↓		↓					✓	✓		✓
3												↓				↓	↓	↓	↓	↓	↓		↓					✓	✓		✓
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 13, 2022. 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. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

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 #: 460198
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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(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50325642001	**MW-42I**	Water	09/12/22 13:58	09/13/22 09:00

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50325642001	**MW-42I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	DMT	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325642001	**MW-42I**					
EPA 9056	Chloride	73.6	mg/L	2.5	09/16/22 18:09	
EPA 9056	Sulfate	1030	mg/L	25.0	09/16/22 18:27	
EPA 6010	Boron	14000	ug/L	100	09/19/22 16:14	
EPA 6010	Calcium	436000	ug/L	3000	09/19/22 16:12	
EPA 6010	Iron	16700	ug/L	100	09/19/22 15:12	
EPA 6010	Lithium	73.9	ug/L	20.0	09/19/22 15:12	
EPA 6010	Magnesium	38300	ug/L	1000	09/19/22 15:12	
EPA 6010	Manganese	3390	ug/L	10.0	09/19/22 15:12	
EPA 6010	Potassium	21600	ug/L	1000	09/19/22 16:14	
EPA 6010	Silica	16400	ug/L	450	09/19/22 15:12	N2
EPA 6010	Sodium	38800	ug/L	1000	09/19/22 15:12	
EPA 6010	Manganese, Dissolved	3580	ug/L	10.0	09/21/22 02:27	
EPA 6020	Arsenic	2.2	ug/L	1.0	09/15/22 12:46	
EPA 6020	Barium	71.4	ug/L	1.0	09/15/22 12:46	
EPA 6020	Cobalt	1.4	ug/L	1.0	09/15/22 12:46	
EPA 6020	Molybdenum	197	ug/L	1.0	09/15/22 12:46	
EPA 903.1	Radium-226	0.780 ± 0.655 (0.937) C:NA T:95%	pCi/L		09/23/22 15:03	
EPA 904.0	Radium-228	1.34 ± 0.477 (0.690) C:79% T:91%	pCi/L		09/28/22 14:44	
Total Radium Calculation	Total Radium	2.12 ± 1.13 (1.63)	pCi/L		10/03/22 12:42	
SM 2320B	Alkalinity, Total as CaCO3	104	mg/L	10.0	09/14/22 11:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	10.0	09/14/22 11:11	
SM 2540C	Total Dissolved Solids	1870	mg/L	20.0	09/15/22 12:37	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	09/15/22 12:06	H3
HACH 8146	Iron, Ferrous	2.7	mg/L	0.50	09/15/22 18:39	H3,N2
EPA 365.1	Phosphate as P04	0.17	mg/L	0.15	09/20/22 15:11	
SM 5310C	Total Organic Carbon	2.8	mg/L	1.0	09/14/22 01:27	
SM 5310C	Dissolved Organic Carbon	3.8	mg/L	1.0	09/16/22 15:29	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

Sample: MW-42I **Lab ID: 50325642001** Collected: 09/12/22 13:58 Received: 09/13/22 09:00 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	**73.6**	mg/L	2.5	10		09/16/22 18:09	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/16/22 17:54	16984-48-8	
Sulfate	**1030**	mg/L	25.0	100		09/16/22 18:27	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/16/22 08:10	09/19/22 15:12	7429-90-5	
Boron	**14000**	ug/L	100	1	09/16/22 08:10	09/19/22 16:14	7440-42-8	
Calcium	**436000**	ug/L	3000	3	09/16/22 08:10	09/19/22 16:12	7440-70-2	
Iron	**16700**	ug/L	100	1	09/16/22 08:10	09/19/22 15:12	7439-89-6	
Lithium	**73.9**	ug/L	20.0	1	09/16/22 08:10	09/19/22 15:12	7439-93-2	
Magnesium	**38300**	ug/L	1000	1	09/16/22 08:10	09/19/22 15:12	7439-95-4	
Manganese	**3390**	ug/L	10.0	1	09/16/22 08:10	09/19/22 15:12	7439-96-5	
Potassium	**21600**	ug/L	1000	1	09/16/22 08:10	09/19/22 16:14	7440-09-7	
Silica	**16400**	ug/L	450	1	09/16/22 08:10	09/19/22 15:12	7631-86-9	N2
Sodium	**38800**	ug/L	1000	1	09/16/22 08:10	09/19/22 15:12	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**3580**	ug/L	10.0	1	09/20/22 18:53	09/21/22 02:27	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/14/22 06:55	09/15/22 12:46	7440-36-0	
Arsenic	**2.2**	ug/L	1.0	1	09/14/22 06:55	09/15/22 12:46	7440-38-2	
Barium	**71.4**	ug/L	1.0	1	09/14/22 06:55	09/15/22 12:46	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/14/22 06:55	09/15/22 12:46	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/14/22 06:55	09/15/22 12:46	7440-43-9	
Cobalt	**1.4**	ug/L	1.0	1	09/14/22 06:55	09/15/22 12:46	7440-48-4	
Lead	ND	ug/L	1.0	1	09/14/22 06:55	09/15/22 12:46	7439-92-1	
Molybdenum	**197**	ug/L	1.0	1	09/14/22 06:55	09/15/22 12:46	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**104**	mg/L	10.0	1		09/14/22 11:11		
Alkalinity,Bicarbonate (CaCO3)	**104**	mg/L	10.0	1		09/14/22 11:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/14/22 11:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1870**	mg/L	20.0	1		09/15/22 12:37		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/15/22 17:38	7782-50-5	H3

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

Sample: MW-42I **Lab ID: 50325642001** Collected: 09/12/22 13:58 Received: 09/13/22 09:00 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	**7.1**	Std. Units	0.10	1		09/15/22 12:06		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/14/22 10:21	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**2.7**	mg/L	0.50	2.5		09/15/22 18:39	15438-31-0	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		09/13/22 14:59	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/13/22 14:59	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.17**	mg/L	0.15	1	09/15/22 11:00	09/20/22 15:11		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.8**	mg/L	1.0	1		09/14/22 01:27	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.8**	mg/L	1.0	1		09/16/22 15:29		

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(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 696131
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50325642001

METHOD BLANK: 3200700 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/16/22 17:21	
Fluoride	mg/L	ND	0.10	09/16/22 17:21	
Sulfate	mg/L	ND	0.25	09/16/22 17:21	

LABORATORY CONTROL SAMPLE: 3200701

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	0.52	104	80-120	
Sulfate	mg/L	2.5	2.6	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200702 3200703

Parameter	Units	50325762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.5	12.5	12.5	25.7	25.9	98	99	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.61	0.61	102	103	80-120	0	15	
Sulfate	mg/L	54.4	25	25	80.7	81.3	105	108	80-120	1	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: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 695939
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50325642001

METHOD BLANK: 3199573 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/19/22 14:55	
Boron	ug/L	ND	100	09/19/22 14:05	
Calcium	ug/L	ND	1000	09/19/22 14:55	
Iron	ug/L	ND	100	09/19/22 14:55	
Lithium	ug/L	ND	20.0	09/19/22 14:05	
Magnesium	ug/L	ND	1000	09/19/22 14:55	
Manganese	ug/L	ND	10.0	09/19/22 14:05	
Potassium	ug/L	ND	1000	09/19/22 14:05	
Silica	ug/L	ND	450	09/19/22 14:05	N2
Sodium	ug/L	ND	1000	09/19/22 14:05	

LABORATORY CONTROL SAMPLE: 3199574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10600	106	80-120	
Boron	ug/L	1000	1040	104	80-120	
Calcium	ug/L	10000	10600	106	80-120	
Iron	ug/L	10000	10100	101	80-120	
Lithium	ug/L	1000	1060	106	80-120	
Magnesium	ug/L	10000	10200	102	80-120	
Manganese	ug/L	1000	1000	100	80-120	
Potassium	ug/L	10000	10100	101	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	10300	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3199575 3199576

Parameter	Units	50325635003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	<200	10000	10000	10400	10100	103	101	75-125	2	20	
Boron	ug/L	<100	1000	1000	1090	1070	107	105	75-125	2	20	
Calcium	ug/L	63700	10000	10000	73800	72900	101	92	75-125	1	20	
Iron	ug/L	<100	10000	10000	10000	9850	100	98	75-125	2	20	
Lithium	ug/L	<20.0	1000	1000	1080	1050	107	104	75-125	3	20	
Magnesium	ug/L	18300	10000	10000	28100	27800	98	95	75-125	1	20	
Manganese	ug/L	<10.0	1000	1000	1010	989	101	99	75-125	2	20	
Potassium	ug/L	64300	10000	10000	75000	73600	107	94	75-125	2	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3199575 3199576

Parameter	Units	50325635003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	8530	10700	10700	19100	18800	99	96	75-125	2	20	N2
Sodium	ug/L	35700	10000	10000	46200	45300	105	95	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 696528
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325642001

METHOD BLANK: 3202774 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	09/21/22 02:25	

LABORATORY CONTROL SAMPLE: 3202775

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	971	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202776 3202777

Parameter	Units	50325762001 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	968	1000	1000	1900	1920	94	95	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 695561
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50325642001

METHOD BLANK: 3198047 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/15/22 12:06	
Arsenic	ug/L	ND	1.0	09/15/22 12:06	
Barium	ug/L	ND	1.0	09/15/22 12:06	
Beryllium	ug/L	ND	0.20	09/15/22 12:06	
Cadmium	ug/L	ND	0.20	09/15/22 12:06	
Cobalt	ug/L	ND	1.0	09/15/22 12:06	
Lead	ug/L	ND	1.0	09/15/22 12:06	
Molybdenum	ug/L	ND	1.0	09/15/22 12:06	

LABORATORY CONTROL SAMPLE: 3198048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.5	101	80-120	
Arsenic	ug/L	40	38.3	96	80-120	
Barium	ug/L	40	39.0	98	80-120	
Beryllium	ug/L	40	39.2	98	80-120	
Cadmium	ug/L	40	39.6	99	80-120	
Cobalt	ug/L	40	39.9	100	80-120	
Lead	ug/L	40	40.3	101	80-120	
Molybdenum	ug/L	40	40.4	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198049 3198050

Parameter	Units	50325407003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	40.8	40.8	102	102	75-125	0	20	
Arsenic	ug/L	ND	40	40	39.9	40.0	98	98	75-125	0	20	
Barium	ug/L	0.053 mg/L	40	40	92.1	91.6	98	97	75-125	0	20	
Beryllium	ug/L	ND	40	40	46.3	46.7	116	117	75-125	1	20	
Cadmium	ug/L	ND	40	40	36.8	36.8	92	92	75-125	0	20	
Cobalt	ug/L	ND	40	40	39.2	39.1	97	97	75-125	0	20	
Lead	ug/L	ND	40	40	40.1	40.2	100	101	75-125	0	20	
Molybdenum	ug/L	ND	40	40	41.4	41.2	103	102	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 695660
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325642001

METHOD BLANK: 3198436 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	09/14/22 11:11	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	09/14/22 11:11	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	09/14/22 11:11	

LABORATORY CONTROL SAMPLE: 3198437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	46.1	92	90-110	

SAMPLE DUPLICATE: 3198438

Parameter	Units	50325342001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	473	479	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	473	479	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3198439

Parameter	Units	50325646001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	774	801	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	774	801	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 695913
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325642001

METHOD BLANK: 3199352 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/15/22 12:27	

LABORATORY CONTROL SAMPLE: 3199353

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	286	95	80-120	

SAMPLE DUPLICATE: 3199354

Parameter	Units	50325558001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	379	381	1	10	

SAMPLE DUPLICATE: 3199355

Parameter	Units	50325568002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1150	1140	1	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 696042
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325642001

METHOD BLANK: 3200123 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	09/15/22 17:34	H3

LABORATORY CONTROL SAMPLE: 3200124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	0.98	98	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200125 3200126

Parameter	Units	50325762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.84	0.83	84	83	90-110	1	20	H3,M3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 695944
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50325642001

SAMPLE DUPLICATE: 3199611

Parameter	Units	50323135002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.9	9.9	0	2	H3

SAMPLE DUPLICATE: 3199612

Parameter	Units	50325663001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.1	0	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 695670
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325642001

METHOD BLANK: 3198457 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/14/22 10:21	

LABORATORY CONTROL SAMPLE: 3198458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.49	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198459 3198460

Parameter	Units	50323135002 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	0.44	0.45	87	90	90-110	3	20	M0

MATRIX SPIKE SAMPLE: 3198461

Parameter	Units	50325351004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.48	95	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 696043
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50325642001

METHOD BLANK: 3200131 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	09/15/22 18:35	H3,N2

LABORATORY CONTROL SAMPLE: 3200132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	104	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200133 3200134

Parameter	Units	50325762001 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	107	106	90-110	2	20	H3,N2

MATRIX SPIKE SAMPLE: 3200137

Parameter	Units	50325519001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	0.98	98	90-110	H3,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 695522
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325642001

METHOD BLANK: 3197758 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/13/22 14:54	
Nitrogen, Nitrite	mg/L	ND	0.10	09/13/22 14:54	

LABORATORY CONTROL SAMPLE: 3197759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.1	107	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197760 3197761

Parameter	Units	50325642001 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	0.61	0.61	61	61	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.90	0.91	89	89	90-110	0	20	M3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 695900
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325642001

METHOD BLANK: 3199313 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/20/22 14:53	

LABORATORY CONTROL SAMPLE: 3199314

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3199315 3199316

Parameter	Units	50325834001 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	1.4				8		

MATRIX SPIKE SAMPLE: 3199317

Parameter	Units	50325592001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.7			

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 695498
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325642001

METHOD BLANK: 3197679 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/13/22 23:09	

LABORATORY CONTROL SAMPLE: 3197680

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: 3197681 3197682

Parameter	Units	50325390001 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	2.9	10	10	12.5	12.5	95	96	80-120	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 696156
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325642001

METHOD BLANK: 3200778 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/16/22 15:07	

LABORATORY CONTROL SAMPLE: 3200779

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: 3200780 3200781

Parameter	Units	50325762001 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	2.4	10	10	11.4	11.5	90	91	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200782 3200783

Parameter	Units	50325933004 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	3.5	10	10	13.2	13.8	97	103	80-120	4	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

Sample: MW-42I **Lab ID: 50325642001** Collected: 09/12/22 13:58 Received: 09/13/22 09:00 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	**0.780 ± 0.655 (0.937) C:NA T:95%**	pCi/L	09/23/22 15:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.34 ± 0.477 (0.690) C:79% T:91%**	pCi/L	09/28/22 14:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.12 ± 1.13 (1.63)**	pCi/L	10/03/22 12:42	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 533071
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325642001

METHOD BLANK: 2586463 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.210 ± 0.320 (0.190) C:NA T:95%	pCi/L	09/23/22 14:20	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

QC Batch: 533073
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325642001

METHOD BLANK: 2586466 Matrix: Water
Associated Lab Samples: 50325642001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.246 ± 0.317 (0.675) C:77% T:90%	pCi/L	09/28/22 14:38	

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

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325642

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325642001	**MW-42I**	EPA 9056	696131		
50325642001	**MW-42I**	EPA 3010	695939	EPA 6010	696441
50325642001	**MW-42I**	EPA 3010	696528	EPA 6010	696817
50325642001	**MW-42I**	EPA 200.2	695561	EPA 6020	695802
50325642001	**MW-42I**	EPA 903.1	533071		
50325642001	**MW-42I**	EPA 904.0	533073		
50325642001	**MW-42I**	Total Radium Calculation	536988		
50325642001	**MW-42I**	SM 2320B	695660		
50325642001	**MW-42I**	SM 2540C	695913		
50325642001	**MW-42I**	SM 4500-Cl G	696042		
50325642001	**MW-42I**	SM 4500-H+B	695944		
50325642001	**MW-42I**	SM 4500-S2-D	695670		
50325642001	**MW-42I**	HACH 8146	696043		
50325642001	**MW-42I**	EPA 353.2	695522		
50325642001	**MW-42I**	EPA 365.1	695900	EPA 365.1	696767
50325642001	**MW-42I**	SM 5310C	695498		
50325642001	**MW-42I**	SM 5310C	696156		

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Pace

CHAIN-OF-CUSTODY / Analytical R

WO# : 50325642

50325642

The Chain-of-Custody is a LEGAL DOCUMENT. All rele

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found

Section A	Section B	Section C	
Required Client Information:	**Required Project Information:**	**Invoice Information:**	
Company: Atlas Indianapolis	Report To: Mark Breting	Attention: Accounts Payabl	
Address: 7988 Centerpoint Drive	Copy To:	Company Name: Atlas Indianapolis	
Suite 100, Indianapolis, IN 46256		Address:	**Regulatory Agency**
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:	
Phone: 317-313-8306 Fax:	Project Name: AES PB 2022 On-Site MW Water	Pace Project Manager: hayden.putt@pacelabs.com,	**State / Location**
Requested Due Date:	Project #:	Pace Profile #: 10498/21	IN

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate, Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum	Residual Chlorine (Y/N)
1	MW42I	WT	G		~~4~~	9/12/22	1358		11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb	Mohammed Bazlamit	9/12/22	1525	fedex						
Alkalinity - Total, Carb and Bicarb	fedex			amber Hardin	9/13/22	0900	1.0	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:	Mohammed Bazlamit					
SIGNATURE of SAMPLER:		DATE Signed: 9/12/22				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 9/13/22 10:08 AH

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(s):** 1.3 | 1.0 **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** Circle: ~~HNO3 (<2)~~ H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: Nitrate	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1031			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)		✓	
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																												Red	Yellow	Green	Black
COC Line Item	WGFU	DI	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 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1													1	1			2	1	2	1	1	1		1					SW	✓	✓		✓
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	
GN	General	AG3C	250mL NaOH amber glass	

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 14, 2022. 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. Robert Miller, Haley & Aldrich

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

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 #: 460198
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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(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50325762001	**MW42B**	Water	09/13/22 09:38	09/14/22 08:50
50325762002	**MW42B MS**	Water	09/13/22 09:38	09/14/22 08:50
50325762003	**MW42B MSD**	Water	09/13/22 09:38	09/14/22 08:50
50325762004	**MW42A**	Water	09/13/22 12:40	09/14/22 08:50

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50325762001	**MW42B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50325762002	**MW42B MS**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50325762003	**MW42B MSD**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50325762004	**MW42A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325762001	**MW42B**					
EPA 9056	Chloride	13.5	mg/L	2.5	09/16/22 18:59	
EPA 9056	Sulfate	54.4	mg/L	2.5	09/16/22 18:59	
EPA 6010	Boron	741	ug/L	100	09/21/22 01:00	
EPA 6010	Calcium	154000	ug/L	1000	09/21/22 01:00	
EPA 6010	Iron	128	ug/L	100	09/21/22 01:00	
EPA 6010	Magnesium	31800	ug/L	1000	09/21/22 01:00	
EPA 6010	Manganese	874	ug/L	10.0	09/21/22 01:00	
EPA 6010	Potassium	1750	ug/L	1000	09/21/22 01:00	
EPA 6010	Silica	12300	ug/L	450	09/21/22 01:00	N2
EPA 6010	Sodium	9380	ug/L	1000	09/21/22 01:00	
EPA 6010	Manganese, Dissolved	968	ug/L	10.0	09/21/22 02:36	
EPA 6020	Barium	55.7	ug/L	1.0	09/15/22 21:14	
EPA 6020	Cobalt	2.1	ug/L	1.0	09/15/22 21:14	
EPA 6020	Molybdenum	1.1	ug/L	1.0	09/15/22 21:14	
EPA 903.1	Radium-226	0.440 ± 0.411 (0.583) C:NA T:99%	pCi/L		09/24/22 13:57	
EPA 904.0	Radium-228	0.0384 ± 0.374 (0.869) C:73% T:92%	pCi/L		09/29/22 18:19	
Total Radium Calculation	Total Radium	0.478 ± 0.785 (1.45)	pCi/L		09/30/22 14:40	
SM 2320B	Alkalinity, Total as CaCO3	446	mg/L	10.0	09/14/22 16:14	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	446	mg/L	10.0	09/14/22 16:14	
SM 2540C	Total Dissolved Solids	581	mg/L	10.0	09/16/22 11:41	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	09/15/22 14:06	H3
EPA 353.2	Nitrogen, Nitrate	4.2	mg/L	0.10	09/14/22 11:08	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	09/17/22 05:31	
SM 5310C	Dissolved Organic Carbon	2.4	mg/L	1.0	09/16/22 15:40	
50325762002	**MW42B MS**					
EPA 903.1	Radium-226	96.18 %REC ± NA (NA) C:NA T:NA	pCi/L		09/24/22 13:57	
EPA 904.0	Radium-228	109.94 %REC ± NA (NA) C:NA T:NA	pCi/L		09/29/22 18:19	
50325762003	**MW42B MSD**					
EPA 903.1	Radium-226	80.95 %REC 17.20RPD ± NA (NA) C:NA T:NA	pCi/L		09/24/22 13:57	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325762003	**MW42B MSD**					
EPA 904.0	Radium-228	115.09 %REC 4.58 RPD ± NA (NA) C:NA T:NA	pCi/L		09/29/22 18:19	
50325762004	**MW42A**					
EPA 9056	Chloride	112	mg/L	2.5	09/16/22 21:58	
EPA 9056	Fluoride	0.11	mg/L	0.10	09/16/22 21:42	
EPA 9056	Sulfate	1550	mg/L	25.0	09/16/22 22:14	
EPA 6010	Boron	20600	ug/L	100	09/21/22 01:23	
EPA 6010	Calcium	625000	ug/L	5000	09/21/22 01:31	
EPA 6010	Iron	12000	ug/L	100	09/21/22 01:23	
EPA 6010	Lithium	20.0	ug/L	20.0	09/21/22 01:23	
EPA 6010	Magnesium	20700	ug/L	1000	09/21/22 01:23	
EPA 6010	Manganese	1840	ug/L	10.0	09/21/22 01:23	
EPA 6010	Potassium	30400	ug/L	1000	09/21/22 01:23	
EPA 6010	Silica	13200	ug/L	450	09/21/22 01:23	N2
EPA 6010	Sodium	40600	ug/L	1000	09/21/22 01:23	
EPA 6010	Manganese, Dissolved	1890	ug/L	10.0	09/21/22 02:46	
EPA 6020	Barium	39.7	ug/L	1.0	09/15/22 22:12	
EPA 6020	Molybdenum	1240	ug/L	10.0	09/16/22 19:14	
EPA 903.1	Radium-226	0.366 ± 0.659 (1.16) C:NA T:99%	pCi/L		09/24/22 13:57	
EPA 904.0	Radium-228	0.599 ± 0.442 (0.859) C:73% T:98%	pCi/L		09/29/22 18:19	
Total Radium Calculation	Total Radium	0.965 ± 1.10 (2.02)	pCi/L		09/30/22 14:40	
SM 2320B	Alkalinity, Total as CaCO3	61.4	mg/L	10.0	09/14/22 16:14	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	61.4	mg/L	10.0	09/14/22 16:14	
SM 2540C	Total Dissolved Solids	2410	mg/L	40.0	09/16/22 11:41	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	09/15/22 14:08	H3
HACH 8146	Iron, Ferrous	4.4	mg/L	1.0	09/15/22 18:40	H3,N2
SM 5310C	Total Organic Carbon	2.5	mg/L	1.0	09/17/22 06:30	
SM 5310C	Dissolved Organic Carbon	3.5	mg/L	1.0	09/16/22 16:13	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Sample: MW42B **Lab ID: 50325762001** Collected: 09/13/22 09:38 Received: 09/14/22 08:50 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	**13.5**	mg/L	2.5	10		09/16/22 18:59	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/16/22 18:43	16984-48-8	
Sulfate	**54.4**	mg/L	2.5	10		09/16/22 18:59	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/20/22 10:15	09/21/22 01:00	7429-90-5	
Boron	**741**	ug/L	100	1	09/20/22 10:15	09/21/22 01:00	7440-42-8	
Calcium	**154000**	ug/L	1000	1	09/20/22 10:15	09/21/22 01:00	7440-70-2	
Iron	**128**	ug/L	100	1	09/20/22 10:15	09/21/22 01:00	7439-89-6	
Lithium	ND	ug/L	20.0	1	09/20/22 10:15	09/21/22 01:00	7439-93-2	
Magnesium	**31800**	ug/L	1000	1	09/20/22 10:15	09/21/22 01:00	7439-95-4	
Manganese	**874**	ug/L	10.0	1	09/20/22 10:15	09/21/22 01:00	7439-96-5	
Potassium	**1750**	ug/L	1000	1	09/20/22 10:15	09/21/22 01:00	7440-09-7	
Silica	**12300**	ug/L	450	1	09/20/22 10:15	09/21/22 01:00	7631-86-9	N2
Sodium	**9380**	ug/L	1000	1	09/20/22 10:15	09/21/22 01:00	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**968**	ug/L	10.0	1	09/20/22 18:53	09/21/22 02:36	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/15/22 07:15	09/15/22 21:14	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/15/22 07:15	09/15/22 21:14	7440-38-2	
Barium	**55.7**	ug/L	1.0	1	09/15/22 07:15	09/15/22 21:14	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/15/22 07:15	09/15/22 21:14	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/15/22 07:15	09/15/22 21:14	7440-43-9	
Cobalt	**2.1**	ug/L	1.0	1	09/15/22 07:15	09/15/22 21:14	7440-48-4	
Lead	ND	ug/L	1.0	1	09/15/22 07:15	09/15/22 21:14	7439-92-1	
Molybdenum	**1.1**	ug/L	1.0	1	09/15/22 07:15	09/15/22 21:14	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**446**	mg/L	10.0	1		09/14/22 16:14		
Alkalinity,Bicarbonate (CaCO3)	**446**	mg/L	10.0	1		09/14/22 16:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/14/22 16:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**581**	mg/L	10.0	1		09/16/22 11:41		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/15/22 17:40	7782-50-5	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Sample: MW42B **Lab ID: 50325762001** Collected: 09/13/22 09:38 Received: 09/14/22 08:50 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		09/15/22 14:06		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/16/22 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		09/15/22 18:39	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**4.2**	mg/L	0.10	1		09/14/22 11:08	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/14/22 11:08	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	09/16/22 10:00	09/20/22 15:13		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.3**	mg/L	1.0	1		09/17/22 05:31	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**2.4**	mg/L	1.0	1		09/16/22 15:40		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Sample: MW42A **Lab ID: 50325762004** Collected: 09/13/22 12:40 Received: 09/14/22 08:50 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	**112**	mg/L	2.5	10		09/16/22 21:58	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		09/16/22 21:42	16984-48-8	
Sulfate	**1550**	mg/L	25.0	100		09/16/22 22:14	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	09/20/22 10:15	09/21/22 01:23	7429-90-5	
Boron	**20600**	ug/L	100	1	09/20/22 10:15	09/21/22 01:23	7440-42-8	
Calcium	**625000**	ug/L	5000	5	09/20/22 10:15	09/21/22 01:31	7440-70-2	
Iron	**12000**	ug/L	100	1	09/20/22 10:15	09/21/22 01:23	7439-89-6	
Lithium	**20.0**	ug/L	20.0	1	09/20/22 10:15	09/21/22 01:23	7439-93-2	
Magnesium	**20700**	ug/L	1000	1	09/20/22 10:15	09/21/22 01:23	7439-95-4	
Manganese	**1840**	ug/L	10.0	1	09/20/22 10:15	09/21/22 01:23	7439-96-5	
Potassium	**30400**	ug/L	1000	1	09/20/22 10:15	09/21/22 01:23	7440-09-7	
Silica	**13200**	ug/L	450	1	09/20/22 10:15	09/21/22 01:23	7631-86-9	N2
Sodium	**40600**	ug/L	1000	1	09/20/22 10:15	09/21/22 01:23	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1890**	ug/L	10.0	1	09/20/22 18:53	09/21/22 02:46	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	09/15/22 07:15	09/15/22 22:12	7440-36-0	
Arsenic	ND	ug/L	1.0	1	09/15/22 07:15	09/15/22 22:12	7440-38-2	
Barium	**39.7**	ug/L	1.0	1	09/15/22 07:15	09/15/22 22:12	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/15/22 07:15	09/15/22 22:12	7440-41-7	
Cadmium	ND	ug/L	0.20	1	09/15/22 07:15	09/15/22 22:12	7440-43-9	
Cobalt	ND	ug/L	1.0	1	09/15/22 07:15	09/15/22 22:12	7440-48-4	
Lead	ND	ug/L	1.0	1	09/15/22 07:15	09/15/22 22:12	7439-92-1	
Molybdenum	**1240**	ug/L	10.0	10	09/15/22 07:15	09/16/22 19:14	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**61.4**	mg/L	10.0	1		09/14/22 16:14		
Alkalinity,Bicarbonate (CaCO3)	**61.4**	mg/L	10.0	1		09/14/22 16:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		09/14/22 16:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2410**	mg/L	40.0	1		09/16/22 11:41		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		09/15/22 17:43	7782-50-5	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Sample: MW42A **Lab ID: 50325762004** Collected: 09/13/22 12:40 Received: 09/14/22 08:50 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		09/15/22 14:08		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		09/16/22 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**4.4**	mg/L	1.0	5		09/15/22 18:40	15438-31-0	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		09/14/22 11:21	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/14/22 11:21	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	09/16/22 10:00	09/20/22 15:14		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**2.5**	mg/L	1.0	1		09/17/22 06:30	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.5**	mg/L	1.0	1		09/16/22 16:13		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 696131
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3200700 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	09/16/22 17:21	
Fluoride	mg/L	ND	0.10	09/16/22 17:21	
Sulfate	mg/L	ND	0.25	09/16/22 17:21	

LABORATORY CONTROL SAMPLE: 3200701

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	0.52	104	80-120	
Sulfate	mg/L	2.5	2.6	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200702 3200703

Parameter	Units	50325762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.5	12.5	12.5	25.7	25.9	98	99	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.61	0.61	102	103	80-120	0	15	
Sulfate	mg/L	54.4	25	25	80.7	81.3	105	108	80-120	1	15	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 696530
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3202786 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	09/21/22 00:25	
Boron	ug/L	ND	100	09/21/22 00:25	
Calcium	ug/L	ND	1000	09/21/22 00:25	
Iron	ug/L	ND	100	09/21/22 00:25	
Lithium	ug/L	ND	20.0	09/21/22 00:25	
Magnesium	ug/L	ND	1000	09/21/22 00:25	
Manganese	ug/L	ND	10.0	09/21/22 00:25	
Potassium	ug/L	ND	1000	09/21/22 00:25	
Silica	ug/L	ND	450	09/21/22 00:25	N2
Sodium	ug/L	ND	1000	09/21/22 00:25	

LABORATORY CONTROL SAMPLE: 3202787

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	80-120	
Boron	ug/L	1000	1060	106	80-120	
Calcium	ug/L	10000	10300	103	80-120	
Iron	ug/L	10000	10100	101	80-120	
Lithium	ug/L	1000	1050	105	80-120	
Magnesium	ug/L	10000	9880	99	80-120	
Manganese	ug/L	1000	995	100	80-120	
Potassium	ug/L	10000	9940	99	80-120	
Silica	ug/L	10700	10600	99	80-120	N2
Sodium	ug/L	10000	10200	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202788 3202789

Parameter	Units	50325762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10200	10000	102	100	75-125	2	20	
Boron	ug/L	741	1000	1000	1830	1780	109	104	75-125	3	20	
Calcium	ug/L	154000	10000	10000	167000	162000	134	89	75-125	3	20	P6
Iron	ug/L	128	10000	10000	10300	10100	102	100	75-125	2	20	
Lithium	ug/L	ND	1000	1000	1080	1060	108	105	75-125	2	20	
Magnesium	ug/L	31800	10000	10000	42600	41600	108	98	75-125	2	20	
Manganese	ug/L	874	1000	1000	1910	1860	103	99	75-125	2	20	
Potassium	ug/L	1750	10000	10000	12400	12100	106	103	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202788 3202789

Parameter	Units	50325762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	12300	10700	10700	23600	20900	106	80	75-125	12	20	N2
Sodium	ug/L	9380	10000	10000	20200	19700	108	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 696528
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3202774 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	09/21/22 02:25	

LABORATORY CONTROL SAMPLE: 3202775

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	971	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202776 3202777

Parameter	Units	50325762001 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	968	1000	1000	1900	1920	94	95	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 695839
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3199058 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	09/15/22 16:00	
Arsenic	ug/L	ND	1.0	09/15/22 16:00	
Barium	ug/L	ND	1.0	09/15/22 16:00	
Beryllium	ug/L	ND	0.20	09/15/22 16:00	
Cadmium	ug/L	ND	0.20	09/15/22 16:00	
Cobalt	ug/L	ND	1.0	09/15/22 16:00	
Lead	ug/L	ND	1.0	09/15/22 16:00	
Molybdenum	ug/L	ND	1.0	09/15/22 16:00	

LABORATORY CONTROL SAMPLE: 3199059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.9	107	80-120	
Arsenic	ug/L	40	40.3	101	80-120	
Barium	ug/L	40	40.2	101	80-120	
Beryllium	ug/L	40	39.9	100	80-120	
Cadmium	ug/L	40	39.7	99	80-120	
Cobalt	ug/L	40	41.2	103	80-120	
Lead	ug/L	40	41.3	103	80-120	
Molybdenum	ug/L	40	41.4	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3199060 3199061

Parameter	Units	50325762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	43.2	43.8	108	109	75-125	1	20	
Arsenic	ug/L	ND	40	40	40.0	40.6	99	101	75-125	2	20	
Barium	ug/L	55.7	40	40	97.9	97.5	106	105	75-125	0	20	
Beryllium	ug/L	ND	40	40	39.8	40.3	100	101	75-125	1	20	
Cadmium	ug/L	ND	40	40	39.1	39.4	98	98	75-125	1	20	
Cobalt	ug/L	2.1	40	40	40.9	40.9	97	97	75-125	0	20	
Lead	ug/L	ND	40	40	41.0	41.2	102	103	75-125	0	20	
Molybdenum	ug/L	1.1	40	40	43.1	43.4	105	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 695779
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3198828 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	09/14/22 16:14	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	09/14/22 16:14	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	09/14/22 16:14	

LABORATORY CONTROL SAMPLE: 3198829

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	45.1	90	90-110	

SAMPLE DUPLICATE: 3198830

Parameter	Units	50325762001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	446	449	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	446	449	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3198831

Parameter	Units	50325776005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	575	585	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	575	585	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 696118
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3200648 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/16/22 11:39	

LABORATORY CONTROL SAMPLE: 3200649

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	284	95	80-120	

SAMPLE DUPLICATE: 3200650

Parameter	Units	50325762001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	581	566	3	10	

SAMPLE DUPLICATE: 3200651

Parameter	Units	50325821002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	482	479	1	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 696042
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3200123 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	09/15/22 17:34	H3

LABORATORY CONTROL SAMPLE: 3200124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	0.98	98	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200125 3200126

Parameter	Units	50325762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.84	0.83	84	83	90-110	1	20	H3,M3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 695976
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50325762001, 50325762004

SAMPLE DUPLICATE: 3199766

Parameter	Units	50325762001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

SAMPLE DUPLICATE: 3199767

Parameter	Units	50325402011 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.0	1	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 696114
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3200635 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	09/16/22 10:06	

LABORATORY CONTROL SAMPLE: 3200636

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: 3200637 3200638

Parameter	Units	50325762001 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	0.48	95	95	90-110	0	20	

MATRIX SPIKE SAMPLE: 3200639

Parameter	Units	50323135003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.40	80	90-110	M0

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 696043
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3200131 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	09/15/22 18:35	H3,N2

LABORATORY CONTROL SAMPLE: 3200132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	104	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200133 3200134

Parameter	Units	50325762001 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	107	106	90-110	2	20	H3,N2

MATRIX SPIKE SAMPLE: 3200137

Parameter	Units	50325519001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	0.98	98	90-110	H3,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 695644
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3198411 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/14/22 09:37	
Nitrogen, Nitrite	mg/L	ND	0.10	09/14/22 09:37	

LABORATORY CONTROL SAMPLE: 3198412

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	1.0	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198413 3198414

Parameter	Units	50325745001 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	20	20	20.1	20.0	99	99	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	20	20	20.4	20.4	102	102	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198646 3198647

Parameter	Units	50325762001 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	4.2	1	1	5.1	5.1	85	88	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	99	101	90-110	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 696111
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3200622 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	09/20/22 15:11	

LABORATORY CONTROL SAMPLE: 3200623

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200624 3200625

Parameter	Units	50325762001 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	1.5				0		

MATRIX SPIKE SAMPLE: 3200626

Parameter	Units	50325948002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	4.0		5.7			

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 695838
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3199046 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/16/22 21:52	

LABORATORY CONTROL SAMPLE: 3199047

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3199048 3199049

Parameter	Units	50325762001 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	1.3	10	10	11.2	11.2	99	99	80-120	0	20	

MATRIX SPIKE SAMPLE: 3199050

Parameter	Units	50325762004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	10	12.4	98	80-120	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 696156
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325762001, 50325762004

METHOD BLANK: 3200778 Matrix: Water
Associated Lab Samples: 50325762001, 50325762004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	09/16/22 15:07	

LABORATORY CONTROL SAMPLE: 3200779

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: 3200780 3200781

Parameter	Units	50325762001 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	2.4	10	10	11.4	11.5	90	91	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200782 3200783

Parameter	Units	50325933004 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	3.5	10	10	13.2	13.8	97	103	80-120	4	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Sample: MW42B **Lab ID: 50325762001** Collected: 09/13/22 09:38 Received: 09/14/22 08:50 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	**0.440 ± 0.411 (0.583) C:NA T:99%**	pCi/L	09/24/22 13:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0384 ± 0.374 (0.869) C:73% T:92%**	pCi/L	09/29/22 18:19	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.478 ± 0.785 (1.45)**	pCi/L	09/30/22 14:40	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Sample: MW42B MS **Lab ID: 50325762002** Collected: 09/13/22 09:38 Received: 09/14/22 08:50 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	**96.18 %REC ± NA (NA) C:NA T:NA**	pCi/L	09/24/22 13:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**109.94 %REC ± NA (NA) C:NA T:NA**	pCi/L	09/29/22 18:19	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Sample: MW42B MSD **Lab ID: 50325762003** Collected: 09/13/22 09:38 Received: 09/14/22 08:50 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	**80.95 %REC 17.20RPD ± NA (NA) C:NA T:NA**	pCi/L	09/24/22 13:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**115.09 %REC 4.58 RPD ± NA (NA) C:NA T:NA**	pCi/L	09/29/22 18:19	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Sample: MW42A **Lab ID: 50325762004** Collected: 09/13/22 12:40 Received: 09/14/22 08:50 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	**0.366 ± 0.659 (1.16) C:NA T:99%**	pCi/L	09/24/22 13:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.599 ± 0.442 (0.859) C:73% T:98%**	pCi/L	09/29/22 18:19	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.965 ± 1.10 (2.02)**	pCi/L	09/30/22 14:40	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 533714 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: 50325762001, 50325762002, 50325762003, 50325762004

METHOD BLANK: 2589572 Matrix: Water
Associated Lab Samples: 50325762001, 50325762002, 50325762003, 50325762004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.121 ± 0.290 (0.724) C:NA T:92%	pCi/L	09/24/22 13:21	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

QC Batch: 533715
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50325762001, 50325762002, 50325762003, 50325762004

METHOD BLANK: 2589573 Matrix: Water
Associated Lab Samples: 50325762001, 50325762002, 50325762003, 50325762004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.265 ± 0.319 (0.673) C:78% T:98%	pCi/L	09/29/22 16:25	

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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50325762

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325762001	**MW42B**	EPA 9056	696131		
50325762004	**MW42A**	EPA 9056	696131		
50325762001	**MW42B**	EPA 3010	696530	EPA 6010	696813
50325762004	**MW42A**	EPA 3010	696530	EPA 6010	696813
50325762001	**MW42B**	EPA 3010	696528	EPA 6010	696817
50325762004	**MW42A**	EPA 3010	696528	EPA 6010	696817
50325762001	**MW42B**	EPA 200.2	695839	EPA 6020	696000
50325762004	**MW42A**	EPA 200.2	695839	EPA 6020	696000
50325762001	**MW42B**	EPA 903.1	533714		
50325762002	**MW42B MS**	EPA 903.1	533714		
50325762003	**MW42B MSD**	EPA 903.1	533714		
50325762004	**MW42A**	EPA 903.1	533714		
50325762001	**MW42B**	EPA 904.0	533715		
50325762002	**MW42B MS**	EPA 904.0	533715		
50325762003	**MW42B MSD**	EPA 904.0	533715		
50325762004	**MW42A**	EPA 904.0	533715		
50325762001	**MW42B**	Total Radium Calculation	536679		
50325762004	**MW42A**	Total Radium Calculation	536679		
50325762001	**MW42B**	SM 2320B	695779		
50325762004	**MW42A**	SM 2320B	695779		
50325762001	**MW42B**	SM 2540C	696118		
50325762004	**MW42A**	SM 2540C	696118		
50325762001	**MW42B**	SM 4500-Cl G	696042		
50325762004	**MW42A**	SM 4500-Cl G	696042		
50325762001	**MW42B**	SM 4500-H+B	695976		
50325762004	**MW42A**	SM 4500-H+B	695976		
50325762001	**MW42B**	SM 4500-S2-D	696114		
50325762004	**MW42A**	SM 4500-S2-D	696114		
50325762001	**MW42B**	HACH 8146	696043		
50325762004	**MW42A**	HACH 8146	696043		
50325762001	**MW42B**	EPA 353.2	695644		
50325762004	**MW42A**	EPA 353.2	695644		
50325762001	**MW42B**	EPA 365.1	696111	EPA 365.1	696769
50325762004	**MW42A**	EPA 365.1	696111	EPA 365.1	696769
50325762001	**MW42B**	SM 5310C	695838		
50325762004	**MW42A**	SM 5310C	695838		
50325762001	**MW42B**	SM 5310C	696156		
50325762004	**MW42A**	SM 5310C	696156		

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WO# : 50325762

50325762

Pace

CHAIN-OF-CUSTODY / Analytical R

The Chain-of-Custody is a LEGAL DOCUMENT. All rele

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: Atlas Indianapolis	Report To: Mark Breting	Attention: Accounts Payable - Paula Sedam	
Address: 7988 Centerpoint Drive	Copy To:	Company Name: Atlas Indianapolis	
Suite 100, Indianapolis, IN 46256		Address:	Regulatory Agency
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:	
Phone: 317-313-8306 Fax:	Project Name: AES PB 2022 On-Site MW Water	Pace Project Manager: hayden.putt@pacelabs.com,	State / Location
Requested Due Date:	Project #:	Pace Profile #: 10498/21	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	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate, Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW42 B (MS/MSD)	SU	G			9/13/22	0938		33	9	9	12		3															001
2	MW42 A	SU	G			9/13/22	1240		11	3	3	4		1															002
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb	Mohammed Bazlamit	9/13/22	1500	Fedex			0.5	Y	Y	Y
Alkalinity - Total, Carb and Bicarb	Fedex	9/14/22	0850		9/14/22	0850	1.5			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mohammed Bazlamit

SIGNATURE of SAMPLER:

DATE Signed: 9/13/22

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 9/14/22 @ 0917 DF

1. Courier: [X] FED EX [ ] UPS [ ] CLIENT [ ] PACE [ ] USPS [ ] OTHER ____

2. Custody Seal on Cooler/Box Present: [X] Yes [ ] No

(If yes)Seals Intact: [X] 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(s): 0.5/0.5 | 1.5/1.5 | | | (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. Packing Material: [ ] Bubble Wrap [X] Bubble Bags [ ] None [X] Other plastic bags

6. Ice Type: [X] Wet [ ] Blue [ ] None

7. If temp. is over 6°C or under 0°C, was the PM notified?: [ ] Yes [ ] No
Cooler temp should be above freezing to 6°C

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

	Yes	No
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		X
Short Hold Time Analysis (48 hours or less)? **Analysis:** Nitrate	X	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1008	
Rush TAT Requested (4 days or less):		X
Custody Signatures Present?	X	
Containers Intact?:	X	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID		X
Extra labels on Terracore Vials? (soils only)		N/A

	Yes	No	N/A
All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	X		
	Present	Absent	N/A
Residual Chlorine Check (SVOC 625 Pest/PCB 608)			X
Residual Chlorine Check (Total/Amenable/Free Cyanide)			X
Headspace Wisconsin Sulfide?			X
	Present	Absent	No VOA Vials Sent
Headspace in VOA Vials (>6mm): See Containter Count form for details			X
Trip Blank Present?		X	
Trip Blank Custody Seals?:			X

COMMENTS:

MW40A container times (1238) different from COC times (1240)

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		MeOH (only) / SBS / DI	VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric Red	Sulfuric Yellow	Sodium Hydroxide Green	Sodium Hydroxide/ ZnAc Black
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 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1												3	3			6	3	6	3	3	3		3					WT	✓	✓		✓
2												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
GN	General	AG3C	250mL NaOH amber glass

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 10, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2022. 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. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

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 #: 460198
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: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50327389001	**MW-45A**	Water	10/03/22 14:25	10/04/22 08:45
50327389002	**MW-45B**	Water	10/03/22 12:20	10/04/22 08:45
50327389003	**MW-45B MS**	Water	10/03/22 12:20	10/04/22 08:45
50327389004	**MW-45B MSD**	Water	10/03/22 12:20	10/04/22 08:45
50327389005	**MW-45I**	Water	10/03/22 17:25	10/04/22 08:45

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50327389001	**MW-45A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50327389002	**MW-45B**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50327389003	**MW-45B MS**	EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50327389004	**MW-45B MSD**	EPA 903.1	GDH	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
50327389005	**MW-45I**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	10	PASI-I
		EPA 6010	JPK	1	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-Cl G	ZM	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50327389001	**MW-45A**					
EPA 9056	Chloride	9.6	mg/L	0.25	10/06/22 16:23	
EPA 9056	Fluoride	0.51	mg/L	0.10	10/06/22 16:23	
EPA 9056	Sulfate	402	mg/L	25.0	10/06/22 17:00	
EPA 6010	Aluminum	965	ug/L	200	10/08/22 15:22	
EPA 6010	Boron	724	ug/L	100	10/08/22 15:22	
EPA 6010	Calcium	189000	ug/L	1000	10/08/22 15:22	
EPA 6010	Iron	15800	ug/L	100	10/08/22 15:22	
EPA 6010	Lithium	32.0	ug/L	20.0	10/08/22 15:22	
EPA 6010	Magnesium	63400	ug/L	1000	10/08/22 15:22	
EPA 6010	Manganese	1490	ug/L	10.0	10/08/22 15:22	
EPA 6010	Potassium	1730	ug/L	1000	10/08/22 15:22	
EPA 6010	Silica	26200	ug/L	450	10/08/22 15:22	N2
EPA 6010	Sodium	10400	ug/L	1000	10/08/22 15:22	
EPA 6010	Manganese, Dissolved	1340	ug/L	10.0	10/07/22 01:28	
EPA 6020	Arsenic	2.5	ug/L	1.0	10/05/22 23:56	
EPA 6020	Barium	120	ug/L	1.0	10/05/22 23:56	
EPA 6020	Cobalt	1.4	ug/L	1.0	10/05/22 23:56	
EPA 6020	Molybdenum	5.2	ug/L	1.0	10/05/22 23:56	
EPA 903.1	Radium-226	0.780 ± 0.546 (0.659) C:NA T:97%	pCi/L		10/16/22 16:02	
EPA 904.0	Radium-228	0.868 ± 0.414 (0.709) C:69% T:93%	pCi/L		10/19/22 12:07	
Total Radium Calculation	Total Radium	1.65 ± 0.960 (1.37)	pCi/L		10/21/22 17:26	
SM 2320B	Alkalinity, Total as CaCO3	329	mg/L	10.0	10/04/22 13:48	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	329	mg/L	10.0	10/04/22 13:48	
SM 2540C	Total Dissolved Solids	924	mg/L	20.0	10/06/22 09:15	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	10/05/22 10:24	H3
EPA 365.1	Phosphate as P04	0.34	mg/L	0.15	10/10/22 09:46	
SM 5310C	Total Organic Carbon	3.6	mg/L	1.0	10/05/22 10:59	
SM 5310C	Dissolved Organic Carbon	3.9	mg/L	1.0	10/04/22 23:20	
50327389002	**MW-45B**					
EPA 9056	Chloride	5.9	mg/L	0.25	10/06/22 17:18	
EPA 9056	Fluoride	0.13	mg/L	0.10	10/06/22 17:18	
EPA 9056	Sulfate	108	mg/L	2.5	10/06/22 17:40	
EPA 6010	Aluminum	238	ug/L	200	10/08/22 15:24	
EPA 6010	Calcium	113000	ug/L	1000	10/08/22 15:24	
EPA 6010	Iron	830	ug/L	100	10/08/22 15:24	
EPA 6010	Magnesium	39400	ug/L	1000	10/08/22 15:24	
EPA 6010	Manganese	1350	ug/L	10.0	10/08/22 15:24	
EPA 6010	Silica	15300	ug/L	450	10/08/22 15:24	N2
EPA 6010	Sodium	4930	ug/L	1000	10/08/22 15:24	
EPA 6010	Manganese, Dissolved	802	ug/L	10.0	10/07/22 01:30	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50327389002	**MW-45B**					
EPA 6020	Arsenic	1.7	ug/L	1.0	10/05/22 23:28	
EPA 6020	Barium	102	ug/L	1.0	10/05/22 23:28	
EPA 6020	Cobalt	2.7	ug/L	1.0	10/05/22 23:28	
EPA 6020	Molybdenum	2.4	ug/L	1.0	10/05/22 23:28	
EPA 903.1	Radium-226	0.343 ± 0.278 (0.155) C:NA T:95%	pCi/L		10/16/22 16:02	
EPA 904.0	Radium-228	0.831 ± 0.385 (0.654) C:72% T:98%	pCi/L		10/19/22 12:07	
Total Radium Calculation	Total Radium	1.17 ± 0.663 (0.809)	pCi/L		10/21/22 17:26	
SM 2320B	Alkalinity, Total as CaCO3	333	mg/L	10.0	10/04/22 13:48	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	333	mg/L	10.0	10/04/22 13:48	
SM 2540C	Total Dissolved Solids	490	mg/L	10.0	10/06/22 09:15	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	10/05/22 10:25	H3
EPA 353.2	Nitrogen, Nitrate	1.9	mg/L	0.10	10/04/22 15:45	
EPA 365.1	Phosphate as P04	0.16	mg/L	0.15	10/10/22 09:47	
50327389003	**MW-45B MS**					
EPA 903.1	Radium-226	102.40 %REC ± NA (NA) C:NA T:NA	pCi/L		10/16/22 16:02	
EPA 904.0	Radium-228	94.25 %REC ± NA (NA) C:NA T:NA	pCi/L		10/19/22 12:07	
50327389004	**MW-45B MSD**					
EPA 903.1	Radium-226	105.48 %REC 2.97RPD ± NA (NA) C:NA T:NA	pCi/L		10/16/22 16:02	
EPA 904.0	Radium-228	83.58 %REC 12.01 RPD ± NA (NA) C:NA T:NA	pCi/L		10/19/22 12:07	
50327389005	**MW-45I**					
EPA 9056	Chloride	9.4	mg/L	0.25	10/06/22 20:52	
EPA 9056	Fluoride	0.19	mg/L	0.10	10/06/22 20:52	
EPA 9056	Sulfate	259	mg/L	25.0	10/06/22 21:32	
EPA 6010	Aluminum	1380	ug/L	200	10/08/22 15:38	
EPA 6010	Boron	443	ug/L	100	10/08/22 15:38	
EPA 6010	Calcium	153000	ug/L	1000	10/08/22 15:38	
EPA 6010	Iron	5440	ug/L	100	10/08/22 15:38	

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50327389005	**MW-45I**					
EPA 6010	Magnesium	50500	ug/L	1000	10/08/22 15:38	
EPA 6010	Manganese	1770	ug/L	10.0	10/08/22 15:38	
EPA 6010	Potassium	1560	ug/L	1000	10/08/22 15:38	
EPA 6010	Silica	24700	ug/L	450	10/08/22 15:38	N2
EPA 6010	Sodium	9250	ug/L	1000	10/08/22 15:38	
EPA 6010	Manganese, Dissolved	1570	ug/L	10.0	10/07/22 01:36	
EPA 6020	Arsenic	2.1	ug/L	1.0	10/06/22 00:04	
EPA 6020	Barium	120	ug/L	1.0	10/06/22 00:04	
EPA 6020	Cobalt	2.5	ug/L	1.0	10/06/22 00:04	
EPA 6020	Lead	1.4	ug/L	1.0	10/06/22 00:04	
EPA 6020	Molybdenum	4.0	ug/L	1.0	10/06/22 00:04	
EPA 903.1	Radium-226	0.332 ± 0.346 (0.488) C:NA T:99%	pCi/L		10/16/22 16:02	
EPA 904.0	Radium-228	1.04 ± 0.631 (1.19) C:47% T:90%	pCi/L		10/19/22 12:07	
Total Radium Calculation	Total Radium	1.37 ± 0.977 (1.68)	pCi/L		10/21/22 17:26	
SM 2320B	Alkalinity, Total as CaCO3	326	mg/L	10.0	10/04/22 13:48	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	326	mg/L	10.0	10/04/22 13:48	
SM 2540C	Total Dissolved Solids	712	mg/L	10.0	10/06/22 09:16	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	10/05/22 10:27	H3
EPA 365.1	Phosphate as P04	0.40	mg/L	0.15	10/10/22 09:49	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	10/05/22 00:21	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45A **Lab ID: 50327389001** Collected: 10/03/22 14:25 Received: 10/04/22 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**9.6**	mg/L	0.25	1		10/06/22 16:23	16887-00-6	
Fluoride	**0.51**	mg/L	0.10	1		10/06/22 16:23	16984-48-8	
Sulfate	**402**	mg/L	25.0	100		10/06/22 17:00	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**965**	ug/L	200	1	10/07/22 08:53	10/08/22 15:22	7429-90-5	
Boron	**724**	ug/L	100	1	10/07/22 08:53	10/08/22 15:22	7440-42-8	
Calcium	**189000**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:22	7440-70-2	
Iron	**15800**	ug/L	100	1	10/07/22 08:53	10/08/22 15:22	7439-89-6	
Lithium	**32.0**	ug/L	20.0	1	10/07/22 08:53	10/08/22 15:22	7439-93-2	
Magnesium	**63400**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:22	7439-95-4	
Manganese	**1490**	ug/L	10.0	1	10/07/22 08:53	10/08/22 15:22	7439-96-5	
Potassium	**1730**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:22	7440-09-7	
Silica	**26200**	ug/L	450	1	10/07/22 08:53	10/08/22 15:22	7631-86-9	N2
Sodium	**10400**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:22	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1340**	ug/L	10.0	1	10/06/22 11:33	10/07/22 01:28	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:56	7440-36-0	
Arsenic	**2.5**	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:56	7440-38-2	
Barium	**120**	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:56	7440-39-3	
Beryllium	ND	ug/L	0.20	1	10/04/22 16:15	10/05/22 23:56	7440-41-7	
Cadmium	ND	ug/L	0.20	1	10/04/22 16:15	10/05/22 23:56	7440-43-9	
Cobalt	**1.4**	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:56	7440-48-4	
Lead	ND	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:56	7439-92-1	
Molybdenum	**5.2**	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:56	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**329**	mg/L	10.0	1		10/04/22 13:48		
Alkalinity,Bicarbonate (CaCO3)	**329**	mg/L	10.0	1		10/04/22 13:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		10/04/22 13:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**924**	mg/L	20.0	1		10/06/22 09:15		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		10/10/22 19:43	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45A **Lab ID: 50327389001** Collected: 10/03/22 14:25 Received: 10/04/22 08:45 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		10/05/22 10:24		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		10/07/22 12:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		10/10/22 21:38	15438-31-0	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		10/04/22 15:23	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		10/04/22 15:23	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	10/06/22 10:00	10/10/22 09:46		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**3.6**	mg/L	1.0	1		10/05/22 10:59	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**3.9**	mg/L	1.0	1		10/04/22 23:20		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45B **Lab ID: 50327389002** Collected: 10/03/22 12:20 Received: 10/04/22 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**5.9**	mg/L	0.25	1		10/06/22 17:18	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		10/06/22 17:18	16984-48-8	
Sulfate	**108**	mg/L	2.5	10		10/06/22 17:40	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**238**	ug/L	200	1	10/07/22 08:53	10/08/22 15:24	7429-90-5	
Boron	ND	ug/L	100	1	10/07/22 08:53	10/08/22 15:24	7440-42-8	
Calcium	**113000**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:24	7440-70-2	
Iron	**830**	ug/L	100	1	10/07/22 08:53	10/08/22 15:24	7439-89-6	
Lithium	ND	ug/L	20.0	1	10/07/22 08:53	10/08/22 15:24	7439-93-2	
Magnesium	**39400**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:24	7439-95-4	
Manganese	**1350**	ug/L	10.0	1	10/07/22 08:53	10/08/22 15:24	7439-96-5	
Potassium	ND	ug/L	1000	1	10/07/22 08:53	10/08/22 15:24	7440-09-7	
Silica	**15300**	ug/L	450	1	10/07/22 08:53	10/08/22 15:24	7631-86-9	N2
Sodium	**4930**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:24	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**802**	ug/L	10.0	1	10/06/22 11:33	10/07/22 01:30	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:28	7440-36-0	
Arsenic	**1.7**	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:28	7440-38-2	
Barium	**102**	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:28	7440-39-3	
Beryllium	ND	ug/L	0.20	1	10/04/22 16:15	10/05/22 23:28	7440-41-7	
Cadmium	ND	ug/L	0.20	1	10/04/22 16:15	10/05/22 23:28	7440-43-9	
Cobalt	**2.7**	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:28	7440-48-4	
Lead	ND	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:28	7439-92-1	
Molybdenum	**2.4**	ug/L	1.0	1	10/04/22 16:15	10/05/22 23:28	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**333**	mg/L	10.0	1		10/04/22 13:48		
Alkalinity,Bicarbonate (CaCO3)	**333**	mg/L	10.0	1		10/04/22 13:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		10/04/22 13:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**490**	mg/L	10.0	1		10/06/22 09:15		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		10/10/22 19:42	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45B **Lab ID: 50327389002** Collected: 10/03/22 12:20 Received: 10/04/22 08:45 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		10/05/22 10:25		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		10/07/22 12:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		10/10/22 21:37	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**1.9**	mg/L	0.10	1		10/04/22 15:45	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		10/04/22 15:45	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.16**	mg/L	0.15	1	10/06/22 10:00	10/10/22 09:47		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		10/05/22 11:18	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		10/04/22 23:30		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45I **Lab ID: 50327389005** Collected: 10/03/22 17:25 Received: 10/04/22 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**9.4**	mg/L	0.25	1		10/06/22 20:52	16887-00-6	
Fluoride	**0.19**	mg/L	0.10	1		10/06/22 20:52	16984-48-8	
Sulfate	**259**	mg/L	25.0	100		10/06/22 21:32	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**1380**	ug/L	200	1	10/07/22 08:53	10/08/22 15:38	7429-90-5	
Boron	**443**	ug/L	100	1	10/07/22 08:53	10/08/22 15:38	7440-42-8	
Calcium	**153000**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:38	7440-70-2	
Iron	**5440**	ug/L	100	1	10/07/22 08:53	10/08/22 15:38	7439-89-6	
Lithium	ND	ug/L	20.0	1	10/07/22 08:53	10/08/22 15:38	7439-93-2	
Magnesium	**50500**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:38	7439-95-4	
Manganese	**1770**	ug/L	10.0	1	10/07/22 08:53	10/08/22 15:38	7439-96-5	
Potassium	**1560**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:38	7440-09-7	
Silica	**24700**	ug/L	450	1	10/07/22 08:53	10/08/22 15:38	7631-86-9	N2
Sodium	**9250**	ug/L	1000	1	10/07/22 08:53	10/08/22 15:38	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1570**	ug/L	10.0	1	10/06/22 11:33	10/07/22 01:36	7439-96-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	10/04/22 16:15	10/06/22 00:04	7440-36-0	
Arsenic	**2.1**	ug/L	1.0	1	10/04/22 16:15	10/06/22 00:04	7440-38-2	
Barium	**120**	ug/L	1.0	1	10/04/22 16:15	10/06/22 00:04	7440-39-3	
Beryllium	ND	ug/L	0.20	1	10/04/22 16:15	10/06/22 00:04	7440-41-7	
Cadmium	ND	ug/L	0.20	1	10/04/22 16:15	10/06/22 00:04	7440-43-9	
Cobalt	**2.5**	ug/L	1.0	1	10/04/22 16:15	10/06/22 00:04	7440-48-4	
Lead	**1.4**	ug/L	1.0	1	10/04/22 16:15	10/06/22 00:04	7439-92-1	
Molybdenum	**4.0**	ug/L	1.0	1	10/04/22 16:15	10/06/22 00:04	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**326**	mg/L	10.0	1		10/04/22 13:48		
Alkalinity,Bicarbonate (CaCO3)	**326**	mg/L	10.0	1		10/04/22 13:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	1		10/04/22 13:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**712**	mg/L	10.0	1		10/06/22 09:16		
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G							
	Pace Analytical Services - Indianapolis							
Chlorine, Total Residual	ND	mg/L	0.10	1		10/10/22 19:44	7782-50-5	H3

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45I **Lab ID: 50327389005** Collected: 10/03/22 17:25 Received: 10/04/22 08:45 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		10/05/22 10:27		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		10/07/22 12:09	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		10/10/22 21:39	15438-31-0	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		10/04/22 15:25	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		10/04/22 15:25	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.40**	mg/L	0.15	1	10/06/22 10:00	10/10/22 09:49		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		10/05/22 12:23	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		10/05/22 00:21		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 699497
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3215977 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	10/06/22 15:42	
Fluoride	mg/L	ND	0.10	10/06/22 15:42	
Sulfate	mg/L	ND	0.25	10/06/22 15:42	

LABORATORY CONTROL SAMPLE: 3215978

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	99	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3215979 3215980

Parameter	Units	50327389002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.9	1.2	1.2	7.2	7.2	99	99	80-120	0	15	
Fluoride	mg/L	0.13	0.5	0.5	0.65	0.65	104	104	80-120	0	15	
Sulfate	mg/L	108	25	25	127	127	76	77	80-120	0	15	M0

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 698947
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3213789 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	10/08/22 14:24	
Boron	ug/L	ND	100	10/08/22 14:24	
Calcium	ug/L	ND	1000	10/08/22 14:24	
Iron	ug/L	ND	100	10/08/22 14:24	
Lithium	ug/L	ND	20.0	10/08/22 14:24	
Magnesium	ug/L	ND	1000	10/08/22 14:24	
Manganese	ug/L	ND	10.0	10/08/22 14:24	
Potassium	ug/L	ND	1000	10/08/22 14:24	
Silica	ug/L	ND	450	10/08/22 14:24	N2
Sodium	ug/L	ND	1000	10/08/22 14:24	

LABORATORY CONTROL SAMPLE: 3213790

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	80-120	
Boron	ug/L	1000	1030	103	80-120	
Calcium	ug/L	10000	10300	103	80-120	
Iron	ug/L	10000	10400	104	80-120	
Lithium	ug/L	1000	1040	104	80-120	
Magnesium	ug/L	10000	10100	101	80-120	
Manganese	ug/L	1000	990	99	80-120	
Potassium	ug/L	10000	10500	105	80-120	
Silica	ug/L	10700	11000	103	80-120	N2
Sodium	ug/L	10000	10300	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3213791 3213792

Parameter	Units	50327389002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	238	10000	10000	10400	10400	101	102	75-125	0	20	
Boron	ug/L	ND	1000	1000	1120	1120	105	104	75-125	0	20	
Calcium	ug/L	113000	10000	10000	125000	123000	116	94	75-125	2	20	
Iron	ug/L	830	10000	10000	11000	11000	101	101	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1070	1050	106	105	75-125	2	20	
Magnesium	ug/L	39400	10000	10000	50000	49300	107	99	75-125	1	20	
Manganese	ug/L	1350	1000	1000	2350	2320	100	97	75-125	1	20	
Potassium	ug/L	ND	10000	10000	11300	11000	108	104	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3213791 3213792

Parameter	Units	50327389002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	15300	10700	10700	26500	26300	105	103	75-125	1	20	N2
Sodium	ug/L	4930	10000	10000	15500	15100	105	102	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 698938
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3213722 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	10/07/22 00:33	

LABORATORY CONTROL SAMPLE: 3213723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	964	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3213724 3213725

Parameter	Units	50326725002 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	151	1000	1000	1100	1070	95	92	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3213726 3213727

Parameter	Units	50327389002 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	802	1000	1000	1740	1770	94	97	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3213728 3213729

Parameter	Units	50327081003 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	ND	1000	1000	969	964	97	96	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 698994
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3214002 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	10/05/22 23:19	
Arsenic	ug/L	ND	1.0	10/05/22 23:19	
Barium	ug/L	ND	1.0	10/05/22 23:19	
Beryllium	ug/L	ND	0.20	10/05/22 23:19	
Cadmium	ug/L	ND	0.20	10/05/22 23:19	
Cobalt	ug/L	ND	1.0	10/05/22 23:19	
Lead	ug/L	ND	1.0	10/05/22 23:19	
Molybdenum	ug/L	ND	1.0	10/05/22 23:19	

LABORATORY CONTROL SAMPLE: 3214003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.3	106	80-120	
Arsenic	ug/L	40	38.3	96	80-120	
Barium	ug/L	40	38.8	97	80-120	
Beryllium	ug/L	40	40.3	101	80-120	
Cadmium	ug/L	40	39.1	98	80-120	
Cobalt	ug/L	40	41.9	105	80-120	
Lead	ug/L	40	40.3	101	80-120	
Molybdenum	ug/L	40	39.4	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3214004 3214005

Parameter	Units	50327389002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.8	42.5	107	106	75-125	1	20	
Arsenic	ug/L	1.7	40	40	39.7	39.4	95	94	75-125	1	20	
Barium	ug/L	102	40	40	144	143	106	103	75-125	1	20	
Beryllium	ug/L	ND	40	40	40.1	40.1	100	100	75-125	0	20	
Cadmium	ug/L	ND	40	40	38.6	38.7	97	97	75-125	0	20	
Cobalt	ug/L	2.7	40	40	42.1	41.8	99	98	75-125	1	20	
Lead	ug/L	ND	40	40	40.7	40.7	101	101	75-125	0	20	
Molybdenum	ug/L	2.4	40	40	42.4	42.3	100	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 698962
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3213876 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10/04/22 13:48	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10/04/22 13:48	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10/04/22 13:48	

LABORATORY CONTROL SAMPLE: 3213877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.3	95	90-110	

SAMPLE DUPLICATE: 3213878

Parameter	Units	50327389002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	333	338	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	333	338	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 699372 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3215533 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10/06/22 09:08	

LABORATORY CONTROL SAMPLE: 3215534

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	279	93	80-120	

SAMPLE DUPLICATE: 3215535

Parameter	Units	50327281002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13800	14500	4	10	

SAMPLE DUPLICATE: 3215536

Parameter	Units	50327389002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	490	498	2	10	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 700070
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3218783 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.10	10/10/22 19:42	H3

LABORATORY CONTROL SAMPLE: 3218784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	0.98	98	90-110	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3218785 3218786

Parameter	Units	50327389002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlorine, Total Residual	mg/L	ND	1	1	0.68	0.70	68	70	90-110	3	20	H3,M3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 699187
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

SAMPLE DUPLICATE: 3214778

Parameter	Units	50327389002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.2	0	2	H3

SAMPLE DUPLICATE: 3214779

Parameter	Units	50327197003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.6	1	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 699659
QC Batch Method: SM 4500-S2-D
Analysis Method: SM 4500-S2-D
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3216838 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	10/07/22 12:09	

LABORATORY CONTROL SAMPLE: 3216839

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3216840 3216841

Parameter	Units	50327389002 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	0.43	0.42	82	79	90-110	3	20	M3

MATRIX SPIKE SAMPLE: 3216842

Parameter	Units	50327403008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.55	105	90-110	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 700072 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3218807 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	10/10/22 21:34	H3,N2

LABORATORY CONTROL SAMPLE: 3218808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.1	105	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3218809 3218810

Parameter	Units	50327389002 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: 3218811

Parameter	Units	50327813007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	0.97	97	90-110	H3,N2

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 698999
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3214017 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	10/04/22 15:10	
Nitrogen, Nitrite	mg/L	ND	0.10	10/04/22 15:10	

LABORATORY CONTROL SAMPLE: 3214018

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	1.0	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3214019 3214020

Parameter	Units	50327389002 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	1.9	1	1	2.9	2.9	99	96	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	107	107	90-110	0	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 699384
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Total Phosphorus
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3215562 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	10/10/22 09:32	

LABORATORY CONTROL SAMPLE: 3215563

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

MATRIX SPIKE SAMPLE: 3215564

Parameter	Units	50326928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3215565 3215566

Parameter	Units	50327389002 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			1.6	1.6				1		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 698946
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3213780 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	10/05/22 10:20	

LABORATORY CONTROL SAMPLE: 3213781

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3213782 3213783

Parameter	Units	50327389002 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	97	95	80-120	1	20	

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 698941 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50327389001, 50327389002, 50327389005

METHOD BLANK: 3213745 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	10/04/22 22:58	

LABORATORY CONTROL SAMPLE: 3213746

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: 3213747 3213748

Parameter	Units	50327389002 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	9.6	8.5	88	77	80-120	13	20	M0

MATRIX SPIKE SAMPLE: 3213749

Parameter	Units	50327389005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.4	10	10.9	95	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45A **Lab ID: 50327389001** Collected: 10/03/22 14:25 Received: 10/04/22 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.780 ± 0.546 (0.659) C:NA T:97%**	pCi/L	10/16/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.868 ± 0.414 (0.709) C:69% T:93%**	pCi/L	10/19/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.65 ± 0.960 (1.37)**	pCi/L	10/21/22 17:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45B **Lab ID: 50327389002** Collected: 10/03/22 12:20 Received: 10/04/22 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.343 ± 0.278 (0.155) C:NA T:95%**	pCi/L	10/16/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.831 ± 0.385 (0.654) C:72% T:98%**	pCi/L	10/19/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.17 ± 0.663 (0.809)**	pCi/L	10/21/22 17:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45B MS **Lab ID: 50327389003** Collected: 10/03/22 12:20 Received: 10/04/22 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**102.40 %REC ± NA (NA) C:NA T:NA**	pCi/L	10/16/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**94.25 %REC ± NA (NA) C:NA T:NA**	pCi/L	10/19/22 12:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45B MSD **Lab ID: 50327389004** Collected: 10/03/22 12:20 Received: 10/04/22 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**105.48 %REC 2.97RPD ± NA (NA) C:NA T:NA**	pCi/L	10/16/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**83.58 %REC 12.01 RPD ± NA (NA) C:NA T:NA**	pCi/L	10/19/22 12:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Sample: MW-45I **Lab ID: 50327389005** Collected: 10/03/22 17:25 Received: 10/04/22 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.332 ± 0.346 (0.488) C:NA T:99%**	pCi/L	10/16/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.04 ± 0.631 (1.19) C:47% T:90%**	pCi/L	10/19/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.37 ± 0.977 (1.68)**	pCi/L	10/21/22 17:26	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 538337
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 50327389001, 50327389002, 50327389003, 50327389004, 50327389005

METHOD BLANK: 2612578 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389003, 50327389004, 50327389005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.000326 ± 0.333 (0.772) C:73% T:89%	pCi/L	10/19/22 12:06	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

QC Batch: 538336 | 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: 50327389001, 50327389002, 50327389003, 50327389004, 50327389005

METHOD BLANK: 2612577 Matrix: Water
Associated Lab Samples: 50327389001, 50327389002, 50327389003, 50327389004, 50327389005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.256 (0.413) C:NA T:92%	pCi/L	10/16/22 15:47	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50327389001	**MW-45A**	EPA 9056	699497		
50327389002	**MW-45B**	EPA 9056	699497		
50327389005	**MW-45I**	EPA 9056	699497		
50327389001	**MW-45A**	EPA 3010	698947	EPA 6010	699813
50327389002	**MW-45B**	EPA 3010	698947	EPA 6010	699813
50327389005	**MW-45I**	EPA 3010	698947	EPA 6010	699813
50327389001	**MW-45A**	EPA 3010	698938	EPA 6010	699598
50327389002	**MW-45B**	EPA 3010	698938	EPA 6010	699598
50327389005	**MW-45I**	EPA 3010	698938	EPA 6010	699598
50327389001	**MW-45A**	EPA 200.2	698994	EPA 6020	699121
50327389002	**MW-45B**	EPA 200.2	698994	EPA 6020	699121
50327389005	**MW-45I**	EPA 200.2	698994	EPA 6020	699121
50327389001	**MW-45A**	EPA 903.1	538336		
50327389002	**MW-45B**	EPA 903.1	538336		
50327389003	**MW-45B MS**	EPA 903.1	538336		
50327389004	**MW-45B MSD**	EPA 903.1	538336		
50327389005	**MW-45I**	EPA 903.1	538336		
50327389001	**MW-45A**	EPA 904.0	538337		
50327389002	**MW-45B**	EPA 904.0	538337		
50327389003	**MW-45B MS**	EPA 904.0	538337		
50327389004	**MW-45B MSD**	EPA 904.0	538337		
50327389005	**MW-45I**	EPA 904.0	538337		
50327389001	**MW-45A**	Total Radium Calculation	541738		
50327389002	**MW-45B**	Total Radium Calculation	541738		
50327389005	**MW-45I**	Total Radium Calculation	541738		
50327389001	**MW-45A**	SM 2320B	698962		
50327389002	**MW-45B**	SM 2320B	698962		
50327389005	**MW-45I**	SM 2320B	698962		
50327389001	**MW-45A**	SM 2540C	699372		
50327389002	**MW-45B**	SM 2540C	699372		
50327389005	**MW-45I**	SM 2540C	699372		
50327389001	**MW-45A**	SM 4500-Cl G	700070		
50327389002	**MW-45B**	SM 4500-Cl G	700070		
50327389005	**MW-45I**	SM 4500-Cl G	700070		
50327389001	**MW-45A**	SM 4500-H+B	699187		
50327389002	**MW-45B**	SM 4500-H+B	699187		
50327389005	**MW-45I**	SM 4500-H+B	699187		
50327389001	**MW-45A**	SM 4500-S2-D	699659		
50327389002	**MW-45B**	SM 4500-S2-D	699659		
50327389005	**MW-45I**	SM 4500-S2-D	699659		
50327389001	**MW-45A**	HACH 8146	700072		
50327389002	**MW-45B**	HACH 8146	700072		
50327389005	**MW-45I**	HACH 8146	700072		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Water
Pace Project No.: 50327389

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50327389001	**MW-45A**	EPA 353.2	698999		
50327389002	**MW-45B**	EPA 353.2	698999		
50327389005	**MW-45I**	EPA 353.2	698999		
50327389001	**MW-45A**	EPA 365.1	699384	EPA 365.1	699916
50327389002	**MW-45B**	EPA 365.1	699384	EPA 365.1	699916
50327389005	**MW-45I**	EPA 365.1	699384	EPA 365.1	699916
50327389001	**MW-45A**	SM 5310C	698946		
50327389002	**MW-45B**	SM 5310C	698946		
50327389005	**MW-45I**	SM 5310C	698946		
50327389001	**MW-45A**	SM 5310C	698941		
50327389002	**MW-45B**	SM 5310C	698941		
50327389005	**MW-45I**	SM 5310C	698941		

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WO# : 50327389

50327389

CHAIN-OF-CUSTODY / Analytical R

The Chain-of-Custody is a LEGAL DOCUMENT. All rele

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7986 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Water	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/21

Regulatory Agency	State / Location
	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total 6010 6020	Field Filtered Mn 6010	TDS 2540C/pH 4500+B	TOC by 5310	DOC by 5310	Alkalinity/Ferrous Fe/Res. Cl	Nitrate,Nitrite 353.2-WET	Sulfide 4500S2D	Phosphate 365.1	(Cl,F,SO4) 9056	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW-45A	W	G	10/3	1425				11	3	3	4	-	1	-	-	-		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		001
2	MW-45B (MS/MSD-1)	W	G	10/3	1220				33	9	9	12	-	3	-	-	-		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		002/003/1004
3	MW-45I	W	G	10/3	1725				11	3	3	4	-	1	-	-	-		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		~~003~~ 005
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11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
6010-Al,B,Fe,Mn,Ca,Mg,Na,K,Li,SiO2 6020-Be,Co,As,Mo,Cd,Sb,Ba,Pb		10/4	845		10/4/22	0645	1.5	Y	Y	Y
Alkalinity - Total, Carb and Bicarb							4.6			

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	P. Greg Hopper			
SIGNATURE of SAMPLER:		DATE Signed:	10/4/22	

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

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 10/4/22 @ 0905 DF

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(s):** 1.5/1.5 | 4.6/4.6 | | |

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. **Packing Material:** ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other plastic bags

6. **Ice Type:** ☒ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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)		X	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** Circle: **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	X		
Short Hold Time Analysis (48 hours or less)? Analysis: Nitrate	X					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1001			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			X
Rush TAT Requested (4 days or less):		X	Residual Chlorine Check (Total/Amenable/Free Cyanide)			X
Custody Signatures Present?	X		Headspace Wisconsin Sulfide?			X
				Present	Absent	No VOA Vials Sent
Containers Intact?:	X		Headspace in VOA Vials (>6mm): See Containter Count form for details			X
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	X		Trip Blank Present?		X	
Extra labels on Terracore Vials? (soils only)		NA	Trip Blank Custody Seals?:			X

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		VIALS						AMBER GLASS							PLASTIC									OTHER							
		MeOH (only) / SBS / DI																												
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	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1													1	1			2	1	2	2	1	1		1					WT	✓	✓		✓
2													3	3			6	3	6	3	3	3		3					↓	✓	✓		✓
3													1	1			2	1	2	2	1	1		1					↓	✓	✓		✓
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

2022 SOIL ANALYTICAL DATA

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 30, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on August 31, 2022. 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 - Green Bay
- Pace Analytical Services - Indianapolis

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

Sincerely,

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-21-8
Virginia VELAP Certification ID: 11873
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-21-00008
Federal Fish & Wildlife Permit #: 51774A

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 Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50324746001	**MW37I (44-46)**	Solid	08/30/22 16:00	08/31/22 13:40
50324746002	**MW36B (22-24)**	Solid	08/30/22 15:40	08/31/22 13:40
50324746003	**MW36A (64-66)**	Solid	08/30/22 15:30	08/31/22 13:40
50324746004	**MW37B (22-24)**	Solid	08/30/22 15:53	08/31/22 13:40
50324746005	**DUP-1**	Solid	08/30/22 08:00	08/31/22 13:40
50324746006	**MW37A (62-64)**	Solid	08/30/22 17:05	08/31/22 13:40
50324746007	**MW44A (54-56)**	Solid	08/30/22 17:34	08/31/22 13:40
50324746008	**MW40A (60-62)**	Solid	08/30/22 17:25	08/31/22 13:40
50324746009	**MW40I (45-47)**	Solid	08/30/22 17:18	08/31/22 13:40

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50324746001	**MW37I (44-46)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324746002	**MW36B (22-24)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324746003	**MW36A (64-66)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324746004	**MW37B (22-24)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324746005	**DUP-1**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324746006	**MW37A (62-64)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324746007	**MW44A (54-56)**	EPA 300.0	RMR	1	PASI-I

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324746008	**MW40A (60-62)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324746009	**MW40I (45-47)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-I = Pace Analytical Services - Indianapolis

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324746001	**MW37I (44-46)**					
EPA 300.0	Sulfate	57.9	mg/kg	2.9	09/06/22 15:41	N2
EPA 6010	Calcium	78200	mg/kg	544	09/08/22 11:37	
EPA 6010	Iron	4290	mg/kg	54.4	09/08/22 10:46	
EPA 6020	Arsenic	2.5	mg/kg	0.57	09/02/22 18:44	
EPA 6020	Boron	4.0	mg/kg	0.57	09/02/22 18:29	N2
EPA 6020	Manganese	251	mg/kg	2.3	09/02/22 17:31	
SM 2540G	Percent Moisture	13.1	%	0.10	09/03/22 23:07	N2
EPA 9045	pH at 25 Degrees C	8.0	Std. Units	0.10	09/01/22 16:09	H3
EPA 9060	Total Organic Carbon	18200	mg/kg	684	09/08/22 04:22	
EPA 9060	Total Organic Carbon	14400	mg/kg	688	09/08/22 04:30	
EPA 9060	Total Organic Carbon	15800	mg/kg	684	09/08/22 04:36	
EPA 9060	Total Organic Carbon	23500	mg/kg	686	09/08/22 04:43	
EPA 9060	Mean Total Organic Carbon	18000	mg/kg	686	09/08/22 04:22	
EPA 9060	RSD%	22.2	%		09/08/22 04:22	
50324746002	**MW36B (22-24)**					
EPA 300.0	Sulfate	5.1	mg/kg	3.2	09/06/22 16:13	N2
EPA 6010	Calcium	16100	mg/kg	116	09/08/22 11:39	
EPA 6010	Iron	9690	mg/kg	58.2	09/08/22 10:49	
EPA 6010	Lithium	10.8	mg/kg	5.8	09/08/22 10:49	N2
EPA 6020	Arsenic	2.4	mg/kg	1.2	09/02/22 18:49	
EPA 6020	Boron	4.7	mg/kg	0.60	09/02/22 18:34	N2
EPA 6020	Manganese	169	mg/kg	1.2	09/02/22 18:49	
SM 2540G	Percent Moisture	21.1	%	0.10	09/03/22 23:07	N2
EPA 9045	pH at 25 Degrees C	8.1	Std. Units	0.10	09/01/22 16:03	H3
EPA 9060	Total Organic Carbon	4930	mg/kg	765	09/08/22 07:26	
EPA 9060	Total Organic Carbon	4510	mg/kg	766	09/08/22 07:33	
EPA 9060	Total Organic Carbon	3400	mg/kg	768	09/08/22 07:40	
EPA 9060	Total Organic Carbon	3890	mg/kg	761	09/08/22 07:45	
EPA 9060	Mean Total Organic Carbon	4180	mg/kg	765	09/08/22 07:26	
EPA 9060	RSD%	16.2	%		09/08/22 07:26	
50324746003	**MW36A (64-66)**					
EPA 300.0	Sulfate	185	mg/kg	2.8	09/06/22 16:45	N2
EPA 6010	Calcium	56900	mg/kg	538	09/08/22 11:42	
EPA 6010	Iron	6200	mg/kg	53.8	09/08/22 10:51	
EPA 6020	Arsenic	1.6	mg/kg	0.54	09/02/22 18:53	
EPA 6020	Boron	4.2	mg/kg	0.54	09/02/22 18:39	N2
EPA 6020	Manganese	313	mg/kg	2.2	09/02/22 17:41	
EPA 6020	Molybdenum	0.67	mg/kg	0.54	09/02/22 18:53	N2
SM 2540G	Percent Moisture	9.4	%	0.10	09/03/22 23:07	N2
EPA 9045	pH at 25 Degrees C	7.6	Std. Units	0.10	09/01/22 16:02	H3
EPA 9060	Total Organic Carbon	11000	mg/kg	660	09/08/22 07:52	
EPA 9060	Total Organic Carbon	12700	mg/kg	660	09/08/22 07:59	
EPA 9060	Total Organic Carbon	11200	mg/kg	661	09/08/22 08:06	
EPA 9060	Total Organic Carbon	11500	mg/kg	661	09/08/22 08:14	
EPA 9060	Mean Total Organic Carbon	11600	mg/kg	661	09/08/22 07:52	
EPA 9060	RSD%	6.8	%		09/08/22 07:52	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324746004	**MW37B (22-24)**					
EPA 300.0	Sulfate	10.4	mg/kg	3.0	09/06/22 17:17	N2
EPA 6010	Calcium	31800	mg/kg	287	09/08/22 11:44	
EPA 6010	Iron	7690	mg/kg	57.4	09/08/22 10:53	
EPA 6020	Arsenic	3.1	mg/kg	0.59	09/02/22 19:22	
EPA 6020	Boron	2.8	mg/kg	0.59	09/02/22 19:08	N2
EPA 6020	Manganese	236	mg/kg	2.4	09/02/22 17:46	
SM 2540G	Percent Moisture	17.2	%	0.10	09/03/22 23:07	N2
EPA 9045	pH at 25 Degrees C	7.9	Std. Units	0.10	09/01/22 16:09	H3
EPA 9060	Total Organic Carbon	4120	mg/kg	723	09/08/22 08:21	
EPA 9060	Total Organic Carbon	2400	mg/kg	721	09/08/22 08:27	
EPA 9060	Total Organic Carbon	3570	mg/kg	723	09/08/22 08:36	
EPA 9060	Total Organic Carbon	3200	mg/kg	718	09/08/22 08:42	
EPA 9060	Mean Total Organic Carbon	3320	mg/kg	721	09/08/22 08:21	
EPA 9060	RSD%	21.7	%		09/08/22 08:21	
50324746005	**DUP-1**					
EPA 300.0	Sulfate	9.4	mg/kg	3.0	09/06/22 18:21	N2
EPA 6010	Calcium	30200	mg/kg	271	09/08/22 11:46	
EPA 6010	Iron	7810	mg/kg	54.2	09/08/22 10:55	
EPA 6020	Arsenic	3.4	mg/kg	0.57	09/02/22 19:27	
EPA 6020	Boron	3.0	mg/kg	0.57	09/02/22 19:13	N2
EPA 6020	Manganese	292	mg/kg	2.3	09/02/22 17:50	
SM 2540G	Percent Moisture	16.3	%	0.10	09/03/22 23:07	N2
EPA 9045	pH at 25 Degrees C	7.9	Std. Units	0.10	09/01/22 16:00	H3
EPA 9060	Total Organic Carbon	3090	mg/kg	711	09/08/22 08:48	
EPA 9060	Total Organic Carbon	3460	mg/kg	713	09/08/22 08:55	
EPA 9060	Total Organic Carbon	3060	mg/kg	714	09/08/22 09:01	
EPA 9060	Total Organic Carbon	3480	mg/kg	713	09/08/22 09:08	
EPA 9060	Mean Total Organic Carbon	3270	mg/kg	713	09/08/22 08:48	
EPA 9060	RSD%	7.0	%		09/08/22 08:48	
50324746006	**MW37A (62-64)**					
EPA 300.0	Sulfate	317	mg/kg	27.9	09/06/22 19:09	N2
EPA 6010	Calcium	68600	mg/kg	487	09/08/22 11:52	
EPA 6010	Iron	5210	mg/kg	48.7	09/08/22 11:01	
EPA 6020	Arsenic	2.1	mg/kg	0.54	09/02/22 19:32	
EPA 6020	Boron	6.3	mg/kg	0.54	09/02/22 19:17	N2
EPA 6020	Manganese	306	mg/kg	2.1	09/02/22 17:55	
EPA 6020	Molybdenum	0.96	mg/kg	0.54	09/02/22 19:32	N2
SM 2540G	Percent Moisture	10.6	%	0.10	09/03/22 23:07	N2
EPA 9045	pH at 25 Degrees C	7.6	Std. Units	0.10	09/01/22 16:10	H3
EPA 9060	Total Organic Carbon	14400	mg/kg	670	09/08/22 09:16	
EPA 9060	Total Organic Carbon	16300	mg/kg	668	09/08/22 09:24	
EPA 9060	Total Organic Carbon	14800	mg/kg	667	09/08/22 09:32	
EPA 9060	Total Organic Carbon	14400	mg/kg	670	09/08/22 09:40	
EPA 9060	Mean Total Organic Carbon	15000	mg/kg	669	09/08/22 09:16	
EPA 9060	RSD%	6.1	%		09/08/22 09:16	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324746007	**MW44A (54-56)**					
EPA 300.0	Sulfate	33.0	mg/kg	3.0	09/06/22 19:25	N2
EPA 6010	Calcium	62800	mg/kg	544	09/08/22 11:54	
EPA 6010	Iron	4110	mg/kg	54.4	09/08/22 11:04	
EPA 6020	Arsenic	1.2	mg/kg	0.57	09/02/22 20:01	
EPA 6020	Boron	3.5	mg/kg	0.57	09/02/22 19:46	N2
EPA 6020	Manganese	218	mg/kg	2.3	09/02/22 18:00	
SM 2540G	Percent Moisture	16.3	%	0.10	09/03/22 23:07	N2
EPA 9045	pH at 25 Degrees C	8.0	Std. Units	0.10	09/01/22 16:14	H3
EPA 9060	Total Organic Carbon	12000	mg/kg	711	09/08/22 09:47	
EPA 9060	Total Organic Carbon	11400	mg/kg	713	09/08/22 09:56	
EPA 9060	Total Organic Carbon	11000	mg/kg	710	09/08/22 10:03	
EPA 9060	Total Organic Carbon	11400	mg/kg	716	09/08/22 10:11	
EPA 9060	Mean Total Organic Carbon	11400	mg/kg	712	09/08/22 09:47	
EPA 9060	RSD%	3.5	%		09/08/22 09:47	
50324746008	**MW40A (60-62)**					
EPA 300.0	Sulfate	303	mg/kg	28.6	09/06/22 20:13	N2
EPA 6010	Calcium	73000	mg/kg	483	09/08/22 11:56	
EPA 6010	Iron	4010	mg/kg	48.3	09/08/22 11:06	
EPA 6020	Arsenic	1.2	mg/kg	0.55	09/02/22 20:05	
EPA 6020	Boron	8.0	mg/kg	0.55	09/02/22 19:51	N2
EPA 6020	Manganese	219	mg/kg	2.2	09/02/22 18:05	
EPA 6020	Molybdenum	0.71	mg/kg	0.55	09/02/22 20:05	N2
SM 2540G	Percent Moisture	12.9	%	0.10	09/03/22 23:08	N2
EPA 9045	pH at 25 Degrees C	7.8	Std. Units	0.10	09/01/22 16:13	H3
EPA 9060	Total Organic Carbon	14200	mg/kg	694	09/08/22 10:20	
EPA 9060	Total Organic Carbon	14200	mg/kg	695	09/08/22 10:28	
EPA 9060	Total Organic Carbon	13500	mg/kg	689	09/08/22 10:36	
EPA 9060	Total Organic Carbon	21200	mg/kg	690	09/08/22 11:11	
EPA 9060	Mean Total Organic Carbon	15800	mg/kg	692	09/08/22 10:20	
EPA 9060	RSD%	23.2	%		09/08/22 10:20	
50324746009	**MW40I (45-47)**					
EPA 300.0	Sulfate	378	mg/kg	30.0	09/06/22 20:45	N2
EPA 6010	Calcium	86600	mg/kg	548	09/08/22 11:58	
EPA 6010	Iron	5160	mg/kg	54.8	09/08/22 11:08	
EPA 6020	Arsenic	1.5	mg/kg	0.57	09/02/22 20:10	
EPA 6020	Boron	8.7	mg/kg	0.57	09/02/22 19:56	N2
EPA 6020	Manganese	273	mg/kg	2.3	09/02/22 18:10	
SM 2540G	Percent Moisture	17.2	%	0.10	09/03/22 23:08	N2
EPA 9045	pH at 25 Degrees C	7.6	Std. Units	0.10	09/01/22 16:11	H3
EPA 9060	Total Organic Carbon	25600	mg/kg	721	09/08/22 11:19	
EPA 9060	Total Organic Carbon	23100	mg/kg	720	09/08/22 11:26	
EPA 9060	Total Organic Carbon	24000	mg/kg	719	09/08/22 11:35	
EPA 9060	Total Organic Carbon	25100	mg/kg	724	09/08/22 11:42	
EPA 9060	Mean Total Organic Carbon	24500	mg/kg	721	09/08/22 11:19	
EPA 9060	RSD%	4.5	%		09/08/22 11:19	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Sample: MW37I (44-46) **Lab ID: 50324746001** Collected: 08/30/22 16:00 Received: 08/31/22 13:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**57.9**	mg/kg	2.9	1	09/06/22 14:08	09/06/22 15:41	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**78200**	mg/kg	544	10	09/07/22 14:00	09/08/22 11:37	7440-70-2	
Iron	**4290**	mg/kg	54.4	1	09/07/22 14:00	09/08/22 10:46	7439-89-6	
Lithium	ND	mg/kg	5.4	1	09/07/22 14:00	09/08/22 10:46	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**2.5**	mg/kg	0.57	5	09/01/22 12:26	09/02/22 18:44	7440-38-2	
Boron	**4.0**	mg/kg	0.57	1	09/01/22 12:26	09/02/22 18:29	7440-42-8	N2
Manganese	**251**	mg/kg	2.3	20	09/01/22 12:26	09/02/22 17:31	7439-96-5	
Molybdenum	ND	mg/kg	0.57	5	09/01/22 12:26	09/02/22 18:44	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**13.1**	%	0.10	1		09/03/22 23:07		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		09/01/22 16:09		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**18200**	mg/kg	684	1		09/08/22 04:22	7440-44-0	
Total Organic Carbon	**14400**	mg/kg	688	1		09/08/22 04:30	7440-44-0	
Total Organic Carbon	**15800**	mg/kg	684	1		09/08/22 04:36	7440-44-0	
Total Organic Carbon	**23500**	mg/kg	686	1		09/08/22 04:43	7440-44-0	
Mean Total Organic Carbon	**18000**	mg/kg	686	1		09/08/22 04:22	7440-44-0	
Surrogates								
RSD%	**22.2**	%		1		09/08/22 04:22		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Sample: MW36B (22-24) **Lab ID: 50324746002** Collected: 08/30/22 15:40 Received: 08/31/22 13:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**5.1**	mg/kg	3.2	1	09/06/22 14:08	09/06/22 16:13	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**16100**	mg/kg	116	2	09/07/22 14:00	09/08/22 11:39	7440-70-2	
Iron	**9690**	mg/kg	58.2	1	09/07/22 14:00	09/08/22 10:49	7439-89-6	
Lithium	**10.8**	mg/kg	5.8	1	09/07/22 14:00	09/08/22 10:49	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**2.4**	mg/kg	1.2	10	09/01/22 12:26	09/02/22 18:49	7440-38-2	
Boron	**4.7**	mg/kg	0.60	1	09/01/22 12:26	09/02/22 18:34	7440-42-8	N2
Manganese	**169**	mg/kg	1.2	10	09/01/22 12:26	09/02/22 18:49	7439-96-5	
Molybdenum	ND	mg/kg	1.2	10	09/01/22 12:26	09/02/22 18:49	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**21.1**	%	0.10	1		09/03/22 23:07		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.1**	Std. Units	0.10	1		09/01/22 16:03		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**4930**	mg/kg	765	1		09/08/22 07:26	7440-44-0	
Total Organic Carbon	**4510**	mg/kg	766	1		09/08/22 07:33	7440-44-0	
Total Organic Carbon	**3400**	mg/kg	768	1		09/08/22 07:40	7440-44-0	
Total Organic Carbon	**3890**	mg/kg	761	1		09/08/22 07:45	7440-44-0	
Mean Total Organic Carbon	**4180**	mg/kg	765	1		09/08/22 07:26	7440-44-0	
Surrogates								
RSD%	**16.2**	%		1		09/08/22 07:26		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Sample: MW36A (64-66) **Lab ID: 50324746003** Collected: 08/30/22 15:30 Received: 08/31/22 13:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**185**	mg/kg	2.8	1	09/06/22 14:08	09/06/22 16:45	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**56900**	mg/kg	538	10	09/07/22 14:00	09/08/22 11:42	7440-70-2	
Iron	**6200**	mg/kg	53.8	1	09/07/22 14:00	09/08/22 10:51	7439-89-6	
Lithium	ND	mg/kg	5.4	1	09/07/22 14:00	09/08/22 10:51	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.6**	mg/kg	0.54	5	09/01/22 12:26	09/02/22 18:53	7440-38-2	
Boron	**4.2**	mg/kg	0.54	1	09/01/22 12:26	09/02/22 18:39	7440-42-8	N2
Manganese	**313**	mg/kg	2.2	20	09/01/22 12:26	09/02/22 17:41	7439-96-5	
Molybdenum	**0.67**	mg/kg	0.54	5	09/01/22 12:26	09/02/22 18:53	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**9.4**	%	0.10	1		09/03/22 23:07		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		09/01/22 16:02		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**11000**	mg/kg	660	1		09/08/22 07:52	7440-44-0	
Total Organic Carbon	**12700**	mg/kg	660	1		09/08/22 07:59	7440-44-0	
Total Organic Carbon	**11200**	mg/kg	661	1		09/08/22 08:06	7440-44-0	
Total Organic Carbon	**11500**	mg/kg	661	1		09/08/22 08:14	7440-44-0	
Mean Total Organic Carbon	**11600**	mg/kg	661	1		09/08/22 07:52	7440-44-0	
Surrogates								
RSD%	**6.8**	%		1		09/08/22 07:52		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Sample: MW37B (22-24) **Lab ID: 50324746004** Collected: 08/30/22 15:53 Received: 08/31/22 13:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**10.4**	mg/kg	3.0	1	09/06/22 14:08	09/06/22 17:17	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**31800**	mg/kg	287	5	09/07/22 14:00	09/08/22 11:44	7440-70-2	
Iron	**7690**	mg/kg	57.4	1	09/07/22 14:00	09/08/22 10:53	7439-89-6	
Lithium	ND	mg/kg	5.7	1	09/07/22 14:00	09/08/22 10:53	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**3.1**	mg/kg	0.59	5	09/01/22 12:26	09/02/22 19:22	7440-38-2	
Boron	**2.8**	mg/kg	0.59	1	09/01/22 12:26	09/02/22 19:08	7440-42-8	N2
Manganese	**236**	mg/kg	2.4	20	09/01/22 12:26	09/02/22 17:46	7439-96-5	
Molybdenum	ND	mg/kg	0.59	5	09/01/22 12:26	09/02/22 19:22	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**17.2**	%	0.10	1		09/03/22 23:07		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		09/01/22 16:09		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**4120**	mg/kg	723	1		09/08/22 08:21	7440-44-0	
Total Organic Carbon	**2400**	mg/kg	721	1		09/08/22 08:27	7440-44-0	
Total Organic Carbon	**3570**	mg/kg	723	1		09/08/22 08:36	7440-44-0	
Total Organic Carbon	**3200**	mg/kg	718	1		09/08/22 08:42	7440-44-0	
Mean Total Organic Carbon	**3320**	mg/kg	721	1		09/08/22 08:21	7440-44-0	
Surrogates								
RSD%	**21.7**	%		1		09/08/22 08:21		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Sample: DUP-1 **Lab ID: 50324746005** Collected: 08/30/22 08:00 Received: 08/31/22 13:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**9.4**	mg/kg	3.0	1	09/06/22 14:08	09/06/22 18:21	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**30200**	mg/kg	271	5	09/07/22 14:00	09/08/22 11:46	7440-70-2	
Iron	**7810**	mg/kg	54.2	1	09/07/22 14:00	09/08/22 10:55	7439-89-6	
Lithium	ND	mg/kg	5.4	1	09/07/22 14:00	09/08/22 10:55	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**3.4**	mg/kg	0.57	5	09/01/22 12:26	09/02/22 19:27	7440-38-2	
Boron	**3.0**	mg/kg	0.57	1	09/01/22 12:26	09/02/22 19:13	7440-42-8	N2
Manganese	**292**	mg/kg	2.3	20	09/01/22 12:26	09/02/22 17:50	7439-96-5	
Molybdenum	ND	mg/kg	0.57	5	09/01/22 12:26	09/02/22 19:27	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**16.3**	%	0.10	1		09/03/22 23:07		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		09/01/22 16:00		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**3090**	mg/kg	711	1		09/08/22 08:48	7440-44-0	
Total Organic Carbon	**3460**	mg/kg	713	1		09/08/22 08:55	7440-44-0	
Total Organic Carbon	**3060**	mg/kg	714	1		09/08/22 09:01	7440-44-0	
Total Organic Carbon	**3480**	mg/kg	713	1		09/08/22 09:08	7440-44-0	
Mean Total Organic Carbon	**3270**	mg/kg	713	1		09/08/22 08:48	7440-44-0	
Surrogates								
RSD%	**7.0**	%		1		09/08/22 08:48		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Sample: MW37A (62-64) **Lab ID: 50324746006** Collected: 08/30/22 17:05 Received: 08/31/22 13:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**317**	mg/kg	27.9	10	09/06/22 14:08	09/06/22 19:09	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**68600**	mg/kg	487	10	09/07/22 14:00	09/08/22 11:52	7440-70-2	
Iron	**5210**	mg/kg	48.7	1	09/07/22 14:00	09/08/22 11:01	7439-89-6	
Lithium	ND	mg/kg	4.9	1	09/07/22 14:00	09/08/22 11:01	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**2.1**	mg/kg	0.54	5	09/01/22 12:26	09/02/22 19:32	7440-38-2	
Boron	**6.3**	mg/kg	0.54	1	09/01/22 12:26	09/02/22 19:17	7440-42-8	N2
Manganese	**306**	mg/kg	2.1	20	09/01/22 12:26	09/02/22 17:55	7439-96-5	
Molybdenum	**0.96**	mg/kg	0.54	5	09/01/22 12:26	09/02/22 19:32	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**10.6**	%	0.10	1		09/03/22 23:07		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		09/01/22 16:10		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**14400**	mg/kg	670	1		09/08/22 09:16	7440-44-0	
Total Organic Carbon	**16300**	mg/kg	668	1		09/08/22 09:24	7440-44-0	
Total Organic Carbon	**14800**	mg/kg	667	1		09/08/22 09:32	7440-44-0	
Total Organic Carbon	**14400**	mg/kg	670	1		09/08/22 09:40	7440-44-0	
Mean Total Organic Carbon	**15000**	mg/kg	669	1		09/08/22 09:16	7440-44-0	
Surrogates								
RSD%	**6.1**	%		1		09/08/22 09:16		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Sample: MW44A (54-56) **Lab ID: 50324746007** Collected: 08/30/22 17:34 Received: 08/31/22 13:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**33.0**	mg/kg	3.0	1	09/06/22 14:08	09/06/22 19:25	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**62800**	mg/kg	544	10	09/07/22 14:00	09/08/22 11:54	7440-70-2	
Iron	**4110**	mg/kg	54.4	1	09/07/22 14:00	09/08/22 11:04	7439-89-6	
Lithium	ND	mg/kg	5.4	1	09/07/22 14:00	09/08/22 11:04	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.2**	mg/kg	0.57	5	09/01/22 12:26	09/02/22 20:01	7440-38-2	
Boron	**3.5**	mg/kg	0.57	1	09/01/22 12:26	09/02/22 19:46	7440-42-8	N2
Manganese	**218**	mg/kg	2.3	20	09/01/22 12:26	09/02/22 18:00	7439-96-5	
Molybdenum	ND	mg/kg	0.57	5	09/01/22 12:26	09/02/22 20:01	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**16.3**	%	0.10	1		09/03/22 23:07		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		09/01/22 16:14		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**12000**	mg/kg	711	1		09/08/22 09:47	7440-44-0	
Total Organic Carbon	**11400**	mg/kg	713	1		09/08/22 09:56	7440-44-0	
Total Organic Carbon	**11000**	mg/kg	710	1		09/08/22 10:03	7440-44-0	
Total Organic Carbon	**11400**	mg/kg	716	1		09/08/22 10:11	7440-44-0	
Mean Total Organic Carbon	**11400**	mg/kg	712	1		09/08/22 09:47	7440-44-0	
Surrogates								
RSD%	**3.5**	%		1		09/08/22 09:47		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Sample: MW40A (60-62) **Lab ID: 50324746008** Collected: 08/30/22 17:25 Received: 08/31/22 13:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**303**	mg/kg	28.6	10	09/06/22 14:08	09/06/22 20:13	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**73000**	mg/kg	483	10	09/07/22 14:00	09/08/22 11:56	7440-70-2	
Iron	**4010**	mg/kg	48.3	1	09/07/22 14:00	09/08/22 11:06	7439-89-6	
Lithium	ND	mg/kg	4.8	1	09/07/22 14:00	09/08/22 11:06	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.2**	mg/kg	0.55	5	09/01/22 12:26	09/02/22 20:05	7440-38-2	
Boron	**8.0**	mg/kg	0.55	1	09/01/22 12:26	09/02/22 19:51	7440-42-8	N2
Manganese	**219**	mg/kg	2.2	20	09/01/22 12:26	09/02/22 18:05	7439-96-5	
Molybdenum	**0.71**	mg/kg	0.55	5	09/01/22 12:26	09/02/22 20:05	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**12.9**	%	0.10	1		09/03/22 23:08		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		09/01/22 16:13		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**14200**	mg/kg	694	1		09/08/22 10:20	7440-44-0	
Total Organic Carbon	**14200**	mg/kg	695	1		09/08/22 10:28	7440-44-0	
Total Organic Carbon	**13500**	mg/kg	689	1		09/08/22 10:36	7440-44-0	
Total Organic Carbon	**21200**	mg/kg	690	1		09/08/22 11:11	7440-44-0	
Mean Total Organic Carbon	**15800**	mg/kg	692	1		09/08/22 10:20	7440-44-0	
Surrogates								
RSD%	**23.2**	%		1		09/08/22 10:20		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Sample: MW40I (45-47) **Lab ID: 50324746009** Collected: 08/30/22 17:18 Received: 08/31/22 13:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**378**	mg/kg	30.0	10	09/06/22 14:08	09/06/22 20:45	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**86600**	mg/kg	548	10	09/07/22 14:00	09/08/22 11:58	7440-70-2	
Iron	**5160**	mg/kg	54.8	1	09/07/22 14:00	09/08/22 11:08	7439-89-6	
Lithium	ND	mg/kg	5.5	1	09/07/22 14:00	09/08/22 11:08	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.5**	mg/kg	0.57	5	09/01/22 12:26	09/02/22 20:10	7440-38-2	
Boron	**8.7**	mg/kg	0.57	1	09/01/22 12:26	09/02/22 19:56	7440-42-8	N2
Manganese	**273**	mg/kg	2.3	20	09/01/22 12:26	09/02/22 18:10	7439-96-5	
Molybdenum	ND	mg/kg	0.57	5	09/01/22 12:26	09/02/22 20:10	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**17.2**	%	0.10	1		09/03/22 23:08		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		09/01/22 16:11		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**25600**	mg/kg	721	1		09/08/22 11:19	7440-44-0	
Total Organic Carbon	**23100**	mg/kg	720	1		09/08/22 11:26	7440-44-0	
Total Organic Carbon	**24000**	mg/kg	719	1		09/08/22 11:35	7440-44-0	
Total Organic Carbon	**25100**	mg/kg	724	1		09/08/22 11:42	7440-44-0	
Mean Total Organic Carbon	**24500**	mg/kg	721	1		09/08/22 11:19	7440-44-0	
Surrogates								
RSD%	**4.5**	%		1		09/08/22 11:19		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

QC Batch: 694344
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

METHOD BLANK: 3192594 Matrix: Solid
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	2.5	09/06/22 15:26	N2

LABORATORY CONTROL SAMPLE: 3192595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	25	25.8	103	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192596 3192597

Parameter	Units	50324871001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	37.4	28.1	28	60.3	66.4	82	104	80-120	10	15	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

QC Batch: 694111
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

METHOD BLANK: 3191378 Matrix: Solid
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/kg	ND	50.0	09/08/22 10:44	
Iron	mg/kg	ND	50.0	09/08/22 10:44	
Lithium	mg/kg	ND	5.0	09/08/22 10:44	N2

LABORATORY CONTROL SAMPLE: 3191379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/kg	500	536	107	80-120	
Iron	mg/kg	500	506	101	80-120	
Lithium	mg/kg	50	52.7	105	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3191380 3191381

Parameter	Units	50324871001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/kg	67100	528	506	64000	56500	-593	-2100	75-125	12	20	P6
Iron	mg/kg	6220	528	506	6360	6160	26	-10	75-125	3	20	P6
Lithium	mg/kg	ND	52.8	50.6	53.9	47.6	94	86	75-125	12	20	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

QC Batch: 693892
QC Batch Method: EPA 3050B
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

METHOD BLANK: 3190349 Matrix: Solid
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.10	09/02/22 16:30	
Boron	mg/kg	ND	0.50	09/02/22 16:30	N2
Manganese	mg/kg	ND	0.10	09/02/22 16:30	
Molybdenum	mg/kg	ND	0.10	09/02/22 16:30	N2

LABORATORY CONTROL SAMPLE: 3190350

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	4	3.8	96	80-120	
Boron	mg/kg	4	4.3	107	80-120	N2
Manganese	mg/kg	4	4.3	107	80-120	
Molybdenum	mg/kg	4	4.1	102	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3190351 3190352

Parameter	Units	52102725001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	ND	7.9	7.9	7.6	7.9	96	99	75-125	4	20	
Boron	mg/kg	ND	7.9	7.9	8.3	8.4	104	104	75-125	1	20	N2
Manganese	mg/kg	0.52	7.9	7.9	8.8	8.9	105	106	75-125	1	20	
Molybdenum	mg/kg	ND	7.9	7.9	7.9	8.1	100	102	75-125	2	20	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

QC Batch: 694250
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

SAMPLE DUPLICATE: 3192365

Parameter	Units	50324527007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	6.2	6.4	3	5	N2

SAMPLE DUPLICATE: 3192366

Parameter	Units	50324527013 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.2	3.5	8	5	N2,R1

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

QC Batch: 693877
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

SAMPLE DUPLICATE: 3190319

Parameter	Units	50324693001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	1	2	H3

SAMPLE DUPLICATE: 3190320

Parameter	Units	50324757001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	11.0	11.0	0	2	H3,PO

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

QC Batch: 425311
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

METHOD BLANK: 2449164 Matrix: Solid
Associated Lab Samples: 50324746001, 50324746002, 50324746003, 50324746004, 50324746005, 50324746006, 50324746007, 50324746008, 50324746009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	600	09/08/22 03:37	

LABORATORY CONTROL SAMPLE: 2449165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	114000	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2449166 2449167

Parameter	Units	50324746001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	18000	6870	6880	22800	23600	70	82	50-152	4	20	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H3	Sample was received or analysis requested beyond the recognized method holding time.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
PO	The reported result is outside the range of the pH buffer solutions used to check the calibration of the pH meter.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324746001	**MW37I (44-46)**	EPA 300.0	694344	EPA 300.0	694548
50324746002	**MW36B (22-24)**	EPA 300.0	694344	EPA 300.0	694548
50324746003	**MW36A (64-66)**	EPA 300.0	694344	EPA 300.0	694548
50324746004	**MW37B (22-24)**	EPA 300.0	694344	EPA 300.0	694548
50324746005	**DUP-1**	EPA 300.0	694344	EPA 300.0	694548
50324746006	**MW37A (62-64)**	EPA 300.0	694344	EPA 300.0	694548
50324746007	**MW44A (54-56)**	EPA 300.0	694344	EPA 300.0	694548
50324746008	**MW40A (60-62)**	EPA 300.0	694344	EPA 300.0	694548
50324746009	**MW40I (45-47)**	EPA 300.0	694344	EPA 300.0	694548
50324746001	**MW37I (44-46)**	EPA 3050	694111	EPA 6010	694742
50324746002	**MW36B (22-24)**	EPA 3050	694111	EPA 6010	694742
50324746003	**MW36A (64-66)**	EPA 3050	694111	EPA 6010	694742
50324746004	**MW37B (22-24)**	EPA 3050	694111	EPA 6010	694742
50324746005	**DUP-1**	EPA 3050	694111	EPA 6010	694742
50324746006	**MW37A (62-64)**	EPA 3050	694111	EPA 6010	694742
50324746007	**MW44A (54-56)**	EPA 3050	694111	EPA 6010	694742
50324746008	**MW40A (60-62)**	EPA 3050	694111	EPA 6010	694742
50324746009	**MW40I (45-47)**	EPA 3050	694111	EPA 6010	694742
50324746001	**MW37I (44-46)**	EPA 3050B	693892	EPA 6020	693976
50324746002	**MW36B (22-24)**	EPA 3050B	693892	EPA 6020	693976
50324746003	**MW36A (64-66)**	EPA 3050B	693892	EPA 6020	693976
50324746004	**MW37B (22-24)**	EPA 3050B	693892	EPA 6020	693976
50324746005	**DUP-1**	EPA 3050B	693892	EPA 6020	693976
50324746006	**MW37A (62-64)**	EPA 3050B	693892	EPA 6020	693976
50324746007	**MW44A (54-56)**	EPA 3050B	693892	EPA 6020	693976
50324746008	**MW40A (60-62)**	EPA 3050B	693892	EPA 6020	693976
50324746009	**MW40I (45-47)**	EPA 3050B	693892	EPA 6020	693976
50324746001	**MW37I (44-46)**	SM 2540G	694250		
50324746002	**MW36B (22-24)**	SM 2540G	694250		
50324746003	**MW36A (64-66)**	SM 2540G	694250		
50324746004	**MW37B (22-24)**	SM 2540G	694250		
50324746005	**DUP-1**	SM 2540G	694250		
50324746006	**MW37A (62-64)**	SM 2540G	694250		
50324746007	**MW44A (54-56)**	SM 2540G	694250		
50324746008	**MW40A (60-62)**	SM 2540G	694250		
50324746009	**MW40I (45-47)**	SM 2540G	694250		
50324746001	**MW37I (44-46)**	EPA 9045	693877		
50324746002	**MW36B (22-24)**	EPA 9045	693877		
50324746003	**MW36A (64-66)**	EPA 9045	693877		
50324746004	**MW37B (22-24)**	EPA 9045	693877		
50324746005	**DUP-1**	EPA 9045	693877		
50324746006	**MW37A (62-64)**	EPA 9045	693877		
50324746007	**MW44A (54-56)**	EPA 9045	693877		
50324746008	**MW40A (60-62)**	EPA 9045	693877		
50324746009	**MW40I (45-47)**	EPA 9045	693877		
50324746001	**MW37I (44-46)**	EPA 9060	425311		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324746

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324746001	**MW37I (44-46)**	EPA 9060	425315		
50324746002	**MW36B (22-24)**	EPA 9060	425311		
50324746002	**MW36B (22-24)**	EPA 9060	425315		
50324746003	**MW36A (64-66)**	EPA 9060	425311		
50324746003	**MW36A (64-66)**	EPA 9060	425315		
50324746004	**MW37B (22-24)**	EPA 9060	425311		
50324746004	**MW37B (22-24)**	EPA 9060	425315		
50324746005	**DUP-1**	EPA 9060	425311		
50324746005	**DUP-1**	EPA 9060	425315		
50324746006	**MW37A (62-64)**	EPA 9060	425311		
50324746006	**MW37A (62-64)**	EPA 9060	425315		
50324746007	**MW44A (54-56)**	EPA 9060	425311		
50324746007	**MW44A (54-56)**	EPA 9060	425315		
50324746008	**MW40A (60-62)**	EPA 9060	425311		
50324746008	**MW40A (60-62)**	EPA 9060	425315		
50324746009	**MW40I (45-47)**	EPA 9060	425311		
50324746009	**MW40I (45-47)**	EPA 9060	425315		

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CHAIN-OF-CUSTODY / Analytical Request Do

WO# : 50324746

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info pacel

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Soil	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/20

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Fe, Mn, Mo, Ti by 6010 (2020)	As by 6020 B, Li, Mo (2020)	pH by 9045	TOC by 9060 to Pace GB	Sulfate 300.0	Residual Chlorine (Y/N)	
1	MW37I (44-46)		G			8/30	1600												X	X	X	X	X		001
2	MW36B (22-24)		G			8/30	1540																		002
3	MW36A (64-66)		G			8/30	1530																		003
4	MW37B (22-24)		G			8/30	1555																		004
5	DUP-1		G			8/30																			005
6	MW37A (62-64)		G			8/30	1705																		006
7	MW44A (54-56)		G			8/30	1734																		007
8	MW40A (60-62)		G			8/30	1735																		008
9	MW40I (45-47)		G			8/30	1718																		009
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Mark Breting / ATC	8/31/22	1340		8/31/22	1340	5.4	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palow / Mohammad Bazlamit

SIGNATURE of SAMPLER: Mark Breting For Colton Palow Mohammad Bazlamit

DATE Signed: 8/31/22

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

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 8/31/22 1442

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(s):** 6.3 | 5.4 **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			✓
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

Sample Container Count

** Place a RED dot on containers that are out of conformance **

			VIALS						AMBER GLASS							PLASTIC										OTHER				Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
COC Line Item	WGFU	MeOH (only) SBS DI 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								
1	I							I																					SL				
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 30, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 01, 2022. 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 - Green Bay
- Pace Analytical Services - Indianapolis

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

Sincerely,

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-21-8
Virginia VELAP Certification ID: 11873
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-21-00008
Federal Fish & Wildlife Permit #: 51774A

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 Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50324871001	**MW-44B (26-28)**	Solid	09/01/22 11:28	09/01/22 15:15
50324871002	**MW-44I (42-44)**	Solid	09/01/22 11:35	09/01/22 15:15

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50324871001	**MW-44B (26-28)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	BSW	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324871002	**MW-44I (42-44)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	BSW	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324871001	**MW-44B (26-28)**					
EPA 300.0	Sulfate	37.4	mg/kg	2.8	09/06/22 21:33	N2
EPA 6010	Calcium	67100	mg/kg	531	09/08/22 12:00	
EPA 6010	Iron	6220	mg/kg	53.1	09/08/22 11:21	
EPA 6020	Arsenic	1.8	mg/kg	0.52	09/08/22 04:48	
EPA 6020	Boron	5.2	mg/kg	0.52	09/07/22 09:23	N2
EPA 6020	Manganese	208	mg/kg	2.1	09/08/22 04:20	
EPA 6020	Molybdenum	0.54	mg/kg	0.52	09/08/22 04:48	N2
SM 2540G	Percent Moisture	11.3	%	0.10	09/08/22 16:04	N2
EPA 9045	pH at 25 Degrees C	7.9	Std. Units	0.10	09/02/22 12:01	H3
EPA 9060	Total Organic Carbon	11400	mg/kg	2160	09/13/22 02:52	
EPA 9060	Total Organic Carbon	15000	mg/kg	2120	09/13/22 02:58	
EPA 9060	Total Organic Carbon	9900	mg/kg	2140	09/13/22 03:03	
EPA 9060	Total Organic Carbon	12200	mg/kg	2130	09/13/22 03:08	
EPA 9060	Mean Total Organic Carbon	12100	mg/kg	2130	09/13/22 02:52	
EPA 9060	RSD%	17.7	%		09/13/22 02:52	
50324871002	**MW-44I (42-44)**					
EPA 300.0	Sulfate	142	mg/kg	2.8	09/07/22 19:07	N2
EPA 6010	Calcium	65000	mg/kg	560	09/08/22 12:07	
EPA 6010	Iron	3180	mg/kg	56.0	09/08/22 11:35	
EPA 6020	Arsenic	2.3	mg/kg	0.55	09/08/22 05:16	
EPA 6020	Boron	4.9	mg/kg	0.55	09/07/22 09:51	N2
EPA 6020	Manganese	230	mg/kg	2.2	09/08/22 03:12	
EPA 6020	Molybdenum	0.71	mg/kg	0.55	09/08/22 05:16	N2
SM 2540G	Percent Moisture	12.1	%	0.10	09/08/22 16:04	N2
EPA 9045	pH at 25 Degrees C	7.5	Std. Units	0.10	09/02/22 12:03	H3
EPA 9060	Total Organic Carbon	7580	mg/kg	1780	09/13/22 04:11	
EPA 9060	Total Organic Carbon	12000	mg/kg	1780	09/13/22 04:17	
EPA 9060	Total Organic Carbon	8450	mg/kg	1760	09/13/22 04:23	
EPA 9060	Total Organic Carbon	10200	mg/kg	1760	09/13/22 04:30	
EPA 9060	Mean Total Organic Carbon	9570	mg/kg	1770	09/13/22 04:11	
EPA 9060	RSD%	20.6	%		09/13/22 04:11	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

Sample: MW-44B (26-28) **Lab ID: 50324871001** Collected: 09/01/22 11:28 Received: 09/01/22 15:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**37.4**	mg/kg	2.8	1	09/06/22 14:08	09/06/22 21:33	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**67100**	mg/kg	531	10	09/07/22 14:00	09/08/22 12:00	7440-70-2	
Iron	**6220**	mg/kg	53.1	1	09/07/22 14:00	09/08/22 11:21	7439-89-6	
Lithium	ND	mg/kg	5.3	1	09/07/22 14:00	09/08/22 11:21	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.8**	mg/kg	0.52	5	09/05/22 23:35	09/08/22 04:48	7440-38-2	
Boron	**5.2**	mg/kg	0.52	1	09/05/22 23:35	09/07/22 09:23	7440-42-8	N2
Manganese	**208**	mg/kg	2.1	20	09/05/22 23:35	09/08/22 04:20	7439-96-5	
Molybdenum	**0.54**	mg/kg	0.52	5	09/05/22 23:35	09/08/22 04:48	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**11.3**	%	0.10	1		09/08/22 16:04		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		09/02/22 12:01		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**11400**	mg/kg	2160	1		09/13/22 02:52	7440-44-0	
Total Organic Carbon	**15000**	mg/kg	2120	1		09/13/22 02:58	7440-44-0	
Total Organic Carbon	**9900**	mg/kg	2140	1		09/13/22 03:03	7440-44-0	
Total Organic Carbon	**12200**	mg/kg	2130	1		09/13/22 03:08	7440-44-0	
Mean Total Organic Carbon	**12100**	mg/kg	2130	1		09/13/22 02:52	7440-44-0	
Surrogates								
RSD%	**17.7**	%		1		09/13/22 02:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

Sample: MW-44I (42-44) **Lab ID: 50324871002** Collected: 09/01/22 11:35 Received: 09/01/22 15:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**142**	mg/kg	2.8	1	09/07/22 11:30	09/07/22 19:07	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**65000**	mg/kg	560	10	09/07/22 14:00	09/08/22 12:07	7440-70-2	
Iron	**3180**	mg/kg	56.0	1	09/07/22 14:00	09/08/22 11:35	7439-89-6	
Lithium	ND	mg/kg	5.6	1	09/07/22 14:00	09/08/22 11:35	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**2.3**	mg/kg	0.55	5	09/05/22 23:35	09/08/22 05:16	7440-38-2	
Boron	**4.9**	mg/kg	0.55	1	09/05/22 23:35	09/07/22 09:51	7440-42-8	N2
Manganese	**230**	mg/kg	2.2	20	09/05/22 23:35	09/08/22 03:12	7439-96-5	
Molybdenum	**0.71**	mg/kg	0.55	5	09/05/22 23:35	09/08/22 05:16	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**12.1**	%	0.10	1		09/08/22 16:04		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		09/02/22 12:03		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**7580**	mg/kg	1780	1		09/13/22 04:11	7440-44-0	
Total Organic Carbon	**12000**	mg/kg	1780	1		09/13/22 04:17	7440-44-0	
Total Organic Carbon	**8450**	mg/kg	1760	1		09/13/22 04:23	7440-44-0	
Total Organic Carbon	**10200**	mg/kg	1760	1		09/13/22 04:30	7440-44-0	
Mean Total Organic Carbon	**9570**	mg/kg	1770	1		09/13/22 04:11	7440-44-0	
Surrogates								
RSD%	**20.6**	%		1		09/13/22 04:11		

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

QC Batch: 694344
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324871001

METHOD BLANK: 3192594 Matrix: Solid
Associated Lab Samples: 50324871001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	2.5	09/06/22 15:26	N2

LABORATORY CONTROL SAMPLE: 3192595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	25	25.8	103	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192596 3192597

Parameter	Units	50324871001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	37.4	28.1	28	60.3	66.4	82	104	80-120	10	15	N2

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: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

QC Batch: 694567
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324871002

METHOD BLANK: 3193238 Matrix: Solid
Associated Lab Samples: 50324871002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	2.5	09/07/22 16:59	N2

LABORATORY CONTROL SAMPLE: 3193239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	24.9	25.8	104	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193240 3193241

Parameter	Units	50324740001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	399000	260000	257000	389000	367000	-4	-13	80-120	6	15	M0,N2

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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

QC Batch: 694111
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324871001, 50324871002

METHOD BLANK: 3191378 Matrix: Solid
Associated Lab Samples: 50324871001, 50324871002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/kg	ND	50.0	09/08/22 10:44	
Iron	mg/kg	ND	50.0	09/08/22 10:44	
Lithium	mg/kg	ND	5.0	09/08/22 10:44	N2

LABORATORY CONTROL SAMPLE: 3191379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/kg	500	536	107	80-120	
Iron	mg/kg	500	506	101	80-120	
Lithium	mg/kg	50	52.7	105	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3191380 3191381

Parameter	Units	50324871001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/kg	67100	528	506	64000	56500	-593	-2100	75-125	12	20	P6
Iron	mg/kg	6220	528	506	6360	6160	26	-10	75-125	3	20	P6
Lithium	mg/kg	ND	52.8	50.6	53.9	47.6	94	86	75-125	12	20	N2

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Indianapolis, IN 46268
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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

QC Batch: 694300
QC Batch Method: EPA 3050B
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324871001, 50324871002

METHOD BLANK: 3192466 Matrix: Solid
Associated Lab Samples: 50324871001, 50324871002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.10	09/07/22 09:15	
Boron	mg/kg	ND	0.50	09/07/22 09:15	N2
Manganese	mg/kg	ND	0.10	09/07/22 09:15	
Molybdenum	mg/kg	ND	0.10	09/07/22 09:15	N2

LABORATORY CONTROL SAMPLE: 3192467

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	4	3.8	96	80-120	
Boron	mg/kg	4	4.0	100	80-120	N2
Manganese	mg/kg	4	4.0	101	80-120	
Molybdenum	mg/kg	4	4.0	101	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192468 3192469

Parameter	Units	50324871001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	1.8	4.2	4.2	5.4	6.0	87	99	75-125	10	20	
Boron	mg/kg	5.2	4.2	4.2	10.4	10.3	126	122	75-125	1	20	M0,N2
Manganese	mg/kg	208	4.2	4.2	231	195	539	-317	75-125	17	20	P6
Molybdenum	mg/kg	0.54	4.2	4.2	4.1	4.2	86	88	75-125	3	20	N2

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

QC Batch: 694855
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324871001, 50324871002

SAMPLE DUPLICATE: 3194525

Parameter	Units	50324851005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.1	22.0	4	5	N2

SAMPLE DUPLICATE: 3194526

Parameter	Units	50324871001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.3	11.7	3	5	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

QC Batch: 694065
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324871001, 50324871002

SAMPLE DUPLICATE: 3191212

Parameter	Units	50324871001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.8	1	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

QC Batch: 425619
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 50324871001, 50324871002

METHOD BLANK: 2451368 Matrix: Solid
Associated Lab Samples: 50324871001, 50324871002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	600	09/13/22 02:09	

LABORATORY CONTROL SAMPLE: 2451369

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	115000	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2451370 2451371

Parameter	Units	50324871001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	12100	21400	21400	37500	35100	119	107	50-152	7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2451372 2451373

Parameter	Units	50324871002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	9570	17800	17800	26100	26600	94	96	50-152	2	20	

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Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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.

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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324871

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324871001	**MW-44B (26-28)**	EPA 300.0	694344	EPA 300.0	694548
50324871002	**MW-44I (42-44)**	EPA 300.0	694567	EPA 300.0	694795
50324871001	**MW-44B (26-28)**	EPA 3050	694111	EPA 6010	694742
50324871002	**MW-44I (42-44)**	EPA 3050	694111	EPA 6010	694742
50324871001	**MW-44B (26-28)**	EPA 3050B	694300	EPA 6020	694323
50324871002	**MW-44I (42-44)**	EPA 3050B	694300	EPA 6020	694323
50324871001	**MW-44B (26-28)**	SM 2540G	694855		
50324871002	**MW-44I (42-44)**	SM 2540G	694855		
50324871001	**MW-44B (26-28)**	EPA 9045	694065		
50324871002	**MW-44I (42-44)**	EPA 9045	694065		
50324871001	**MW-44B (26-28)**	EPA 9060	425619		
50324871001	**MW-44B (26-28)**	EPA 9060	425620		
50324871002	**MW-44I (42-44)**	EPA 9060	425619		
50324871002	**MW-44I (42-44)**	EPA 9060	425620		

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Pace

CHAIN-OF-CUSTODY / Analytical Request Do

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacel

WO# : 50324871

50324871

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Soil	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/20

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	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Ca, Fe, Li by 6010	As, B, Mn, Mo by 6020	pH by 9045	Sulfate by 300.0 IC	TOC by 9060 to Pace GB	Residual Chlorine (Y/N)	
1	MW-44B (26-28) MS/MSD	SL	G			9-1-22	1128		6	6							X	X	X	X	X		001
2	MW-44I (42-44)	SL	G			9-1-22	1135		2	2							X	X	X	X	X		002
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Colton Palmer	9-1-22			9/1/22	1340				
		9/1/22	1515		9/1/22	1515	1.2	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palmer

SIGNATURE of SAMPLER: ~~9-1-22~~ Colton Palmer

DATE Signed: 9-1-22

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

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 9/1/22 1540

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(s):** 1.2 | 1.2 **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			✓
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
			Headspace in VOA Vials (>6mm):	Present	Absent	No VOA Vials Sent
Containers Intact?:	✓		See Containter Count form for details			✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	most	✓	Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

COMMENTS: ~~MS/MSD containers labled as "MW-445" (mcs 9/1/22)~~ hrp 9/1/22 client let me know they labeled wrong

COC PAGE ____ of ____

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		VIALS							AMBER GLASS							PLASTIC										OTHER							
		MeOH (only)																														
		SBS																														
		DI																														
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	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1	3							3																			SL				
2	1							1																			SL				
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 30, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 02, 2022. 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 - Green Bay
- Pace Analytical Services - Indianapolis

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

Sincerely,

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-21-8
Virginia VELAP Certification ID: 11873
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-21-00008
Federal Fish & Wildlife Permit #: 51774A

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 Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50324920001	**MW-42I 37-43**	Solid	09/01/22 10:25	09/02/22 10:55
50324920002	**MW-42A 56-58**	Solid	09/01/22 11:30	09/02/22 10:55
50324920003	**MW-42B 22-24**	Solid	09/01/22 10:30	09/02/22 10:55
50324920004	**MW-43A 56-58**	Solid	09/01/22 13:35	09/02/22 10:55
50324920005	**MW-43I 39-41**	Solid	09/01/22 13:25	09/02/22 10:55
50324920006	**MW-43B 24-26**	Solid	09/01/22 13:15	09/02/22 10:55
50324920007	**Dup**	Solid	09/01/22 08:00	09/02/22 10:55

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50324920001	**MW-42I 37-43**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324920002	**MW-42A 56-58**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324920003	**MW-42B 22-24**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324920004	**MW-43A 56-58**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324920005	**MW-43I 39-41**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324920006	**MW-43B 24-26**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50324920007	**Dup**	EPA 300.0	ADM	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	DJS	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324920001	**MW-42I 37-43**					
EPA 300.0	Sulfate	87.9	mg/kg	2.9	09/08/22 18:01	N2
EPA 6010	Calcium	65700	mg/kg	536	09/13/22 14:47	
EPA 6010	Iron	5020	mg/kg	53.6	09/13/22 14:04	
EPA 6020	Arsenic	1.8	mg/kg	0.54	09/08/22 05:20	
EPA 6020	Boron	6.1	mg/kg	0.54	09/07/22 09:55	N2
EPA 6020	Manganese	268	mg/kg	2.2	09/08/22 03:16	
EPA 6020	Molybdenum	0.83	mg/kg	0.54	09/08/22 05:20	N2
SM 2540G	Percent Moisture	14.1	%	0.10	09/09/22 15:52	N2
EPA 9045	pH at 25 Degrees C	8.0	Std. Units	0.10	09/03/22 10:05	H3
EPA 9060	Total Organic Carbon	20300	mg/kg	1000	09/13/22 05:34	
EPA 9060	Total Organic Carbon	19400	mg/kg	1010	09/13/22 05:40	
EPA 9060	Total Organic Carbon	18200	mg/kg	1000	09/13/22 05:46	
EPA 9060	Total Organic Carbon	19600	mg/kg	1010	09/13/22 05:52	
EPA 9060	Mean Total Organic Carbon	19400	mg/kg	1000	09/13/22 05:34	
EPA 9060	RSD%	4.5	%		09/13/22 05:34	
50324920002	**MW-42A 56-58**					
EPA 300.0	Sulfate	188	mg/kg	3.0	09/08/22 19:45	N2
EPA 6010	Calcium	69900	mg/kg	546	09/13/22 15:00	
EPA 6010	Iron	4460	mg/kg	54.6	09/13/22 14:06	
EPA 6020	Arsenic	1.5	mg/kg	0.61	09/08/22 05:24	
EPA 6020	Boron	6.5	mg/kg	0.61	09/07/22 09:59	N2
EPA 6020	Manganese	183	mg/kg	1.2	09/08/22 03:20	
EPA 6020	Molybdenum	1.3	mg/kg	0.61	09/08/22 05:24	N2
SM 2540G	Percent Moisture	18.3	%	0.10	09/09/22 15:52	N2
EPA 9045	pH at 25 Degrees C	8.1	Std. Units	0.10	09/03/22 10:06	H3
EPA 9060	Total Organic Carbon	14400	mg/kg	1060	09/13/22 05:58	
EPA 9060	Total Organic Carbon	13300	mg/kg	1050	09/13/22 06:05	
EPA 9060	Total Organic Carbon	12700	mg/kg	1060	09/13/22 06:11	
EPA 9060	Total Organic Carbon	15400	mg/kg	1060	09/13/22 06:18	
EPA 9060	Mean Total Organic Carbon	14000	mg/kg	1060	09/13/22 05:58	
EPA 9060	RSD%	8.5	%		09/13/22 05:58	
50324920003	**MW-42B 22-24**					
EPA 300.0	Sulfate	11.4	mg/kg	2.9	09/08/22 20:55	N2
EPA 6010	Calcium	22600	mg/kg	162	09/13/22 15:02	
EPA 6010	Iron	7580	mg/kg	54.1	09/13/22 14:12	
EPA 6020	Arsenic	2.6	mg/kg	0.58	09/08/22 05:36	
EPA 6020	Boron	2.9	mg/kg	0.58	09/07/22 10:11	N2
EPA 6020	Manganese	273	mg/kg	2.3	09/08/22 03:24	
SM 2540G	Percent Moisture	17.8	%	0.10	09/09/22 15:52	N2
EPA 9045	pH at 25 Degrees C	7.9	Std. Units	0.10	09/03/22 10:05	H3
EPA 9060	Total Organic Carbon	4860	mg/kg	737	09/13/22 06:37	
EPA 9060	Total Organic Carbon	3580	mg/kg	732	09/13/22 06:45	
EPA 9060	Total Organic Carbon	2910	mg/kg	732	09/13/22 06:51	
EPA 9060	Total Organic Carbon	3970	mg/kg	735	09/13/22 06:56	
EPA 9060	Mean Total Organic Carbon	3830	mg/kg	734	09/13/22 06:37	
EPA 9060	RSD%	21.3	%		09/13/22 06:37	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324920004	**MW-43A 56-58**					
EPA 300.0	Sulfate	159	mg/kg	2.6	09/08/22 21:29	N2
EPA 6010	Calcium	62000	mg/kg	526	09/13/22 15:04	
EPA 6010	Iron	5960	mg/kg	52.6	09/13/22 14:14	
EPA 6020	Arsenic	2.1	mg/kg	0.53	09/08/22 05:40	
EPA 6020	Boron	5.3	mg/kg	0.53	09/07/22 10:16	N2
EPA 6020	Manganese	352	mg/kg	2.7	09/08/22 03:28	
EPA 6020	Molybdenum	0.76	mg/kg	0.53	09/08/22 05:40	N2
SM 2540G	Percent Moisture	8.6	%	0.10	09/09/22 15:52	N2
EPA 9045	pH at 25 Degrees C	8.0	Std. Units	0.10	09/03/22 10:08	H3
EPA 9060	Total Organic Carbon	9680	mg/kg	946	09/13/22 07:03	
EPA 9060	Total Organic Carbon	13200	mg/kg	943	09/13/22 07:09	
EPA 9060	Total Organic Carbon	11100	mg/kg	939	09/13/22 07:16	
EPA 9060	Total Organic Carbon	9700	mg/kg	941	09/13/22 07:22	
EPA 9060	Mean Total Organic Carbon	10900	mg/kg	942	09/13/22 07:03	
EPA 9060	RSD%	15.2	%		09/13/22 07:03	
50324920005	**MW-43I 39-41**					
EPA 300.0	Sulfate	53.0	mg/kg	3.0	09/08/22 22:04	N2
EPA 6010	Calcium	41100	mg/kg	254	09/13/22 15:07	
EPA 6010	Iron	4470	mg/kg	50.8	09/13/22 14:17	
EPA 6020	Arsenic	1.6	mg/kg	0.58	09/08/22 05:44	
EPA 6020	Boron	3.3	mg/kg	0.58	09/07/22 10:20	N2
EPA 6020	Manganese	299	mg/kg	2.3	09/08/22 03:40	
SM 2540G	Percent Moisture	18.0	%	0.10	09/09/22 15:52	N2
EPA 9045	pH at 25 Degrees C	8.0	Std. Units	0.10	09/03/22 10:07	H3
EPA 9060	Total Organic Carbon	4470	mg/kg	1070	09/13/22 07:29	
EPA 9060	Total Organic Carbon	5430	mg/kg	1060	09/13/22 07:35	
EPA 9060	Total Organic Carbon	5290	mg/kg	1060	09/13/22 07:40	
EPA 9060	Total Organic Carbon	4220	mg/kg	1060	09/13/22 07:47	
EPA 9060	Mean Total Organic Carbon	4850	mg/kg	1060	09/13/22 07:29	
EPA 9060	RSD%	12.4	%		09/13/22 07:29	
50324920006	**MW-43B 24-26**					
EPA 300.0	Sulfate	19.5	mg/kg	2.9	09/08/22 22:39	N2
EPA 6010	Calcium	34800	mg/kg	266	09/13/22 15:09	
EPA 6010	Iron	6910	mg/kg	53.3	09/13/22 14:23	
EPA 6020	Arsenic	2.0	mg/kg	0.56	09/08/22 05:48	
EPA 6020	Boron	3.0	mg/kg	0.56	09/07/22 10:24	N2
EPA 6020	Manganese	335	mg/kg	2.8	09/08/22 03:44	
SM 2540G	Percent Moisture	17.7	%	0.10	09/09/22 15:52	N2
EPA 9045	pH at 25 Degrees C	8.0	Std. Units	0.10	09/03/22 10:06	H3
EPA 9060	Total Organic Carbon	2730	mg/kg	1160	09/13/22 07:53	
EPA 9060	Total Organic Carbon	3400	mg/kg	1160	09/13/22 07:59	
EPA 9060	Total Organic Carbon	2230	mg/kg	1170	09/13/22 08:06	
EPA 9060	Total Organic Carbon	6380	mg/kg	1160	09/13/22 08:12	
EPA 9060	Mean Total Organic Carbon	3680	mg/kg	1160	09/13/22 07:53	
EPA 9060	RSD%	50.5	%		09/13/22 07:53	1d

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50324920007	**Dup**					
EPA 300.0	Sulfate	96.5	mg/kg	2.9	09/08/22 23:13	N2
EPA 6010	Calcium	68800	mg/kg	562	09/13/22 15:11	
EPA 6010	Iron	4690	mg/kg	56.2	09/13/22 14:26	
EPA 6020	Arsenic	1.7	mg/kg	0.59	09/08/22 05:52	
EPA 6020	Boron	6.2	mg/kg	0.59	09/07/22 10:28	N2
EPA 6020	Manganese	303	mg/kg	2.3	09/08/22 03:48	
EPA 6020	Molybdenum	0.76	mg/kg	0.59	09/08/22 05:52	N2
SM 2540G	Percent Moisture	17.2	%	0.10	09/09/22 15:52	N2
EPA 9045	pH at 25 Degrees C	7.9	Std. Units	0.10	09/03/22 10:04	H3
EPA 9060	Total Organic Carbon	15600	mg/kg	992	09/13/22 08:18	
EPA 9060	Total Organic Carbon	16300	mg/kg	985	09/13/22 08:25	
EPA 9060	Total Organic Carbon	17400	mg/kg	992	09/13/22 08:32	
EPA 9060	Total Organic Carbon	15000	mg/kg	988	09/13/22 08:39	
EPA 9060	Mean Total Organic Carbon	16100	mg/kg	989	09/13/22 08:18	
EPA 9060	RSD%	6.2	%		09/13/22 08:18	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Sample: MW-42I 37-43 **Lab ID: 50324920001** Collected: 09/01/22 10:25 Received: 09/02/22 10:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**87.9**	mg/kg	2.9	1	09/08/22 11:30	09/08/22 18:01	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**65700**	mg/kg	536	10	09/12/22 10:31	09/13/22 14:47	7440-70-2	
Iron	**5020**	mg/kg	53.6	1	09/12/22 10:31	09/13/22 14:04	7439-89-6	
Lithium	ND	mg/kg	5.4	1	09/12/22 10:31	09/13/22 14:04	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.8**	mg/kg	0.54	5	09/05/22 23:35	09/08/22 05:20	7440-38-2	
Boron	**6.1**	mg/kg	0.54	1	09/05/22 23:35	09/07/22 09:55	7440-42-8	N2
Manganese	**268**	mg/kg	2.2	20	09/05/22 23:35	09/08/22 03:16	7439-96-5	
Molybdenum	**0.83**	mg/kg	0.54	5	09/05/22 23:35	09/08/22 05:20	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**14.1**	%	0.10	1		09/09/22 15:52		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		09/03/22 10:05		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**20300**	mg/kg	1000	1		09/13/22 05:34	7440-44-0	
Total Organic Carbon	**19400**	mg/kg	1010	1		09/13/22 05:40	7440-44-0	
Total Organic Carbon	**18200**	mg/kg	1000	1		09/13/22 05:46	7440-44-0	
Total Organic Carbon	**19600**	mg/kg	1010	1		09/13/22 05:52	7440-44-0	
Mean Total Organic Carbon	**19400**	mg/kg	1000	1		09/13/22 05:34	7440-44-0	
Surrogates								
RSD%	**4.5**	%		1		09/13/22 05:34		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Sample: MW-42A 56-58 **Lab ID: 50324920002** Collected: 09/01/22 11:30 Received: 09/02/22 10:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**188**	mg/kg	3.0	1	09/08/22 11:30	09/08/22 19:45	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**69900**	mg/kg	546	10	09/12/22 10:31	09/13/22 15:00	7440-70-2	
Iron	**4460**	mg/kg	54.6	1	09/12/22 10:31	09/13/22 14:06	7439-89-6	
Lithium	ND	mg/kg	5.5	1	09/12/22 10:31	09/13/22 14:06	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.5**	mg/kg	0.61	5	09/05/22 23:35	09/08/22 05:24	7440-38-2	
Boron	**6.5**	mg/kg	0.61	1	09/05/22 23:35	09/07/22 09:59	7440-42-8	N2
Manganese	**183**	mg/kg	1.2	10	09/05/22 23:35	09/08/22 03:20	7439-96-5	
Molybdenum	**1.3**	mg/kg	0.61	5	09/05/22 23:35	09/08/22 05:24	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**18.3**	%	0.10	1		09/09/22 15:52		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.1**	Std. Units	0.10	1		09/03/22 10:06		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**14400**	mg/kg	1060	1		09/13/22 05:58	7440-44-0	
Total Organic Carbon	**13300**	mg/kg	1050	1		09/13/22 06:05	7440-44-0	
Total Organic Carbon	**12700**	mg/kg	1060	1		09/13/22 06:11	7440-44-0	
Total Organic Carbon	**15400**	mg/kg	1060	1		09/13/22 06:18	7440-44-0	
Mean Total Organic Carbon	**14000**	mg/kg	1060	1		09/13/22 05:58	7440-44-0	
Surrogates								
RSD%	**8.5**	%		1		09/13/22 05:58		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Sample: MW-42B 22-24 **Lab ID: 50324920003** Collected: 09/01/22 10:30 Received: 09/02/22 10:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**11.4**	mg/kg	2.9	1	09/08/22 11:30	09/08/22 20:55	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**22600**	mg/kg	162	3	09/12/22 10:31	09/13/22 15:02	7440-70-2	
Iron	**7580**	mg/kg	54.1	1	09/12/22 10:31	09/13/22 14:12	7439-89-6	
Lithium	ND	mg/kg	5.4	1	09/12/22 10:31	09/13/22 14:12	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**2.6**	mg/kg	0.58	5	09/05/22 23:35	09/08/22 05:36	7440-38-2	
Boron	**2.9**	mg/kg	0.58	1	09/05/22 23:35	09/07/22 10:11	7440-42-8	N2
Manganese	**273**	mg/kg	2.3	20	09/05/22 23:35	09/08/22 03:24	7439-96-5	
Molybdenum	ND	mg/kg	0.58	5	09/05/22 23:35	09/08/22 05:36	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**17.8**	%	0.10	1		09/09/22 15:52		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		09/03/22 10:05		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**4860**	mg/kg	737	1		09/13/22 06:37	7440-44-0	
Total Organic Carbon	**3580**	mg/kg	732	1		09/13/22 06:45	7440-44-0	
Total Organic Carbon	**2910**	mg/kg	732	1		09/13/22 06:51	7440-44-0	
Total Organic Carbon	**3970**	mg/kg	735	1		09/13/22 06:56	7440-44-0	
Mean Total Organic Carbon	**3830**	mg/kg	734	1		09/13/22 06:37	7440-44-0	
Surrogates								
RSD%	**21.3**	%		1		09/13/22 06:37		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Sample: MW-43A 56-58 **Lab ID: 50324920004** Collected: 09/01/22 13:35 Received: 09/02/22 10:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**159**	mg/kg	2.6	1	09/08/22 11:30	09/08/22 21:29	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**62000**	mg/kg	526	10	09/12/22 10:31	09/13/22 15:04	7440-70-2	
Iron	**5960**	mg/kg	52.6	1	09/12/22 10:31	09/13/22 14:14	7439-89-6	
Lithium	ND	mg/kg	5.3	1	09/12/22 10:31	09/13/22 14:14	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**2.1**	mg/kg	0.53	5	09/05/22 23:35	09/08/22 05:40	7440-38-2	
Boron	**5.3**	mg/kg	0.53	1	09/05/22 23:35	09/07/22 10:16	7440-42-8	N2
Manganese	**352**	mg/kg	2.7	25	09/05/22 23:35	09/08/22 03:28	7439-96-5	
Molybdenum	**0.76**	mg/kg	0.53	5	09/05/22 23:35	09/08/22 05:40	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**8.6**	%	0.10	1		09/09/22 15:52		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		09/03/22 10:08		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**9680**	mg/kg	946	1		09/13/22 07:03	7440-44-0	
Total Organic Carbon	**13200**	mg/kg	943	1		09/13/22 07:09	7440-44-0	
Total Organic Carbon	**11100**	mg/kg	939	1		09/13/22 07:16	7440-44-0	
Total Organic Carbon	**9700**	mg/kg	941	1		09/13/22 07:22	7440-44-0	
Mean Total Organic Carbon	**10900**	mg/kg	942	1		09/13/22 07:03	7440-44-0	
Surrogates								
RSD%	**15.2**	%		1		09/13/22 07:03		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Sample: MW-43I 39-41 **Lab ID: 50324920005** Collected: 09/01/22 13:25 Received: 09/02/22 10:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**53.0**	mg/kg	3.0	1	09/08/22 11:30	09/08/22 22:04	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**41100**	mg/kg	254	5	09/12/22 10:31	09/13/22 15:07	7440-70-2	
Iron	**4470**	mg/kg	50.8	1	09/12/22 10:31	09/13/22 14:17	7439-89-6	
Lithium	ND	mg/kg	5.1	1	09/12/22 10:31	09/13/22 14:17	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.6**	mg/kg	0.58	5	09/05/22 23:35	09/08/22 05:44	7440-38-2	
Boron	**3.3**	mg/kg	0.58	1	09/05/22 23:35	09/07/22 10:20	7440-42-8	N2
Manganese	**299**	mg/kg	2.3	20	09/05/22 23:35	09/08/22 03:40	7439-96-5	
Molybdenum	ND	mg/kg	0.58	5	09/05/22 23:35	09/08/22 05:44	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**18.0**	%	0.10	1		09/09/22 15:52		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		09/03/22 10:07		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**4470**	mg/kg	1070	1		09/13/22 07:29	7440-44-0	
Total Organic Carbon	**5430**	mg/kg	1060	1		09/13/22 07:35	7440-44-0	
Total Organic Carbon	**5290**	mg/kg	1060	1		09/13/22 07:40	7440-44-0	
Total Organic Carbon	**4220**	mg/kg	1060	1		09/13/22 07:47	7440-44-0	
Mean Total Organic Carbon	**4850**	mg/kg	1060	1		09/13/22 07:29	7440-44-0	
Surrogates								
RSD%	**12.4**	%		1		09/13/22 07:29		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Sample: MW-43B 24-26 **Lab ID: 50324920006** Collected: 09/01/22 13:15 Received: 09/02/22 10:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**19.5**	mg/kg	2.9	1	09/08/22 11:30	09/08/22 22:39	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**34800**	mg/kg	266	5	09/12/22 10:31	09/13/22 15:09	7440-70-2	
Iron	**6910**	mg/kg	53.3	1	09/12/22 10:31	09/13/22 14:23	7439-89-6	
Lithium	ND	mg/kg	5.3	1	09/12/22 10:31	09/13/22 14:23	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**2.0**	mg/kg	0.56	5	09/05/22 23:35	09/08/22 05:48	7440-38-2	
Boron	**3.0**	mg/kg	0.56	1	09/05/22 23:35	09/07/22 10:24	7440-42-8	N2
Manganese	**335**	mg/kg	2.8	25	09/05/22 23:35	09/08/22 03:44	7439-96-5	
Molybdenum	ND	mg/kg	0.56	5	09/05/22 23:35	09/08/22 05:48	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**17.7**	%	0.10	1		09/09/22 15:52		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		09/03/22 10:06		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**2730**	mg/kg	1160	1		09/13/22 07:53	7440-44-0	
Total Organic Carbon	**3400**	mg/kg	1160	1		09/13/22 07:59	7440-44-0	
Total Organic Carbon	**2230**	mg/kg	1170	1		09/13/22 08:06	7440-44-0	
Total Organic Carbon	**6380**	mg/kg	1160	1		09/13/22 08:12	7440-44-0	
Mean Total Organic Carbon	**3680**	mg/kg	1160	1		09/13/22 07:53	7440-44-0	
Surrogates								
RSD%	**50.5**	%		1		09/13/22 07:53		1d

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Sample: Dup **Lab ID: 50324920007** Collected: 09/01/22 08:00 Received: 09/02/22 10:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**96.5**	mg/kg	2.9	1	09/08/22 11:30	09/08/22 23:13	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**68800**	mg/kg	562	10	09/12/22 10:31	09/13/22 15:11	7440-70-2	
Iron	**4690**	mg/kg	56.2	1	09/12/22 10:31	09/13/22 14:26	7439-89-6	
Lithium	ND	mg/kg	5.6	1	09/12/22 10:31	09/13/22 14:26	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.7**	mg/kg	0.59	5	09/05/22 23:35	09/08/22 05:52	7440-38-2	
Boron	**6.2**	mg/kg	0.59	1	09/05/22 23:35	09/07/22 10:28	7440-42-8	N2
Manganese	**303**	mg/kg	2.3	20	09/05/22 23:35	09/08/22 03:48	7439-96-5	
Molybdenum	**0.76**	mg/kg	0.59	5	09/05/22 23:35	09/08/22 05:52	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**17.2**	%	0.10	1		09/09/22 15:52		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		09/03/22 10:04		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**15600**	mg/kg	992	1		09/13/22 08:18	7440-44-0	
Total Organic Carbon	**16300**	mg/kg	985	1		09/13/22 08:25	7440-44-0	
Total Organic Carbon	**17400**	mg/kg	992	1		09/13/22 08:32	7440-44-0	
Total Organic Carbon	**15000**	mg/kg	988	1		09/13/22 08:39	7440-44-0	
Mean Total Organic Carbon	**16100**	mg/kg	989	1		09/13/22 08:18	7440-44-0	
Surrogates								
RSD%	**6.2**	%		1		09/13/22 08:18		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

QC Batch: 694793 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

METHOD BLANK: 3194170 Matrix: Solid
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	2.5	09/08/22 17:26	N2

LABORATORY CONTROL SAMPLE: 3194171

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	25	24.5	98	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194172 3194173

Parameter	Units	50324920001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	87.9	27.9	28.5	113	123	89	124	80-120	9	15	M0,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

QC Batch: 694992
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

METHOD BLANK: 3195264 Matrix: Solid
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/kg	ND	50.0	09/13/22 13:28	
Iron	mg/kg	ND	50.0	09/13/22 13:28	
Lithium	mg/kg	ND	5.0	09/13/22 13:28	N2

LABORATORY CONTROL SAMPLE: 3195265

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/kg	500	498	100	80-120	
Iron	mg/kg	500	506	101	80-120	
Lithium	mg/kg	50	50.2	100	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195266 3195267

Parameter	Units	50324631004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/kg	10100	895	1000	10200	9660	4	-47	75-125	5	20	P6
Iron	mg/kg	15700	895	1000	15400	15200	-42	-55	75-125	1	20	P6
Lithium	mg/kg	<9.4	89.5	100	94.9	101	96	92	75-125	6	20	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

QC Batch: 694300
QC Batch Method: EPA 3050B
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

METHOD BLANK: 3192466 Matrix: Solid
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.10	09/07/22 09:15	
Boron	mg/kg	ND	0.50	09/07/22 09:15	N2
Manganese	mg/kg	ND	0.10	09/07/22 09:15	
Molybdenum	mg/kg	ND	0.10	09/07/22 09:15	N2

LABORATORY CONTROL SAMPLE: 3192467

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	4	3.8	96	80-120	
Boron	mg/kg	4	4.0	100	80-120	N2
Manganese	mg/kg	4	4.0	101	80-120	
Molybdenum	mg/kg	4	4.0	101	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3192468 3192469

Parameter	Units	50324871001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	1.8	4.2	4.2	5.4	6.0	87	99	75-125	10	20	
Boron	mg/kg	5.2	4.2	4.2	10.4	10.3	126	122	75-125	1	20	M0,N2
Manganese	mg/kg	208	4.2	4.2	231	195	539	-317	75-125	17	20	P6
Molybdenum	mg/kg	0.54	4.2	4.2	4.1	4.2	86	88	75-125	3	20	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

QC Batch: 695032
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

SAMPLE DUPLICATE: 3195449

Parameter	Units	50325038001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.5	13.5	1	5	N2

SAMPLE DUPLICATE: 3195450

Parameter	Units	50324920007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	17.2	16.7	3	5	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

QC Batch: 694224
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

SAMPLE DUPLICATE: 3192166

Parameter	Units	50324943001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.9	1	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

QC Batch: 425619 | Analysis Method: EPA 9060
QC Batch Method: EPA 9060 | Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

METHOD BLANK: 2451368 Matrix: Solid
Associated Lab Samples: 50324920001, 50324920002, 50324920003, 50324920004, 50324920005, 50324920006, 50324920007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	600	09/13/22 02:09	

LABORATORY CONTROL SAMPLE: 2451369

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	115000	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2451370 2451371

Parameter	Units	50324871001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	12100	21400	21400	37500	35100	119	107	50-152	7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2451372 2451373

Parameter	Units	50324871002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	9570	17800	17800	26100	26600	94	96	50-152	2	20	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1d	% RSD > 40
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.
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: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324920001	**MW-42I 37-43**	EPA 300.0	694793	EPA 300.0	695014
50324920002	**MW-42A 56-58**	EPA 300.0	694793	EPA 300.0	695014
50324920003	**MW-42B 22-24**	EPA 300.0	694793	EPA 300.0	695014
50324920004	**MW-43A 56-58**	EPA 300.0	694793	EPA 300.0	695014
50324920005	**MW-43I 39-41**	EPA 300.0	694793	EPA 300.0	695014
50324920006	**MW-43B 24-26**	EPA 300.0	694793	EPA 300.0	695014
50324920007	**Dup**	EPA 300.0	694793	EPA 300.0	695014
50324920001	**MW-42I 37-43**	EPA 3050	694992	EPA 6010	695488
50324920002	**MW-42A 56-58**	EPA 3050	694992	EPA 6010	695488
50324920003	**MW-42B 22-24**	EPA 3050	694992	EPA 6010	695488
50324920004	**MW-43A 56-58**	EPA 3050	694992	EPA 6010	695488
50324920005	**MW-43I 39-41**	EPA 3050	694992	EPA 6010	695488
50324920006	**MW-43B 24-26**	EPA 3050	694992	EPA 6010	695488
50324920007	**Dup**	EPA 3050	694992	EPA 6010	695488
50324920001	**MW-42I 37-43**	EPA 3050B	694300	EPA 6020	694323
50324920002	**MW-42A 56-58**	EPA 3050B	694300	EPA 6020	694323
50324920003	**MW-42B 22-24**	EPA 3050B	694300	EPA 6020	694323
50324920004	**MW-43A 56-58**	EPA 3050B	694300	EPA 6020	694323
50324920005	**MW-43I 39-41**	EPA 3050B	694300	EPA 6020	694323
50324920006	**MW-43B 24-26**	EPA 3050B	694300	EPA 6020	694323
50324920007	**Dup**	EPA 3050B	694300	EPA 6020	694323
50324920001	**MW-42I 37-43**	SM 2540G	695032		
50324920002	**MW-42A 56-58**	SM 2540G	695032		
50324920003	**MW-42B 22-24**	SM 2540G	695032		
50324920004	**MW-43A 56-58**	SM 2540G	695032		
50324920005	**MW-43I 39-41**	SM 2540G	695032		
50324920006	**MW-43B 24-26**	SM 2540G	695032		
50324920007	**Dup**	SM 2540G	695032		
50324920001	**MW-42I 37-43**	EPA 9045	694224		
50324920002	**MW-42A 56-58**	EPA 9045	694224		
50324920003	**MW-42B 22-24**	EPA 9045	694224		
50324920004	**MW-43A 56-58**	EPA 9045	694224		
50324920005	**MW-43I 39-41**	EPA 9045	694224		
50324920006	**MW-43B 24-26**	EPA 9045	694224		
50324920007	**Dup**	EPA 9045	694224		
50324920001	**MW-42I 37-43**	EPA 9060	425619		
50324920001	**MW-42I 37-43**	EPA 9060	425620		
50324920002	**MW-42A 56-58**	EPA 9060	425619		
50324920002	**MW-42A 56-58**	EPA 9060	425620		
50324920003	**MW-42B 22-24**	EPA 9060	425619		
50324920003	**MW-42B 22-24**	EPA 9060	425620		
50324920004	**MW-43A 56-58**	EPA 9060	425619		
50324920004	**MW-43A 56-58**	EPA 9060	425620		

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50324920

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50324920005	**MW-43I 39-41**	EPA 9060	425619		
50324920005	**MW-43I 39-41**	EPA 9060	425620		
50324920006	**MW-43B 24-26**	EPA 9060	425619		
50324920006	**MW-43B 24-26**	EPA 9060	425620		
50324920007	**Dup**	EPA 9060	425619		
50324920007	**Dup**	EPA 9060	425620		

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CHAIN-OF-CUSTODY / Analytical Request Doc

WO# : 50324920

50324920

Pace

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must b

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelab

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:	Celtza Palmer	Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Soil	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/20

Regulatory Agency	
State / Location	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	
1	MW-42I 37-43		G			9-1-22	10:25		2	✓											001
2	MW-42A 56-58		G			9-1-22	11:30		2	✓											002
3	MW-42B 22-24		G			9-1-22	10:30		2	✓											003
4	MW-43A 56-58		G			9-1-22	13:35		2	✓											004
5	MW-43I 39-41		G			9-1-22	13:25		2	✓											005
6	MW-43B 24-26		G			9-1-22	13:15		2	✓											006
7	Dup		G			9-1-22	—		2	✓											007
8						9-1-22															
9																					
10																					
11																					
12																					

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

Analyses Test: ~~B, Ca, Fe, Mn, Mo, Li by 6010~~; ~~As by 6020~~; ~~pH by 9045~~; ~~TOC by 9060 to Pace GB~~; Ca, Fe, Li by 6010; As, B, Mn, Mo by 6020; pH by 9045; Sulfate by 300.0; TOC by 9060 to Pace

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Andy Jaskowiak	9-2-22	10:55	amber Harden	9/2/22	10:55	0.8	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andy Jaskowiak

SIGNATURE of SAMPLER: Andy Jaskowiak

DATE Signed: 9-2-22

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

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 9/2/22 11:41 AH

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(s):** 0.8/0.8 | | | |
   (Initial/Corrected) ~~RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)~~
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
   Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			✓
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Custody Seals?:			✓

~~COMMENTS:~~

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		VIALS							AMBER GLASS							PLASTIC										OTHER							
		MeOH (only) / SBS / DI																														
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	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1																												SL				
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

January 30, 2023

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 09, 2022. 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 - Green Bay
- Pace Analytical Services - Indianapolis

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

Sincerely,

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-21-8
Virginia VELAP Certification ID: 11873
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-21-00008
Federal Fish & Wildlife Permit #: 51774A

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 Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50325525001	**MW-40B (24-26)**	Solid	09/09/22 13:30	09/09/22 15:15

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50325525001	**MW-40B (24-26)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-I = Pace Analytical Services - Indianapolis

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50325525001	**MW-40B (24-26)**					
EPA 300.0	Sulfate	17.1	mg/kg	2.7	09/15/22 17:38	N2
EPA 6010	Calcium	30000	mg/kg	277	09/14/22 14:45	
EPA 6010	Iron	9870	mg/kg	55.4	09/14/22 14:33	
EPA 6020	Arsenic	3.3	mg/kg	2.2	09/12/22 20:13	
EPA 6020	Boron	3.3	mg/kg	0.54	09/12/22 20:21	N2
EPA 6020	Manganese	701	mg/kg	10.9	09/12/22 20:30	
SM 2540G	Percent Moisture	12.7	%	0.10	09/16/22 15:35	N2
EPA 9045	pH at 25 Degrees C	7.8	Std. Units	0.10	09/16/22 12:52	H3
EPA 9060	Total Organic Carbon	8190	mg/kg	1430	09/20/22 05:20	
EPA 9060	Total Organic Carbon	7520	mg/kg	1420	09/20/22 05:26	
EPA 9060	Total Organic Carbon	2830	mg/kg	1400	09/20/22 05:32	
EPA 9060	Total Organic Carbon	7640	mg/kg	1420	09/20/22 05:37	
EPA 9060	Mean Total Organic Carbon	6540	mg/kg	1420	09/20/22 05:20	
EPA 9060	RSD%	38.1	%		09/20/22 05:20	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

Sample: MW-40B (24-26) **Lab ID: 50325525001** Collected: 09/09/22 13:30 Received: 09/09/22 15:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**17.1**	mg/kg	2.7	1	09/15/22 14:31	09/15/22 17:38	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**30000**	mg/kg	277	5	09/14/22 08:40	09/14/22 14:45	7440-70-2	
Iron	**9870**	mg/kg	55.4	1	09/14/22 08:40	09/14/22 14:33	7439-89-6	
Lithium	ND	mg/kg	5.5	1	09/14/22 08:40	09/14/22 14:33	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**3.3**	mg/kg	2.2	20	09/12/22 03:53	09/12/22 20:13	7440-38-2	
Boron	**3.3**	mg/kg	0.54	1	09/12/22 03:53	09/12/22 20:21	7440-42-8	N2
Manganese	**701**	mg/kg	10.9	100	09/12/22 03:53	09/12/22 20:30	7439-96-5	
Molybdenum	ND	mg/kg	2.2	20	09/12/22 03:53	09/12/22 20:13	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**12.7**	%	0.10	1		09/16/22 15:35		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		09/16/22 12:52		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**8190**	mg/kg	1430	1		09/20/22 05:20	7440-44-0	
Total Organic Carbon	**7520**	mg/kg	1420	1		09/20/22 05:26	7440-44-0	
Total Organic Carbon	**2830**	mg/kg	1400	1		09/20/22 05:32	7440-44-0	
Total Organic Carbon	**7640**	mg/kg	1420	1		09/20/22 05:37	7440-44-0	
Mean Total Organic Carbon	**6540**	mg/kg	1420	1		09/20/22 05:20	7440-44-0	
Surrogates								
RSD%	**38.1**	%		1		09/20/22 05:20		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

QC Batch: 695958
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325525001

METHOD BLANK: 3199685 Matrix: Solid
Associated Lab Samples: 50325525001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	2.5	09/15/22 17:05	N2

LABORATORY CONTROL SAMPLE: 3199686

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	25	24.2	97	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3199687 3199688

Parameter	Units	50325525001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	17.1	28.1	28.1	46.7	44.5	106	98	80-120	5	15	N2

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: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

QC Batch: 695296
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50325525001

METHOD BLANK: 3197011 Matrix: Solid
Associated Lab Samples: 50325525001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/kg	ND	50.0	09/14/22 13:25	
Iron	mg/kg	ND	50.0	09/14/22 13:25	
Lithium	mg/kg	ND	5.0	09/14/22 13:25	N2

LABORATORY CONTROL SAMPLE: 3197012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/kg	500	543	109	80-120	
Iron	mg/kg	500	516	103	80-120	
Lithium	mg/kg	50	54.6	109	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3197013 3197014

Parameter	Units	50325136011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/kg	1550	511	522	3030	2090	290	103	75-125	37	20	M0, P6, R1
Iron	mg/kg	9120	511	522	9940	8470	160	-126	75-125	16	20	P6
Lithium	mg/kg	5.5	51.1	52.2	60.6	61.3	108	107	75-125	1	20	N2

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: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

QC Batch: 695205
QC Batch Method: EPA 3050B
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50325525001

METHOD BLANK: 3196762 Matrix: Solid
Associated Lab Samples: 50325525001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.10	09/12/22 20:04	
Boron	mg/kg	ND	0.50	09/12/22 20:04	N2
Manganese	mg/kg	ND	0.10	09/12/22 20:04	
Molybdenum	mg/kg	ND	0.10	09/12/22 20:04	N2

LABORATORY CONTROL SAMPLE: 3196763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	4	3.7	94	80-120	
Boron	mg/kg	4	4.2	105	80-120	N2
Manganese	mg/kg	4	4.1	104	80-120	
Molybdenum	mg/kg	4	3.9	97	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196764 3196765

Parameter	Units	50325376010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	21.3	4.6	4.5	24.6	25.0	71	80	75-125	2	20	P6
Boron	mg/kg	87.5	4.6	4.5	99.8	103	271	336	75-125	3	20	CC,N2, P6
Manganese	mg/kg	1650	4.6	4.5	1660	1480	356	-3730	75-125	12	20	P6
Molybdenum	mg/kg	77.3	4.6	4.5	72.8	55.5	-100	-483	75-125	27	20	N2,P6, R1

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REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

QC Batch: 696192
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50325525001

SAMPLE DUPLICATE: 3200864

Parameter	Units	50325375004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.9	9.8	9	5	N2,R1

SAMPLE DUPLICATE: 3200865

Parameter	Units	50325525001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.7	14.0	10	5	N2,R1

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

QC Batch: 696195
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50325525001

SAMPLE DUPLICATE: 3200873

Parameter	Units	50325786001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	2.5	2.5	0	2	H3,PO

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

QC Batch: 426364
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 50325525001

METHOD BLANK: 2455174 Matrix: Solid
Associated Lab Samples: 50325525001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	600	09/20/22 04:34	

LABORATORY CONTROL SAMPLE: 2455175

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	118000	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2455176 2455177

Parameter	Units	50325525001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	6540	14200	14200	22000	23500	109	120	50-152	7	20	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
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.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
PO	The reported result is outside the range of the pH buffer solutions used to check the calibration of the pH meter.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50325525

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50325525001	**MW-40B (24-26)**	EPA 300.0	695958	EPA 300.0	696228
50325525001	**MW-40B (24-26)**	EPA 3050	695296	EPA 6010	695764
50325525001	**MW-40B (24-26)**	EPA 3050B	695205	EPA 6020	695381
50325525001	**MW-40B (24-26)**	SM 2540G	696192		
50325525001	**MW-40B (24-26)**	EPA 9045	696195		
50325525001	**MW-40B (24-26)**	EPA 9060	426364		
50325525001	**MW-40B (24-26)**	EPA 9060	426365		

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CHAIN-OF-CUSTODY / Analytical

WO# : 50325525

The Chain-of-Custody is a LEGAL DOCUMENT. All

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions foun

Page 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Pa
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	At
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Soil	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/20

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	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Ca, Fe, Li by 6010	As, B, Mn, Mo by 6020	pH by 9045	Sulfate by 300.0 IC	TOC by 9060 to Pace GB	Residual Chlorine (Y/N)
1	MW-40B (24-26)		SL	G			9-9-22	1330		2	2									X	X	X	X	X	
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		9-9-22				1440				
		9/9/22	1515	BSudhakar	9-9-22	1515	0.9	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Parker

SIGNATURE of SAMPLER: Colton Parker

DATE Signed: 9-9-22

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BS 9-9-22 1805

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(s):** 0.9 | 0.9 | | | |
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			✓
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER				Matrix	Nitric Red	Sulfuric Yellow	Sodium Hydroxide Green	Sodium Hydroxide/ ZnAc Black
		SBS																														
		DI																														
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					HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1	1							1																				SL				
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ntainer Codes

Glass

9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
9P	40mL TSP amber vial	BG1U	1L unpreserved glass
9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
9H	40mL HCl clear vial	AG1H	1L HCl amber glass
9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
KU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
FU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
U	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered
S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass
	General	AG3C	250mL NaOH amber glass

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

November 08, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 2022. 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 - Green Bay
- Pace Analytical Services - Indianapolis

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

Sincerely,

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-21-8
Virginia VELAP Certification ID: 11873
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-21-00008
Federal Fish & Wildlife Permit #: 51774A

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: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50326143001	**MW-45A (60-62)**	Solid	09/13/22 12:45	09/16/22 15:00
50326143002	**MW-45I (44-46)**	Solid	09/13/22 14:30	09/16/22 15:00
50326143003	**MW-45B (38-40)**	Solid	09/14/22 08:30	09/16/22 15:00

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50326143001	**MW-45A (60-62)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	BSW	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50326143002	**MW-45I (44-46)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	BSW	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50326143003	**MW-45B (38-40)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	MTM	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	BSW	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50326143001	**MW-45A (60-62)**					
EPA 300.0	Sulfate	86.8	mg/kg	2.9	09/26/22 16:02	N2
EPA 6010	Calcium	6910	mg/kg	52.7	09/23/22 15:40	
EPA 6010	Iron	33300	mg/kg	105	09/23/22 16:09	
EPA 6020	Arsenic	4.9	mg/kg	0.55	09/22/22 13:41	
EPA 6020	Boron	1.8	mg/kg	1.1	09/22/22 14:15	N2
EPA 6020	Manganese	1000	mg/kg	10.9	09/22/22 13:03	
EPA 6020	Molybdenum	0.69	mg/kg	0.55	09/22/22 13:41	N2
SM 2540G	Percent Moisture	13.1	%	0.10	09/22/22 16:32	N2
EPA 9045	pH at 25 Degrees C	7.4	Std. Units	0.10	09/19/22 11:52	H3
EPA 9060	RSD%	14.3	%		09/22/22 06:26	
50326143002	**MW-45I (44-46)**					
EPA 300.0	Sulfate	58.5	mg/kg	3.0	09/26/22 16:19	N2
EPA 6010	Calcium	56300	mg/kg	550	09/23/22 16:11	
EPA 6010	Iron	4570	mg/kg	55.0	09/23/22 15:43	
EPA 6020	Arsenic	1.9	mg/kg	0.58	09/22/22 13:56	
EPA 6020	Boron	4.3	mg/kg	1.2	09/22/22 13:22	N2
EPA 6020	Manganese	256	mg/kg	2.3	09/22/22 12:44	
SM 2540G	Percent Moisture	16.9	%	0.10	09/22/22 16:33	N2
EPA 9045	pH at 25 Degrees C	7.8	Std. Units	0.10	09/19/22 11:54	H3
EPA 9060	Total Organic Carbon	7440	mg/kg	2430	09/22/22 06:58	
EPA 9060	Total Organic Carbon	5630	mg/kg	2450	09/22/22 07:04	
EPA 9060	Total Organic Carbon	3050	mg/kg	2430	09/22/22 07:09	
EPA 9060	Total Organic Carbon	7670	mg/kg	2450	09/22/22 07:14	
EPA 9060	Mean Total Organic Carbon	5950	mg/kg	2440	09/22/22 06:58	
EPA 9060	RSD%	35.9	%		09/22/22 06:58	
50326143003	**MW-45B (38-40)**					
EPA 300.0	Sulfate	22.3	mg/kg	2.7	09/26/22 16:52	N2
EPA 6010	Calcium	44500	mg/kg	262	09/23/22 16:17	
EPA 6010	Iron	4630	mg/kg	52.4	09/23/22 15:53	
EPA 6020	Arsenic	3.2	mg/kg	0.53	09/22/22 14:19	
EPA 6020	Boron	3.6	mg/kg	1.1	09/22/22 13:44	N2
EPA 6020	Manganese	329	mg/kg	2.6	09/22/22 13:06	
SM 2540G	Percent Moisture	6.5	%	0.10	09/22/22 16:33	N2
EPA 9045	pH at 25 Degrees C	8.0	Std. Units	0.10	09/19/22 11:56	H3
EPA 9060	Total Organic Carbon	4650	mg/kg	1130	09/22/22 08:10	
EPA 9060	Total Organic Carbon	3600	mg/kg	1130	09/22/22 08:16	
EPA 9060	Total Organic Carbon	4340	mg/kg	1130	09/22/22 08:23	
EPA 9060	Total Organic Carbon	3940	mg/kg	1130	09/22/22 08:28	
EPA 9060	Mean Total Organic Carbon	4130	mg/kg	1130	09/22/22 08:10	
EPA 9060	RSD%	11.0	%		09/22/22 08:10	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

Sample: MW-45A (60-62) **Lab ID: 50326143001** Collected: 09/13/22 12:45 Received: 09/16/22 15:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**86.8**	mg/kg	2.9	1	09/26/22 11:00	09/26/22 16:02	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**6910**	mg/kg	52.7	1	09/21/22 14:15	09/23/22 15:40	7440-70-2	
Iron	**33300**	mg/kg	105	2	09/21/22 14:15	09/23/22 16:09	7439-89-6	
Lithium	ND	mg/kg	5.3	1	09/21/22 14:15	09/23/22 15:40	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**4.9**	mg/kg	0.55	5	09/21/22 04:17	09/22/22 13:41	7440-38-2	
Boron	**1.8**	mg/kg	1.1	2	09/21/22 04:17	09/22/22 14:15	7440-42-8	N2
Manganese	**1000**	mg/kg	10.9	100	09/21/22 04:17	09/22/22 13:03	7439-96-5	
Molybdenum	**0.69**	mg/kg	0.55	5	09/21/22 04:17	09/22/22 13:41	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**13.1**	%	0.10	1		09/22/22 16:32		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		09/19/22 11:52		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	ND	mg/kg	688	1		09/22/22 06:26	7440-44-0	
Total Organic Carbon	ND	mg/kg	684	1		09/22/22 06:32	7440-44-0	
Total Organic Carbon	ND	mg/kg	684	1		09/22/22 06:37	7440-44-0	
Total Organic Carbon	ND	mg/kg	688	1		09/22/22 06:42	7440-44-0	
Mean Total Organic Carbon	ND	mg/kg	686	1		09/22/22 06:26	7440-44-0	
Surrogates								
RSD%	**14.3**	%		1		09/22/22 06:26		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

Sample: MW-45I (44-46) **Lab ID: 50326143002** Collected: 09/13/22 14:30 Received: 09/16/22 15:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**58.5**	mg/kg	3.0	1	09/26/22 11:00	09/26/22 16:19	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**56300**	mg/kg	550	10	09/21/22 14:15	09/23/22 16:11	7440-70-2	
Iron	**4570**	mg/kg	55.0	1	09/21/22 14:15	09/23/22 15:43	7439-89-6	
Lithium	ND	mg/kg	5.5	1	09/21/22 14:15	09/23/22 15:43	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**1.9**	mg/kg	0.58	5	09/21/22 04:17	09/22/22 13:56	7440-38-2	
Boron	**4.3**	mg/kg	1.2	2	09/21/22 04:17	09/22/22 13:22	7440-42-8	N2
Manganese	**256**	mg/kg	2.3	20	09/21/22 04:17	09/22/22 12:44	7439-96-5	
Molybdenum	ND	mg/kg	0.58	5	09/21/22 04:17	09/22/22 13:56	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**16.9**	%	0.10	1		09/22/22 16:33		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		09/19/22 11:54		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**7440**	mg/kg	2430	1		09/22/22 06:58	7440-44-0	
Total Organic Carbon	**5630**	mg/kg	2450	1		09/22/22 07:04	7440-44-0	
Total Organic Carbon	**3050**	mg/kg	2430	1		09/22/22 07:09	7440-44-0	
Total Organic Carbon	**7670**	mg/kg	2450	1		09/22/22 07:14	7440-44-0	
Mean Total Organic Carbon	**5950**	mg/kg	2440	1		09/22/22 06:58	7440-44-0	
Surrogates								
RSD%	**35.9**	%		1		09/22/22 06:58		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

Sample: MW-45B (38-40) **Lab ID: 50326143003** Collected: 09/14/22 08:30 Received: 09/16/22 15:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**22.3**	mg/kg	2.7	1	09/26/22 11:00	09/26/22 16:52	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**44500**	mg/kg	262	5	09/21/22 14:15	09/23/22 16:17	7440-70-2	
Iron	**4630**	mg/kg	52.4	1	09/21/22 14:15	09/23/22 15:53	7439-89-6	
Lithium	ND	mg/kg	5.2	1	09/21/22 14:15	09/23/22 15:53	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**3.2**	mg/kg	0.53	5	09/21/22 04:17	09/22/22 14:19	7440-38-2	
Boron	**3.6**	mg/kg	1.1	2	09/21/22 04:17	09/22/22 13:44	7440-42-8	N2
Manganese	**329**	mg/kg	2.6	25	09/21/22 04:17	09/22/22 13:06	7439-96-5	
Molybdenum	ND	mg/kg	0.53	5	09/21/22 04:17	09/22/22 14:19	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**6.5**	%	0.10	1		09/22/22 16:33		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		09/19/22 11:56		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**4650**	mg/kg	1130	1		09/22/22 08:10	7440-44-0	
Total Organic Carbon	**3600**	mg/kg	1130	1		09/22/22 08:16	7440-44-0	
Total Organic Carbon	**4340**	mg/kg	1130	1		09/22/22 08:23	7440-44-0	
Total Organic Carbon	**3940**	mg/kg	1130	1		09/22/22 08:28	7440-44-0	
Mean Total Organic Carbon	**4130**	mg/kg	1130	1		09/22/22 08:10	7440-44-0	
Surrogates								
RSD%	**11.0**	%		1		09/22/22 08:10		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

QC Batch: 697582
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50326143001, 50326143002, 50326143003

METHOD BLANK: 3207574 Matrix: Solid
Associated Lab Samples: 50326143001, 50326143002, 50326143003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	2.5	09/26/22 15:29	N2

LABORATORY CONTROL SAMPLE: 3207575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	25	23.8	95	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3207576 3207577

Parameter	Units	50326143002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	58.5	29.4	29.6	88.7	91.4	103	111	80-120	3	15	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

QC Batch: 696624
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50326143001, 50326143002, 50326143003

METHOD BLANK: 3203030 Matrix: Solid
Associated Lab Samples: 50326143001, 50326143002, 50326143003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/kg	ND	50.0	09/23/22 14:59	
Iron	mg/kg	ND	50.0	09/23/22 14:59	
Lithium	mg/kg	ND	5.0	09/23/22 14:59	N2

LABORATORY CONTROL SAMPLE: 3203031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/kg	500	524	105	80-120	
Iron	mg/kg	500	495	99	80-120	
Lithium	mg/kg	50	51.2	102	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3203032 3203033

Parameter	Units	50326143002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/kg	56300	590	539	54500	56800	-299	106	75-125	4	20	P6
Iron	mg/kg	4570	590	539	3760	4090	-136	-89	75-125	8	20	P6
Lithium	mg/kg	ND	59	53.9	55.9	57.9	86	98	75-125	4	20	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

QC Batch: 696821
QC Batch Method: EPA 3050B
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50326143001, 50326143002, 50326143003

METHOD BLANK: 3203831 Matrix: Solid
Associated Lab Samples: 50326143001, 50326143002, 50326143003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.10	09/22/22 12:37	
Boron	mg/kg	ND	0.50	09/22/22 12:37	N2
Manganese	mg/kg	ND	0.10	09/22/22 12:37	
Molybdenum	mg/kg	ND	0.10	09/22/22 12:37	N2

LABORATORY CONTROL SAMPLE: 3203832

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	4	3.8	95	80-120	
Boron	mg/kg	4	4.0	99	80-120	N2
Manganese	mg/kg	4	4.0	100	80-120	
Molybdenum	mg/kg	4	3.9	98	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3203833 3203834

Parameter	Units	50326143002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	1.9	4.5	4.6	6.5	6.5	106	102	75-125	1	20	
Boron	mg/kg	4.3	4.5	4.6	9.5	10.1	118	127	75-125	6	20	M0,N2
Manganese	mg/kg	256	4.5	4.6	267	296	234	865	75-125	10	20	P6
Molybdenum	mg/kg	ND	4.5	4.6	4.6	5.1	95	102	75-125	10	20	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

QC Batch: 697244
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50326143001, 50326143002, 50326143003

SAMPLE DUPLICATE: 3205639

Parameter	Units	50326143002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	16.9	16.4	3	5	N2

SAMPLE DUPLICATE: 3205640

Parameter	Units	50326243002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.0	15.8	13	5	N2,R1

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

QC Batch: 696411
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50326143001, 50326143002, 50326143003

SAMPLE DUPLICATE: 3202355

Parameter	Units	50326143002 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: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

QC Batch: 426632
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 50326143001, 50326143002, 50326143003

METHOD BLANK: 2456762 Matrix: Solid
Associated Lab Samples: 50326143001, 50326143002, 50326143003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	600	09/22/22 05:40	

LABORATORY CONTROL SAMPLE: 2456763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	113000	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2456764 2456765

Parameter	Units	50326143002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	5950	24400	24400	29600	32300	97	108	50-152	9	20	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50326143

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50326143001	**MW-45A (60-62)**	EPA 300.0	697582	EPA 300.0	697715
50326143002	**MW-45I (44-46)**	EPA 300.0	697582	EPA 300.0	697715
50326143003	**MW-45B (38-40)**	EPA 300.0	697582	EPA 300.0	697715
50326143001	**MW-45A (60-62)**	EPA 3050	696624	EPA 6010	697434
50326143002	**MW-45I (44-46)**	EPA 3050	696624	EPA 6010	697434
50326143003	**MW-45B (38-40)**	EPA 3050	696624	EPA 6010	697434
50326143001	**MW-45A (60-62)**	EPA 3050B	696821	EPA 6020	696999
50326143002	**MW-45I (44-46)**	EPA 3050B	696821	EPA 6020	696999
50326143003	**MW-45B (38-40)**	EPA 3050B	696821	EPA 6020	696999
50326143001	**MW-45A (60-62)**	SM 2540G	697244		
50326143002	**MW-45I (44-46)**	SM 2540G	697244		
50326143003	**MW-45B (38-40)**	SM 2540G	697244		
50326143001	**MW-45A (60-62)**	EPA 9045	696411		
50326143002	**MW-45I (44-46)**	EPA 9045	696411		
50326143003	**MW-45B (38-40)**	EPA 9045	696411		
50326143001	**MW-45A (60-62)**	EPA 9060	426632		
50326143001	**MW-45A (60-62)**	EPA 9060	426633		
50326143002	**MW-45I (44-46)**	EPA 9060	426632		
50326143002	**MW-45I (44-46)**	EPA 9060	426633		
50326143003	**MW-45B (38-40)**	EPA 9060	426632		
50326143003	**MW-45B (38-40)**	EPA 9060	426633		

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CHAIN-OF-CUSTODY / A

WO#: 50326143

The Chain-of-Custody is a LEGAL DOC

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and ... .pdf.

Page 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax:	Project Name:	AES PB 2022 On-Site MW Soil	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/20

Regulatory Agency	
State / Location	IN

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

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Ca, Fe, Li by 6010	As, B, Mn, Mo by 6020	pH by 9045	Sulfate by 300.0 IC	TOC by 9060 to Pace GB	Residual Chlorine (Y/N)	
1	MW-45A (60-62)	SL	G			9/13/22	1245		2	2									X	X	X	X	X		001
2	MW-45I (44-46) MS/MSD	SL	G			9/13/22	1430		6	6									X	X	X	X	X		002
3	MW-45B (38-40)	SL	G			9/14/22	830		2	2									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			
		9-16-22	1415		9/16	1415				
		9/16/22	15:03		9-16-22	1500	1.0	4	N	4

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andrew Jaskowiak

SIGNATURE of SAMPLER: for: A.J. DATE Signed:

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

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BS 9-16-22 1830

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 BS 9-16-22

4. **Cooler Temperature(s):** 2.5/1.6 | | | |
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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
Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				✓
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																												Red	Yellow	Green	Black
		DI																															
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 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1	1							1																			SL				
2	3							3																			1				
3	1							1																			1				
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

October 26, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on October 18, 2022. 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 - Green Bay
- Pace Analytical Services - Indianapolis

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

Sincerely,

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-21-8
Virginia VELAP Certification ID: 11873
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-21-00008
Federal Fish & Wildlife Permit #: 51774A

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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50328669001	**MW-46A(62-64)**	Solid	10/17/22 13:00	10/18/22 14:30
50328669002	**MW-46B(24-26)**	Solid	10/17/22 13:31	10/18/22 14:30
50328669003	**MW-46I(44-46)**	Solid	10/17/22 13:18	10/18/22 14:30
50328669004	**MW-47A(66-68)**	Solid	10/17/22 13:47	10/18/22 14:30

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50328669001	**MW-46A(62-64)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50328669002	**MW-46B(24-26)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50328669003	**MW-46I(44-46)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50328669004	**MW-47A(66-68)**	EPA 300.0	RMR	1	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	CAW	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TRK	1	PASI-I
		EPA 9060	TJJ	6	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-I = Pace Analytical Services - Indianapolis

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50328669001	**MW-46A(62-64)**					
EPA 300.0	Sulfate	43.5	mg/kg	2.5	10/23/22 11:51	N2
EPA 6010	Calcium	7640	mg/kg	50.7	10/21/22 11:08	
EPA 6010	Iron	12000	mg/kg	50.7	10/20/22 18:46	
EPA 6020	Arsenic	5.8	mg/kg	0.52	10/24/22 16:07	
EPA 6020	Boron	0.75	mg/kg	0.52	10/24/22 16:51	N2
EPA 6020	Manganese	463	mg/kg	5.2	10/24/22 15:19	
SM 2540G	Percent Moisture	9.6	%	0.10	10/21/22 12:03	N2
EPA 9045	pH at 25 Degrees C	7.3	Std. Units	0.10	10/20/22 10:51	H3
EPA 9060	Total Organic Carbon	1850	mg/kg	661	10/25/22 04:39	
EPA 9060	Total Organic Carbon	2450	mg/kg	657	10/25/22 04:45	
EPA 9060	Total Organic Carbon	2110	mg/kg	659	10/25/22 04:51	
EPA 9060	Total Organic Carbon	1420	mg/kg	658	10/25/22 04:57	
EPA 9060	Mean Total Organic Carbon	1960	mg/kg	659	10/25/22 04:39	
EPA 9060	RSD%	22.1	%		10/25/22 04:39	
50328669002	**MW-46B(24-26)**					
EPA 300.0	Sulfate	13.0	mg/kg	3.1	10/23/22 13:42	N2
EPA 6010	Calcium	21000	mg/kg	306	10/21/22 11:10	
EPA 6010	Iron	7380	mg/kg	61.2	10/20/22 18:48	
EPA 6020	Arsenic	2.5	mg/kg	0.64	10/24/22 15:55	
EPA 6020	Boron	3.3	mg/kg	0.64	10/24/22 16:35	N2
EPA 6020	Manganese	358	mg/kg	3.2	10/24/22 15:07	
SM 2540G	Percent Moisture	22.4	%	0.10	10/21/22 12:03	N2
EPA 9045	pH at 25 Degrees C	7.7	Std. Units	0.10	10/20/22 10:57	H3
EPA 9060	Total Organic Carbon	6850	mg/kg	770	10/25/22 05:59	
EPA 9060	Total Organic Carbon	11800	mg/kg	766	10/25/22 06:04	
EPA 9060	Total Organic Carbon	6090	mg/kg	769	10/25/22 06:11	
EPA 9060	Total Organic Carbon	6010	mg/kg	773	10/25/22 06:17	
EPA 9060	Mean Total Organic Carbon	7700	mg/kg	770	10/25/22 05:59	
EPA 9060	RSD%	36.3	%		10/25/22 05:59	
50328669003	**MW-46I(44-46)**					
EPA 300.0	Sulfate	99.0	mg/kg	2.8	10/23/22 14:56	N2
EPA 6010	Calcium	65800	mg/kg	515	10/21/22 11:13	
EPA 6010	Iron	5890	mg/kg	51.5	10/20/22 18:51	
EPA 6020	Arsenic	2.0	mg/kg	0.11	10/24/22 16:39	
EPA 6020	Boron	3.3	mg/kg	0.56	10/24/22 16:39	N2
EPA 6020	Manganese	213	mg/kg	2.8	10/24/22 15:11	
SM 2540G	Percent Moisture	12.5	%	0.10	10/21/22 12:04	N2
EPA 9045	pH at 25 Degrees C	7.8	Std. Units	0.10	10/20/22 10:55	H3
EPA 9060	Total Organic Carbon	6390	mg/kg	692	10/25/22 06:23	
EPA 9060	Total Organic Carbon	7810	mg/kg	691	10/25/22 06:30	
EPA 9060	Total Organic Carbon	8610	mg/kg	691	10/25/22 06:38	
EPA 9060	Total Organic Carbon	8160	mg/kg	689	10/25/22 06:47	
EPA 9060	Mean Total Organic Carbon	7740	mg/kg	691	10/25/22 06:23	
EPA 9060	RSD%	12.4	%		10/25/22 06:23	
50328669004	**MW-47A(66-68)**					
EPA 300.0	Sulfate	10.8	mg/kg	2.6	10/23/22 15:33	N2

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50328669004	**MW-47A(66-68)**					
EPA 6010	Calcium	7070	mg/kg	48.6	10/21/22 11:16	
EPA 6010	Iron	12700	mg/kg	48.6	10/20/22 18:54	
EPA 6020	Arsenic	3.0	mg/kg	0.54	10/24/22 16:03	
EPA 6020	Boron	1.2	mg/kg	0.54	10/24/22 16:47	N2
EPA 6020	Manganese	131	mg/kg	1.1	10/24/22 15:15	
EPA 6020	Molybdenum	0.81	mg/kg	0.54	10/24/22 16:03	N2
SM 2540G	Percent Moisture	8.3	%	0.10	10/21/22 12:04	N2
EPA 9045	pH at 25 Degrees C	8.1	Std. Units	0.10	10/20/22 10:58	H3
EPA 9060	Total Organic Carbon	712	mg/kg	660	10/25/22 07:12	
EPA 9060	RSD%	15.2	%		10/25/22 06:55	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Sample: MW-46A(62-64) **Lab ID: 50328669001** Collected: 10/17/22 13:00 Received: 10/18/22 14:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**43.5**	mg/kg	2.5	1	10/20/22 11:20	10/23/22 11:51	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**7640**	mg/kg	50.7	1	10/20/22 08:18	10/21/22 11:08	7440-70-2	
Iron	**12000**	mg/kg	50.7	1	10/20/22 08:18	10/20/22 18:46	7439-89-6	
Lithium	ND	mg/kg	5.1	1	10/20/22 08:18	10/20/22 18:46	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**5.8**	mg/kg	0.52	5	10/24/22 00:35	10/24/22 16:07	7440-38-2	
Boron	**0.75**	mg/kg	0.52	1	10/24/22 00:35	10/24/22 16:51	7440-42-8	N2
Manganese	**463**	mg/kg	5.2	50	10/24/22 00:35	10/24/22 15:19	7439-96-5	
Molybdenum	ND	mg/kg	0.52	5	10/24/22 00:35	10/24/22 16:07	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**9.6**	%	0.10	1		10/21/22 12:03		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		10/20/22 10:51		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**1850**	mg/kg	661	1		10/25/22 04:39	7440-44-0	
Total Organic Carbon	**2450**	mg/kg	657	1		10/25/22 04:45	7440-44-0	
Total Organic Carbon	**2110**	mg/kg	659	1		10/25/22 04:51	7440-44-0	
Total Organic Carbon	**1420**	mg/kg	658	1		10/25/22 04:57	7440-44-0	
Mean Total Organic Carbon	**1960**	mg/kg	659	1		10/25/22 04:39	7440-44-0	
Surrogates								
RSD%	**22.1**	%		1		10/25/22 04:39		

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Sample: MW-46B(24-26) **Lab ID: 50328669002** Collected: 10/17/22 13:31 Received: 10/18/22 14:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**13.0**	mg/kg	3.1	1	10/20/22 11:20	10/23/22 13:42	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**21000**	mg/kg	306	5	10/20/22 08:18	10/21/22 11:10	7440-70-2	
Iron	**7380**	mg/kg	61.2	1	10/20/22 08:18	10/20/22 18:48	7439-89-6	
Lithium	ND	mg/kg	6.1	1	10/20/22 08:18	10/20/22 18:48	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**2.5**	mg/kg	0.64	5	10/24/22 00:35	10/24/22 15:55	7440-38-2	
Boron	**3.3**	mg/kg	0.64	1	10/24/22 00:35	10/24/22 16:35	7440-42-8	N2
Manganese	**358**	mg/kg	3.2	25	10/24/22 00:35	10/24/22 15:07	7439-96-5	
Molybdenum	ND	mg/kg	0.64	5	10/24/22 00:35	10/24/22 15:55	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**22.4**	%	0.10	1		10/21/22 12:03		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.7**	Std. Units	0.10	1		10/20/22 10:57		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**6850**	mg/kg	770	1		10/25/22 05:59	7440-44-0	
Total Organic Carbon	**11800**	mg/kg	766	1		10/25/22 06:04	7440-44-0	
Total Organic Carbon	**6090**	mg/kg	769	1		10/25/22 06:11	7440-44-0	
Total Organic Carbon	**6010**	mg/kg	773	1		10/25/22 06:17	7440-44-0	
Mean Total Organic Carbon	**7700**	mg/kg	770	1		10/25/22 05:59	7440-44-0	
Surrogates								
RSD%	**36.3**	%		1		10/25/22 05:59		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Sample: MW-46I(44-46) **Lab ID: 50328669003** Collected: 10/17/22 13:18 Received: 10/18/22 14:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**99.0**	mg/kg	2.8	1	10/20/22 11:20	10/23/22 14:56	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**65800**	mg/kg	515	10	10/20/22 08:18	10/21/22 11:13	7440-70-2	
Iron	**5890**	mg/kg	51.5	1	10/20/22 08:18	10/20/22 18:51	7439-89-6	
Lithium	ND	mg/kg	5.1	1	10/20/22 08:18	10/20/22 18:51	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**2.0**	mg/kg	0.11	1	10/24/22 00:35	10/24/22 16:39	7440-38-2	
Boron	**3.3**	mg/kg	0.56	1	10/24/22 00:35	10/24/22 16:39	7440-42-8	N2
Manganese	**213**	mg/kg	2.8	25	10/24/22 00:35	10/24/22 15:11	7439-96-5	
Molybdenum	ND	mg/kg	0.56	5	10/24/22 00:35	10/24/22 15:59	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**12.5**	%	0.10	1		10/21/22 12:04		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		10/20/22 10:55		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	**6390**	mg/kg	692	1		10/25/22 06:23	7440-44-0	
Total Organic Carbon	**7810**	mg/kg	691	1		10/25/22 06:30	7440-44-0	
Total Organic Carbon	**8610**	mg/kg	691	1		10/25/22 06:38	7440-44-0	
Total Organic Carbon	**8160**	mg/kg	689	1		10/25/22 06:47	7440-44-0	
Mean Total Organic Carbon	**7740**	mg/kg	691	1		10/25/22 06:23	7440-44-0	
Surrogates								
RSD%	**12.4**	%		1		10/25/22 06:23		

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Sample: MW-47A(66-68) **Lab ID: 50328669004** Collected: 10/17/22 13:47 Received: 10/18/22 14:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis							
Sulfate	**10.8**	mg/kg	2.6	1	10/20/22 11:20	10/23/22 15:33	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis							
Calcium	**7070**	mg/kg	48.6	1	10/20/22 08:18	10/21/22 11:16	7440-70-2	
Iron	**12700**	mg/kg	48.6	1	10/20/22 08:18	10/20/22 18:54	7439-89-6	
Lithium	ND	mg/kg	4.9	1	10/20/22 08:18	10/20/22 18:54	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis							
Arsenic	**3.0**	mg/kg	0.54	5	10/24/22 00:35	10/24/22 16:03	7440-38-2	
Boron	**1.2**	mg/kg	0.54	1	10/24/22 00:35	10/24/22 16:47	7440-42-8	N2
Manganese	**131**	mg/kg	1.1	10	10/24/22 00:35	10/24/22 15:15	7439-96-5	
Molybdenum	**0.81**	mg/kg	0.54	5	10/24/22 00:35	10/24/22 16:03	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis							
Percent Moisture	**8.3**	%	0.10	1		10/21/22 12:04		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.1**	Std. Units	0.10	1		10/20/22 10:58		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay							
Total Organic Carbon	ND	mg/kg	660	1		10/25/22 06:55	7440-44-0	
Total Organic Carbon	ND	mg/kg	660	1		10/25/22 07:01	7440-44-0	
Total Organic Carbon	ND	mg/kg	661	1		10/25/22 07:06	7440-44-0	
Total Organic Carbon	**712**	mg/kg	660	1		10/25/22 07:12	7440-44-0	
Mean Total Organic Carbon	ND	mg/kg	660	1		10/25/22 06:55	7440-44-0	
Surrogates								
RSD%	**15.2**	%		1		10/25/22 06:55		

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

QC Batch: 701523 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

METHOD BLANK: 3224919 Matrix: Solid
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	2.5	10/23/22 11:14	N2

LABORATORY CONTROL SAMPLE: 3224920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	24.9	25.1	101	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3224921 3224922

Parameter	Units	50328669001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	43.5	27.4	27.2	81.4	77.2	138	124	80-120	5	15	M0, N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

QC Batch: 701521
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

METHOD BLANK: 3224900 Matrix: Solid
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/kg	ND	50.0	10/21/22 14:48	
Iron	mg/kg	ND	50.0	10/20/22 14:52	
Lithium	mg/kg	ND	5.0	10/20/22 14:52	N2

LABORATORY CONTROL SAMPLE: 3224901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/kg	500	512	102	80-120	
Iron	mg/kg	500	486	97	80-120	
Lithium	mg/kg	50	53.4	107	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3224902 3224903

Parameter	Units	50328666003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/kg	69200	533	511	73300	69600	778	86	75-125	5	20	E,IC, P6
Iron	mg/kg	13600	533	511	15400	14800	320	224	75-125	4	20	P6
Lithium	mg/kg	17.1	53.3	51.1	81.6	78.2	121	120	75-125	4	20	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

QC Batch: 702019
QC Batch Method: EPA 3050B
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

METHOD BLANK: 3227070 Matrix: Solid
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.10	10/24/22 14:31	
Boron	mg/kg	ND	0.50	10/24/22 14:31	N2
Manganese	mg/kg	ND	0.10	10/24/22 14:31	
Molybdenum	mg/kg	ND	0.10	10/24/22 14:31	N2

LABORATORY CONTROL SAMPLE: 3227071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	4	4.0	101	80-120	
Boron	mg/kg	4	4.2	105	80-120	N2
Manganese	mg/kg	4	4.2	104	80-120	
Molybdenum	mg/kg	4	3.9	98	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3227072 3227073

Parameter	Units	50328669001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	5.8	4.2	4.2	8.0	8.0	53	51	75-125	1	20	M0,M3
Boron	mg/kg	0.75	4.2	4.2	6.2	6.0	128	125	75-125	2	20	M0,N2
Manganese	mg/kg	463	4.2	4.2	739	684	6500	5210	75-125	8	20	P6
Molybdenum	mg/kg	ND	4.2	4.2	4.5	4.5	96	95	75-125	1	20	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

QC Batch: 702020
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

SAMPLE DUPLICATE: 3227074

Parameter	Units	50328529001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.5	17.0	9	5	N2,R1

SAMPLE DUPLICATE: 3227075

Parameter	Units	50328475005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.2	11.6	4	5	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

QC Batch: 701597
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

SAMPLE DUPLICATE: 3225290

Parameter	Units	50328669001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.2	1	2	H3

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

QC Batch: 429486 | Analysis Method: EPA 9060
QC Batch Method: EPA 9060 | Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

METHOD BLANK: 2474075 Matrix: Solid
Associated Lab Samples: 50328669001, 50328669002, 50328669003, 50328669004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	600	10/25/22 03:54	

LABORATORY CONTROL SAMPLE: 2474076

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	120000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2474077 2474078

Parameter	Units	50328669001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	1960	6600	6590	6920	7150	75	79	50-152	3	20	

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(317)228-3100

QUALIFIERS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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.
IC	The initial calibration for this compound was outside of method control limits. The result is estimated.
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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50328669

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50328669001	**MW-46A(62-64)**	EPA 300.0	701523	EPA 300.0	701780
50328669002	**MW-46B(24-26)**	EPA 300.0	701523	EPA 300.0	701780
50328669003	**MW-46I(44-46)**	EPA 300.0	701523	EPA 300.0	701780
50328669004	**MW-47A(66-68)**	EPA 300.0	701523	EPA 300.0	701780
50328669001	**MW-46A(62-64)**	EPA 3050	701521	EPA 6010	701832
50328669002	**MW-46B(24-26)**	EPA 3050	701521	EPA 6010	701832
50328669003	**MW-46I(44-46)**	EPA 3050	701521	EPA 6010	701832
50328669004	**MW-47A(66-68)**	EPA 3050	701521	EPA 6010	701832
50328669001	**MW-46A(62-64)**	EPA 3050B	702019	EPA 6020	702233
50328669002	**MW-46B(24-26)**	EPA 3050B	702019	EPA 6020	702233
50328669003	**MW-46I(44-46)**	EPA 3050B	702019	EPA 6020	702233
50328669004	**MW-47A(66-68)**	EPA 3050B	702019	EPA 6020	702233
50328669001	**MW-46A(62-64)**	SM 2540G	702020		
50328669002	**MW-46B(24-26)**	SM 2540G	702020		
50328669003	**MW-46I(44-46)**	SM 2540G	702020		
50328669004	**MW-47A(66-68)**	SM 2540G	702020		
50328669001	**MW-46A(62-64)**	EPA 9045	701597		
50328669002	**MW-46B(24-26)**	EPA 9045	701597		
50328669003	**MW-46I(44-46)**	EPA 9045	701597		
50328669004	**MW-47A(66-68)**	EPA 9045	701597		
50328669001	**MW-46A(62-64)**	EPA 9060	429486		
50328669001	**MW-46A(62-64)**	EPA 9060	429487		
50328669002	**MW-46B(24-26)**	EPA 9060	429486		
50328669002	**MW-46B(24-26)**	EPA 9060	429487		
50328669003	**MW-46I(44-46)**	EPA 9060	429486		
50328669003	**MW-46I(44-46)**	EPA 9060	429487		
50328669004	**MW-47A(66-68)**	EPA 9060	429486		
50328669004	**MW-47A(66-68)**	EPA 9060	429487		

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WO# : 50328669

50328669

Pace

CHAIN-OF-CUSTODY / An

The Chain-of-Custody is a LEGAL DOCU

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and C

pdf.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax	Project Name:	AES PB 2022 On-Site MW Soil	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/20

Regulatory Agency
State / Location
IN

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Ca, Fe, Li by 6010	As, B, Mn, Mo by 6020	pH by 9045	Sulfate by 300.0 IC	TOC by 9060 to Pace GB	Residual Chlorine (Y/N)	
1	MW-46A (62-64)					10-17-22	1300		2	2									X	X	X	X	X		001
2	MW-46B (24-26)						1331		2	2									X	X	X	X	X		002
3	MW-46I (44-46)						1318		2	2									X	X	X	X	X		003
4	MW-47A (66-68)						1347		2	2									X	X	X	X	X		004
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Colton Palmer	10-17-22	/	Zebulon Pace	10/18/22	1340				
	Zebulon Pace	10/18/22	1430	Amber Hardin Pace	10/18/22	14:30	1.1	Y	N	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:	Colton Palmer					
SIGNATURE of SAMPLER:	Colton Palmer	DATE Signed: 10-17-22				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 10/18/22 15:38 AH

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(s):** 1.0/1.1 | | | |

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			✓
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
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)		✓	Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER				Matrix	Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																											Red	Yellow	Green	Black
COC Line Item	WGFU	DI	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				HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1	1								1																			SL				
2	↓								↓																			↓				
3																																
4	↓								↓																			↓				
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

November 04, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on October 28, 2022. 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 - Green Bay
- Pace Analytical Services - Indianapolis

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

Sincerely,

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-21-8
Virginia VELAP Certification ID: 11873
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-21-00008
Federal Fish & Wildlife Permit #: 51774A

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: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50329629001	**MW-38A (62-64)**	Solid	10/18/22 16:50	10/28/22 14:35
50329629002	**MW-38I (44-46)**	Solid	10/19/22 09:10	10/28/22 14:35
50329629003	**MW-38B (24-26)**	Solid	10/19/22 11:00	10/28/22 14:35
50329629004	**MW-39A (62-64)**	Solid	10/19/22 16:10	10/28/22 14:35
50329629005	**MW-39I (44-46)**	Solid	10/20/22 09:10	10/28/22 14:35
50329629006	**MW-39B (28-30)**	Solid	10/20/22 10:50	10/28/22 14:35
50329629007	**MW-41A (62-64)**	Solid	10/28/22 11:22	10/28/22 14:35
50329629008	**MW-41I (44-46)**	Solid	10/28/22 11:31	10/28/22 14:35
50329629009	**MW-41B (24-26)**	Solid	10/28/22 11:40	10/28/22 14:35
50329629010	**MW-47I (46-48)**	Solid	10/28/22 11:54	10/28/22 14:35
50329629011	**MW-47B (24-26)**	Solid	10/28/22 12:02	10/28/22 14:35
50329629012	**DUP-3**	Solid	10/18/22 08:00	10/28/22 14:35

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50329629001	**MW-38A (62-64)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629002	**MW-38I (44-46)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629003	**MW-38B (24-26)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629004	**MW-39A (62-64)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629005	**MW-39I (44-46)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629006	**MW-39B (28-30)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629007	**MW-41A (62-64)**	EPA 300.0	ADM	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629008	**MW-41I (44-46)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629009	**MW-41B (24-26)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629010	**MW-47I (46-48)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629011	**MW-47B (24-26)**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G
50329629012	**DUP-3**	EPA 300.0	ADM	1	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2540G	IRH	1	PASI-I
		EPA 9045	TAY	1	PASI-I
		EPA 9060	TJJ	6	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-I = Pace Analytical Services - Indianapolis

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50329629001	**MW-38A (62-64)**					
EPA 300.0	Sulfate	266	mg/kg	27.9	11/01/22 15:40	N2
EPA 6010	Calcium	93100	mg/kg	1130	11/04/22 02:20	
EPA 6010	Iron	4650	mg/kg	56.4	11/04/22 01:48	
EPA 6020	Arsenic	1.1	mg/kg	0.22	11/02/22 06:19	
EPA 6020	Boron	6.9	mg/kg	1.1	11/02/22 06:19	N2
EPA 6020	Manganese	289	mg/kg	2.2	11/02/22 05:06	
EPA 6020	Molybdenum	0.60	mg/kg	0.22	11/02/22 06:19	N2
SM 2540G	Percent Moisture	12.9	%	0.10	10/29/22 10:29	N2
EPA 9045	pH at 25 Degrees C	6.9	Std. Units	0.10	11/01/22 12:49	H3
EPA 9060	Total Organic Carbon	13500	mg/kg	2650	11/02/22 02:06	
EPA 9060	Total Organic Carbon	12100	mg/kg	2700	11/02/22 02:11	
EPA 9060	Total Organic Carbon	13800	mg/kg	2700	11/02/22 02:17	
EPA 9060	Total Organic Carbon	6640	mg/kg	2690	11/02/22 02:24	
EPA 9060	Mean Total Organic Carbon	11500	mg/kg	2690	11/02/22 02:06	
EPA 9060	RSD%	28.9	%		11/02/22 02:06	
50329629002	**MW-38I (44-46)**					
EPA 300.0	Sulfate	277	mg/kg	29.7	11/01/22 16:25	N2
EPA 6010	Calcium	82900	mg/kg	1110	11/04/22 02:39	
EPA 6010	Iron	6960	mg/kg	55.3	11/04/22 01:59	
EPA 6020	Arsenic	2.2	mg/kg	0.23	11/02/22 06:28	
EPA 6020	Boron	7.2	mg/kg	1.2	11/02/22 06:28	N2
EPA 6020	Manganese	364	mg/kg	2.9	11/02/22 05:10	
EPA 6020	Molybdenum	0.59	mg/kg	0.23	11/02/22 06:28	N2
SM 2540G	Percent Moisture	16.9	%	0.10	10/31/22 07:48	N2
EPA 9045	pH at 25 Degrees C	6.8	Std. Units	0.10	11/01/22 12:50	H3
EPA 9060	Total Organic Carbon	15000	mg/kg	2650	11/02/22 03:23	
EPA 9060	Total Organic Carbon	17300	mg/kg	2670	11/02/22 03:30	
EPA 9060	Total Organic Carbon	17200	mg/kg	2670	11/02/22 03:36	
EPA 9060	Total Organic Carbon	14700	mg/kg	2630	11/02/22 03:42	
EPA 9060	Mean Total Organic Carbon	16000	mg/kg	2660	11/02/22 03:23	
EPA 9060	RSD%	8.7	%		11/02/22 03:23	
50329629003	**MW-38B (24-26)**					
EPA 300.0	Sulfate	17.9	mg/kg	3.0	10/31/22 17:06	N2
EPA 6010	Calcium	35000	mg/kg	249	11/04/22 02:42	
EPA 6010	Iron	6520	mg/kg	49.8	11/04/22 02:05	
EPA 6020	Arsenic	2.5	mg/kg	0.22	11/02/22 06:32	
EPA 6020	Boron	2.7	mg/kg	1.1	11/02/22 06:32	N2
EPA 6020	Manganese	355	mg/kg	2.8	11/02/22 05:13	
SM 2540G	Percent Moisture	16.3	%	0.10	10/31/22 07:48	N2
EPA 9045	pH at 25 Degrees C	7.5	Std. Units	0.10	11/01/22 12:51	H3
EPA 9060	Total Organic Carbon	6830	mg/kg	716	11/03/22 06:54	
EPA 9060	Total Organic Carbon	6880	mg/kg	716	11/03/22 06:59	
EPA 9060	Total Organic Carbon	6330	mg/kg	715	11/03/22 07:05	
EPA 9060	Total Organic Carbon	6720	mg/kg	711	11/03/22 07:12	
EPA 9060	Mean Total Organic Carbon	6690	mg/kg	715	11/03/22 06:54	
EPA 9060	RSD%	3.7	%		11/03/22 06:54	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50329629004	**MW-39A (62-64)**					
EPA 300.0	Sulfate	330	mg/kg	28.8	11/01/22 17:09	N2
EPA 6010	Calcium	78800	mg/kg	1080	11/04/22 02:44	
EPA 6010	Iron	4380	mg/kg	53.8	11/04/22 02:07	
EPA 6020	Arsenic	1.3	mg/kg	0.23	11/02/22 06:35	
EPA 6020	Boron	9.5	mg/kg	1.2	11/02/22 06:35	N2
EPA 6020	Manganese	256	mg/kg	2.3	11/02/22 05:16	
EPA 6020	Molybdenum	0.85	mg/kg	0.23	11/02/22 06:35	N2
SM 2540G	Percent Moisture	15.8	%	0.10	10/31/22 07:48	N2
EPA 9045	pH at 25 Degrees C	7.1	Std. Units	0.10	11/01/22 12:53	H3
EPA 9060	Total Organic Carbon	24200	mg/kg	1400	11/03/22 07:18	
EPA 9060	Total Organic Carbon	22900	mg/kg	1390	11/03/22 07:24	
EPA 9060	Total Organic Carbon	24100	mg/kg	1390	11/03/22 07:29	
EPA 9060	Total Organic Carbon	23600	mg/kg	1390	11/03/22 07:35	
EPA 9060	Mean Total Organic Carbon	23700	mg/kg	1390	11/03/22 07:18	
EPA 9060	RSD%	2.5	%		11/03/22 07:18	
50329629005	**MW-39I (44-46)**					
EPA 300.0	Sulfate	311	mg/kg	29.3	11/01/22 17:24	N2
EPA 6010	Calcium	89700	mg/kg	1200	11/04/22 02:46	
EPA 6010	Iron	4630	mg/kg	60.0	11/04/22 02:10	
EPA 6020	Arsenic	2.8	mg/kg	0.22	11/02/22 06:38	
EPA 6020	Boron	8.3	mg/kg	1.1	11/02/22 06:38	N2
EPA 6020	Manganese	311	mg/kg	2.8	11/02/22 05:19	
EPA 6020	Molybdenum	0.53	mg/kg	0.22	11/02/22 06:38	N2
SM 2540G	Percent Moisture	18.2	%	0.10	10/31/22 07:48	N2
EPA 9045	pH at 25 Degrees C	7.7	Std. Units	0.10	11/01/22 12:53	H3
EPA 9060	Total Organic Carbon	21900	mg/kg	733	11/03/22 07:41	
EPA 9060	Total Organic Carbon	22300	mg/kg	727	11/03/22 07:46	
EPA 9060	Total Organic Carbon	22800	mg/kg	728	11/03/22 07:52	
EPA 9060	Total Organic Carbon	22200	mg/kg	729	11/03/22 07:58	
EPA 9060	Mean Total Organic Carbon	22300	mg/kg	729	11/03/22 07:41	
EPA 9060	RSD%	1.7	%		11/03/22 07:41	
50329629006	**MW-39B (28-30)**					
EPA 300.0	Sulfate	13.9	mg/kg	2.9	10/31/22 17:53	N2
EPA 6010	Calcium	23000	mg/kg	267	11/04/22 02:48	
EPA 6010	Iron	8390	mg/kg	53.4	11/04/22 02:12	
EPA 6020	Arsenic	7.0	mg/kg	0.24	11/02/22 06:42	
EPA 6020	Boron	2.5	mg/kg	1.2	11/02/22 06:42	N2
EPA 6020	Manganese	171	mg/kg	1.2	11/02/22 05:29	
SM 2540G	Percent Moisture	19.6	%	0.10	10/31/22 07:48	N2
EPA 9045	pH at 25 Degrees C	7.4	Std. Units	0.10	11/01/22 12:54	H3
EPA 9060	Total Organic Carbon	4560	mg/kg	752	11/03/22 08:04	
EPA 9060	Total Organic Carbon	5300	mg/kg	752	11/03/22 08:09	
EPA 9060	Total Organic Carbon	4000	mg/kg	750	11/03/22 08:14	
EPA 9060	Total Organic Carbon	4720	mg/kg	749	11/03/22 08:20	
EPA 9060	Mean Total Organic Carbon	4650	mg/kg	751	11/03/22 08:04	
EPA 9060	RSD%	11.5	%		11/03/22 08:04	

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50329629007	**MW-41A (62-64)**					
EPA 300.0	Sulfate	9.7	mg/kg	2.6	10/31/22 18:09	N2
EPA 6010	Calcium	107000	mg/kg	1000	11/04/22 02:50	
EPA 6010	Iron	6430	mg/kg	50.0	11/04/22 02:14	
EPA 6010	Lithium	6.3	mg/kg	5.0	11/04/22 02:14	N2
EPA 6020	Arsenic	1.4	mg/kg	0.49	11/02/22 06:45	
EPA 6020	Boron	4.0	mg/kg	0.99	11/02/22 06:48	N2
EPA 6020	Manganese	345	mg/kg	2.5	11/02/22 05:32	
SM 2540G	Percent Moisture	3.3	%	0.10	10/31/22 07:48	N2
EPA 9045	pH at 25 Degrees C	7.7	Std. Units	0.10	11/01/22 12:55	H3
EPA 9060	Total Organic Carbon	9250	mg/kg	1100	11/03/22 08:25	
EPA 9060	Total Organic Carbon	8000	mg/kg	1090	11/03/22 08:30	
EPA 9060	Total Organic Carbon	6730	mg/kg	1090	11/03/22 08:35	
EPA 9060	Total Organic Carbon	7740	mg/kg	1100	11/03/22 08:42	
EPA 9060	Mean Total Organic Carbon	7930	mg/kg	1090	11/03/22 08:25	
EPA 9060	RSD%	13.1	%		11/03/22 08:25	
50329629008	**MW-41I (44-46)**					
EPA 300.0	Sulfate	22.1	mg/kg	2.7	10/31/22 18:25	N2
EPA 6010	Calcium	87500	mg/kg	944	11/04/22 02:56	
EPA 6010	Iron	3950	mg/kg	47.2	11/04/22 02:16	
EPA 6020	Arsenic	0.77	mg/kg	0.21	11/02/22 06:52	
EPA 6020	Boron	5.0	mg/kg	1.0	11/02/22 06:52	N2
EPA 6020	Manganese	258	mg/kg	2.1	11/02/22 05:36	
EPA 6020	Molybdenum	0.37	mg/kg	0.21	11/02/22 06:52	N2
SM 2540G	Percent Moisture	10.9	%	0.10	10/31/22 07:48	N2
EPA 9045	pH at 25 Degrees C	7.0	Std. Units	0.10	11/01/22 12:56	H3
EPA 9060	Total Organic Carbon	8070	mg/kg	2450	11/03/22 08:47	
EPA 9060	Total Organic Carbon	8200	mg/kg	2440	11/03/22 08:52	
EPA 9060	Total Organic Carbon	8190	mg/kg	2450	11/03/22 08:58	
EPA 9060	Total Organic Carbon	8170	mg/kg	2470	11/03/22 09:03	
EPA 9060	Mean Total Organic Carbon	8160	mg/kg	2450	11/03/22 08:47	
EPA 9060	RSD%	0.73	%		11/03/22 08:47	
50329629009	**MW-41B (24-26)**					
EPA 300.0	Sulfate	4.8	mg/kg	2.7	10/31/22 18:41	N2
EPA 6010	Calcium	20400	mg/kg	260	11/04/22 02:58	
EPA 6010	Iron	5690	mg/kg	51.9	11/04/22 02:18	
EPA 6020	Arsenic	1.9	mg/kg	0.22	11/02/22 06:55	
EPA 6020	Boron	2.8	mg/kg	1.1	11/02/22 06:55	N2
EPA 6020	Manganese	95.1	mg/kg	1.1	11/02/22 05:39	
SM 2540G	Percent Moisture	13.0	%	0.10	10/31/22 07:49	N2
EPA 9045	pH at 25 Degrees C	7.1	Std. Units	0.10	11/01/22 12:57	H3
EPA 9060	Total Organic Carbon	2070	mg/kg	693	11/03/22 09:08	
EPA 9060	Total Organic Carbon	2110	mg/kg	691	11/03/22 09:13	
EPA 9060	Total Organic Carbon	2380	mg/kg	695	11/03/22 09:18	
EPA 9060	Total Organic Carbon	2550	mg/kg	694	11/03/22 09:23	
EPA 9060	Mean Total Organic Carbon	2280	mg/kg	693	11/03/22 09:08	
EPA 9060	RSD%	10	%		11/03/22 09:08	

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50329629010	**MW-47I (46-48)**					
EPA 300.0	Sulfate	22.3	mg/kg	2.6	10/31/22 18:57	N2
EPA 6010	Calcium	125000	mg/kg	1050	11/04/22 03:00	
EPA 6010	Iron	6470	mg/kg	52.3	11/04/22 02:33	
EPA 6020	Arsenic	4.0	mg/kg	0.20	11/02/22 06:58	
EPA 6020	Boron	4.0	mg/kg	1.0	11/02/22 06:58	N2
EPA 6020	Manganese	331	mg/kg	2.5	11/02/22 05:42	
EPA 6020	Molybdenum	0.31	mg/kg	0.20	11/02/22 06:58	N2
SM 2540G	Percent Moisture	5.1	%	0.10	10/31/22 07:49	N2
EPA 9045	pH at 25 Degrees C	6.8	Std. Units	0.10	11/01/22 12:59	H3
EPA 9060	Total Organic Carbon	4550	mg/kg	1800	11/03/22 09:29	
EPA 9060	Total Organic Carbon	4550	mg/kg	1790	11/03/22 09:34	
EPA 9060	Total Organic Carbon	4040	mg/kg	1790	11/03/22 09:39	
EPA 9060	Total Organic Carbon	3760	mg/kg	1760	11/03/22 09:45	
EPA 9060	Mean Total Organic Carbon	4230	mg/kg	1790	11/03/22 09:29	
EPA 9060	RSD%	9.3	%		11/03/22 09:29	
50329629011	**MW-47B (24-26)**					
EPA 300.0	Sulfate	36.3	mg/kg	3.0	10/31/22 19:13	N2
EPA 6010	Calcium	27100	mg/kg	263	11/04/22 03:03	
EPA 6010	Iron	4260	mg/kg	52.5	11/04/22 02:35	
EPA 6020	Arsenic	1.5	mg/kg	0.23	11/02/22 07:08	
EPA 6020	Boron	2.8	mg/kg	1.2	11/02/22 07:08	N2
EPA 6020	Manganese	74.1	mg/kg	0.58	11/02/22 05:46	
EPA 6020	Molybdenum	0.23	mg/kg	0.23	11/02/22 07:08	N2
SM 2540G	Percent Moisture	18.1	%	0.10	10/31/22 07:49	N2
EPA 9045	pH at 25 Degrees C	7.1	Std. Units	0.10	11/01/22 13:00	H3
EPA 9060	Total Organic Carbon	3860	mg/kg	735	11/03/22 09:50	
EPA 9060	Total Organic Carbon	3540	mg/kg	736	11/03/22 09:56	
EPA 9060	Total Organic Carbon	3820	mg/kg	738	11/03/22 10:01	
EPA 9060	Total Organic Carbon	3480	mg/kg	736	11/03/22 10:06	
EPA 9060	Mean Total Organic Carbon	3680	mg/kg	736	11/03/22 09:50	
EPA 9060	RSD%	5.2	%		11/03/22 09:50	
50329629012	**DUP-3**					
EPA 300.0	Sulfate	275	mg/kg	28.5	11/01/22 17:40	N2
EPA 6010	Calcium	75600	mg/kg	997	11/04/22 03:05	
EPA 6010	Iron	6080	mg/kg	49.9	11/04/22 02:37	
EPA 6020	Arsenic	1.3	mg/kg	0.21	11/02/22 07:11	
EPA 6020	Boron	6.7	mg/kg	1.1	11/02/22 07:11	N2
EPA 6020	Manganese	284	mg/kg	2.6	11/02/22 05:49	
EPA 6020	Molybdenum	0.86	mg/kg	0.21	11/02/22 07:11	N2
SM 2540G	Percent Moisture	13.2	%	0.10	10/29/22 10:29	N2
EPA 9045	pH at 25 Degrees C	6.4	Std. Units	0.10	11/01/22 13:02	H3
EPA 9060	Total Organic Carbon	12800	mg/kg	1280	11/03/22 10:11	
EPA 9060	Total Organic Carbon	13300	mg/kg	1280	11/03/22 10:17	
EPA 9060	Total Organic Carbon	13300	mg/kg	1270	11/03/22 10:22	
EPA 9060	Total Organic Carbon	12500	mg/kg	1270	11/03/22 10:28	
EPA 9060	Mean Total Organic Carbon	13000	mg/kg	1280	11/03/22 10:11	

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SUMMARY OF DETECTION

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50329629012	**DUP-3**					
EPA 9060	RSD%	3.1	%		11/03/22 10:11	

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-38A (62-64) **Lab ID: 50329629001** Collected: 10/18/22 16:50 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**266**	mg/kg	27.9	27.9	10	10/31/22 10:58	11/01/22 15:40	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**93100**	mg/kg	1130	395	20	11/02/22 12:18	11/04/22 02:20	7440-70-2	
Iron	**4650**	mg/kg	56.4	14.4	1	11/02/22 12:18	11/04/22 01:48	7439-89-6	
Lithium	ND	mg/kg	5.6	0.23	1	11/02/22 12:18	11/04/22 01:48	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**1.1**	mg/kg	0.22	0.0073	2	11/01/22 08:20	11/02/22 06:19	7440-38-2	
Boron	**6.9**	mg/kg	1.1	0.28	2	11/01/22 08:20	11/02/22 06:19	7440-42-8	N2
Manganese	**289**	mg/kg	2.2	0.10	20	11/01/22 08:20	11/02/22 05:06	7439-96-5	
Molybdenum	**0.60**	mg/kg	0.22	0.0058	2	11/01/22 08:20	11/02/22 06:19	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**12.9**	%	0.10	0.10	1		10/29/22 10:29		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.9**	Std. Units	0.10	0.10	1		11/01/22 12:49		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**13500**	mg/kg	2650	857	1		11/02/22 02:06	7440-44-0	
Total Organic Carbon	**12100**	mg/kg	2700	872	1		11/02/22 02:11	7440-44-0	
Total Organic Carbon	**13800**	mg/kg	2700	873	1		11/02/22 02:17	7440-44-0	
Total Organic Carbon	**6640**	mg/kg	2690	871	1		11/02/22 02:24	7440-44-0	
Mean Total Organic Carbon	**11500**	mg/kg	2690	869	1		11/02/22 02:06	7440-44-0	
Surrogates									
RSD%	**28.9**	%			1		11/02/22 02:06		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-38I (44-46) **Lab ID: 50329629002** Collected: 10/19/22 09:10 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**277**	mg/kg	29.7	29.7	10	10/31/22 10:58	11/01/22 16:25	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**82900**	mg/kg	1110	387	20	11/02/22 12:18	11/04/22 02:39	7440-70-2	
Iron	**6960**	mg/kg	55.3	14.2	1	11/02/22 12:18	11/04/22 01:59	7439-89-6	
Lithium	ND	mg/kg	5.5	0.23	1	11/02/22 12:18	11/04/22 01:59	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**2.2**	mg/kg	0.23	0.0077	2	11/01/22 08:20	11/02/22 06:28	7440-38-2	
Boron	**7.2**	mg/kg	1.2	0.30	2	11/01/22 08:20	11/02/22 06:28	7440-42-8	N2
Manganese	**364**	mg/kg	2.9	0.13	25	11/01/22 08:20	11/02/22 05:10	7439-96-5	
Molybdenum	**0.59**	mg/kg	0.23	0.0061	2	11/01/22 08:20	11/02/22 06:28	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**16.9**	%	0.10	0.10	1		10/31/22 07:48		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.8**	Std. Units	0.10	0.10	1		11/01/22 12:50		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**15000**	mg/kg	2650	857	1		11/02/22 03:23	7440-44-0	
Total Organic Carbon	**17300**	mg/kg	2670	863	1		11/02/22 03:30	7440-44-0	
Total Organic Carbon	**17200**	mg/kg	2670	863	1		11/02/22 03:36	7440-44-0	
Total Organic Carbon	**14700**	mg/kg	2630	852	1		11/02/22 03:42	7440-44-0	
Mean Total Organic Carbon	**16000**	mg/kg	2660	859	1		11/02/22 03:23	7440-44-0	
Surrogates									
RSD%	**8.7**	%			1		11/02/22 03:23		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-38B (24-26) **Lab ID: 50329629003** Collected: 10/19/22 11:00 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**17.9**	mg/kg	3.0	3.0	1	10/31/22 10:58	10/31/22 17:06	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**35000**	mg/kg	249	87.1	5	11/02/22 12:18	11/04/22 02:42	7440-70-2	
Iron	**6520**	mg/kg	49.8	12.7	1	11/02/22 12:18	11/04/22 02:05	7439-89-6	
Lithium	ND	mg/kg	5.0	0.21	1	11/02/22 12:18	11/04/22 02:05	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**2.5**	mg/kg	0.22	0.0074	2	11/01/22 08:20	11/02/22 06:32	7440-38-2	
Boron	**2.7**	mg/kg	1.1	0.29	2	11/01/22 08:20	11/02/22 06:32	7440-42-8	N2
Manganese	**355**	mg/kg	2.8	0.13	25	11/01/22 08:20	11/02/22 05:13	7439-96-5	
Molybdenum	ND	mg/kg	0.22	0.0059	2	11/01/22 08:20	11/02/22 06:32	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**16.3**	%	0.10	0.10	1		10/31/22 07:48		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.10	1		11/01/22 12:51		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**6830**	mg/kg	716	232	1		11/03/22 06:54	7440-44-0	
Total Organic Carbon	**6880**	mg/kg	716	232	1		11/03/22 06:59	7440-44-0	
Total Organic Carbon	**6330**	mg/kg	715	231	1		11/03/22 07:05	7440-44-0	
Total Organic Carbon	**6720**	mg/kg	711	230	1		11/03/22 07:12	7440-44-0	
Mean Total Organic Carbon	**6690**	mg/kg	715	231	1		11/03/22 06:54	7440-44-0	
Surrogates									
RSD%	**3.7**	%			1		11/03/22 06:54		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-39A (62-64) **Lab ID: 50329629004** Collected: 10/19/22 16:10 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**330**	mg/kg	28.8	28.8	10	10/31/22 10:58	11/01/22 17:09	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**78800**	mg/kg	1080	377	20	11/02/22 12:18	11/04/22 02:44	7440-70-2	
Iron	**4380**	mg/kg	53.8	13.8	1	11/02/22 12:18	11/04/22 02:07	7439-89-6	
Lithium	ND	mg/kg	5.4	0.22	1	11/02/22 12:18	11/04/22 02:07	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**1.3**	mg/kg	0.23	0.0079	2	11/01/22 08:20	11/02/22 06:35	7440-38-2	
Boron	**9.5**	mg/kg	1.2	0.31	2	11/01/22 08:20	11/02/22 06:35	7440-42-8	N2
Manganese	**256**	mg/kg	2.3	0.11	20	11/01/22 08:20	11/02/22 05:16	7439-96-5	
Molybdenum	**0.85**	mg/kg	0.23	0.0063	2	11/01/22 08:20	11/02/22 06:35	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**15.8**	%	0.10	0.10	1		10/31/22 07:48		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		11/01/22 12:53		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**24200**	mg/kg	1400	452	1		11/03/22 07:18	7440-44-0	
Total Organic Carbon	**22900**	mg/kg	1390	448	1		11/03/22 07:24	7440-44-0	
Total Organic Carbon	**24100**	mg/kg	1390	448	1		11/03/22 07:29	7440-44-0	
Total Organic Carbon	**23600**	mg/kg	1390	450	1		11/03/22 07:35	7440-44-0	
Mean Total Organic Carbon	**23700**	mg/kg	1390	450	1		11/03/22 07:18	7440-44-0	
Surrogates									
RSD%	**2.5**	%			1		11/03/22 07:18		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-39I (44-46) **Lab ID: 50329629005** Collected: 10/20/22 09:10 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**311**	mg/kg	29.3	29.3	10	10/31/22 10:58	11/01/22 17:24	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**89700**	mg/kg	1200	420	20	11/02/22 12:18	11/04/22 02:46	7440-70-2	
Iron	**4630**	mg/kg	60.0	15.3	1	11/02/22 12:18	11/04/22 02:10	7439-89-6	
Lithium	ND	mg/kg	6.0	0.25	1	11/02/22 12:18	11/04/22 02:10	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**2.8**	mg/kg	0.22	0.0075	2	11/01/22 08:20	11/02/22 06:38	7440-38-2	
Boron	**8.3**	mg/kg	1.1	0.29	2	11/01/22 08:20	11/02/22 06:38	7440-42-8	N2
Manganese	**311**	mg/kg	2.8	0.13	25	11/01/22 08:20	11/02/22 05:19	7439-96-5	
Molybdenum	**0.53**	mg/kg	0.22	0.0060	2	11/01/22 08:20	11/02/22 06:38	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**18.2**	%	0.10	0.10	1		10/31/22 07:48		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.7**	Std. Units	0.10	0.10	1		11/01/22 12:53		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**21900**	mg/kg	733	237	1		11/03/22 07:41	7440-44-0	
Total Organic Carbon	**22300**	mg/kg	727	235	1		11/03/22 07:46	7440-44-0	
Total Organic Carbon	**22800**	mg/kg	728	235	1		11/03/22 07:52	7440-44-0	
Total Organic Carbon	**22200**	mg/kg	729	236	1		11/03/22 07:58	7440-44-0	
Mean Total Organic Carbon	**22300**	mg/kg	729	236	1		11/03/22 07:41	7440-44-0	
Surrogates									
RSD%	**1.7**	%			1		11/03/22 07:41		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-39B (28-30) **Lab ID: 50329629006** Collected: 10/20/22 10:50 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**13.9**	mg/kg	2.9	2.9	1	10/31/22 10:58	10/31/22 17:53	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**23000**	mg/kg	267	93.4	5	11/02/22 12:18	11/04/22 02:48	7440-70-2	
Iron	**8390**	mg/kg	53.4	13.7	1	11/02/22 12:18	11/04/22 02:12	7439-89-6	
Lithium	ND	mg/kg	5.3	0.22	1	11/02/22 12:18	11/04/22 02:12	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**7.0**	mg/kg	0.24	0.0080	2	11/01/22 08:20	11/02/22 06:42	7440-38-2	
Boron	**2.5**	mg/kg	1.2	0.31	2	11/01/22 08:20	11/02/22 06:42	7440-42-8	N2
Manganese	**171**	mg/kg	1.2	0.056	10	11/01/22 08:20	11/02/22 05:29	7439-96-5	
Molybdenum	ND	mg/kg	0.24	0.0063	2	11/01/22 08:20	11/02/22 06:42	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**19.6**	%	0.10	0.10	1		10/31/22 07:48		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.10	1		11/01/22 12:54		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**4560**	mg/kg	752	243	1		11/03/22 08:04	7440-44-0	
Total Organic Carbon	**5300**	mg/kg	752	243	1		11/03/22 08:09	7440-44-0	
Total Organic Carbon	**4000**	mg/kg	750	242	1		11/03/22 08:14	7440-44-0	
Total Organic Carbon	**4720**	mg/kg	749	242	1		11/03/22 08:20	7440-44-0	
Mean Total Organic Carbon	**4650**	mg/kg	751	243	1		11/03/22 08:04	7440-44-0	
Surrogates									
RSD%	**11.5**	%			1		11/03/22 08:04		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-41A (62-64) **Lab ID: 50329629007** Collected: 10/28/22 11:22 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**9.7**	mg/kg	2.6	2.6	1	10/31/22 10:58	10/31/22 18:09	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**107000**	mg/kg	1000	350	20	11/02/22 12:18	11/04/22 02:50	7440-70-2	
Iron	**6430**	mg/kg	50.0	12.8	1	11/02/22 12:18	11/04/22 02:14	7439-89-6	
Lithium	**6.3**	mg/kg	5.0	0.21	1	11/02/22 12:18	11/04/22 02:14	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**1.4**	mg/kg	0.49	0.017	5	11/01/22 08:20	11/02/22 06:45	7440-38-2	
Boron	**4.0**	mg/kg	0.99	0.26	2	11/01/22 08:20	11/02/22 06:48	7440-42-8	N2
Manganese	**345**	mg/kg	2.5	0.12	25	11/01/22 08:20	11/02/22 05:32	7439-96-5	
Molybdenum	ND	mg/kg	0.49	0.013	5	11/01/22 08:20	11/02/22 06:45	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**3.3**	%	0.10	0.10	1		10/31/22 07:48		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.7**	Std. Units	0.10	0.10	1		11/01/22 12:55		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**9250**	mg/kg	1100	356	1		11/03/22 08:25	7440-44-0	
Total Organic Carbon	**8000**	mg/kg	1090	352	1		11/03/22 08:30	7440-44-0	
Total Organic Carbon	**6730**	mg/kg	1090	353	1		11/03/22 08:35	7440-44-0	
Total Organic Carbon	**7740**	mg/kg	1100	354	1		11/03/22 08:42	7440-44-0	
Mean Total Organic Carbon	**7930**	mg/kg	1090	354	1		11/03/22 08:25	7440-44-0	
Surrogates									
RSD%	**13.1**	%			1		11/03/22 08:25		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-41I (44-46) **Lab ID: 50329629008** Collected: 10/28/22 11:31 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**22.1**	mg/kg	2.7	2.7	1	10/31/22 10:58	10/31/22 18:25	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**87500**	mg/kg	944	331	20	11/02/22 12:18	11/04/22 02:56	7440-70-2	
Iron	**3950**	mg/kg	47.2	12.1	1	11/02/22 12:18	11/04/22 02:16	7439-89-6	
Lithium	ND	mg/kg	4.7	0.20	1	11/02/22 12:18	11/04/22 02:16	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**0.77**	mg/kg	0.21	0.0070	2	11/01/22 08:20	11/02/22 06:52	7440-38-2	
Boron	**5.0**	mg/kg	1.0	0.27	2	11/01/22 08:20	11/02/22 06:52	7440-42-8	N2
Manganese	**258**	mg/kg	2.1	0.098	20	11/01/22 08:20	11/02/22 05:36	7439-96-5	
Molybdenum	**0.37**	mg/kg	0.21	0.0056	2	11/01/22 08:20	11/02/22 06:52	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**10.9**	%	0.10	0.10	1		10/31/22 07:48		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.0**	Std. Units	0.10	0.10	1		11/01/22 12:56		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**8070**	mg/kg	2450	792	1		11/03/22 08:47	7440-44-0	
Total Organic Carbon	**8200**	mg/kg	2440	790	1		11/03/22 08:52	7440-44-0	
Total Organic Carbon	**8190**	mg/kg	2450	792	1		11/03/22 08:58	7440-44-0	
Total Organic Carbon	**8170**	mg/kg	2470	799	1		11/03/22 09:03	7440-44-0	
Mean Total Organic Carbon	**8160**	mg/kg	2450	793	1		11/03/22 08:47	7440-44-0	
Surrogates									
RSD%	**0.73**	%			1		11/03/22 08:47		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-41B (24-26) **Lab ID: 50329629009** Collected: 10/28/22 11:40 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**4.8**	mg/kg	2.7	2.7	1	10/31/22 10:58	10/31/22 18:41	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**20400**	mg/kg	260	90.9	5	11/02/22 12:18	11/04/22 02:58	7440-70-2	
Iron	**5690**	mg/kg	51.9	13.3	1	11/02/22 12:18	11/04/22 02:18	7439-89-6	
Lithium	ND	mg/kg	5.2	0.22	1	11/02/22 12:18	11/04/22 02:18	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**1.9**	mg/kg	0.22	0.0075	2	11/01/22 08:20	11/02/22 06:55	7440-38-2	
Boron	**2.8**	mg/kg	1.1	0.29	2	11/01/22 08:20	11/02/22 06:55	7440-42-8	N2
Manganese	**95.1**	mg/kg	1.1	0.052	10	11/01/22 08:20	11/02/22 05:39	7439-96-5	
Molybdenum	ND	mg/kg	0.22	0.0059	2	11/01/22 08:20	11/02/22 06:55	7439-98-7	D3,N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**13.0**	%	0.10	0.10	1		10/31/22 07:49		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		11/01/22 12:57		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**2070**	mg/kg	693	224	1		11/03/22 09:08	7440-44-0	
Total Organic Carbon	**2110**	mg/kg	691	223	1		11/03/22 09:13	7440-44-0	
Total Organic Carbon	**2380**	mg/kg	695	225	1		11/03/22 09:18	7440-44-0	
Total Organic Carbon	**2550**	mg/kg	694	225	1		11/03/22 09:23	7440-44-0	
Mean Total Organic Carbon	**2280**	mg/kg	693	224	1		11/03/22 09:08	7440-44-0	
Surrogates									
RSD%	**10**	%			1		11/03/22 09:08		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-47I (46-48) **Lab ID: 50329629010** Collected: 10/28/22 11:54 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**22.3**	mg/kg	2.6	2.6	1	10/31/22 10:58	10/31/22 18:57	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**125000**	mg/kg	1050	366	20	11/02/22 12:18	11/04/22 03:00	7440-70-2	
Iron	**6470**	mg/kg	52.3	13.4	1	11/02/22 12:18	11/04/22 02:33	7439-89-6	
Lithium	ND	mg/kg	5.2	0.22	1	11/02/22 12:18	11/04/22 02:33	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**4.0**	mg/kg	0.20	0.0068	2	11/01/22 08:20	11/02/22 06:58	7440-38-2	
Boron	**4.0**	mg/kg	1.0	0.27	2	11/01/22 08:20	11/02/22 06:58	7440-42-8	N2
Manganese	**331**	mg/kg	2.5	0.12	25	11/01/22 08:20	11/02/22 05:42	7439-96-5	
Molybdenum	**0.31**	mg/kg	0.20	0.0054	2	11/01/22 08:20	11/02/22 06:58	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**5.1**	%	0.10	0.10	1		10/31/22 07:49		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.8**	Std. Units	0.10	0.10	1		11/01/22 12:59		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**4550**	mg/kg	1800	581	1		11/03/22 09:29	7440-44-0	
Total Organic Carbon	**4550**	mg/kg	1790	579	1		11/03/22 09:34	7440-44-0	
Total Organic Carbon	**4040**	mg/kg	1790	580	1		11/03/22 09:39	7440-44-0	
Total Organic Carbon	**3760**	mg/kg	1760	571	1		11/03/22 09:45	7440-44-0	
Mean Total Organic Carbon	**4230**	mg/kg	1790	578	1		11/03/22 09:29	7440-44-0	
Surrogates									
RSD%	**9.3**	%			1		11/03/22 09:29		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: MW-47B (24-26) **Lab ID: 50329629011** Collected: 10/28/22 12:02 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
	Pace Analytical Services - Indianapolis								
Sulfate	**36.3**	mg/kg	3.0	3.0	1	10/31/22 10:58	10/31/22 19:13	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Indianapolis								
Calcium	**27100**	mg/kg	263	91.9	5	11/02/22 12:18	11/04/22 03:03	7440-70-2	
Iron	**4260**	mg/kg	52.5	13.4	1	11/02/22 12:18	11/04/22 02:35	7439-89-6	
Lithium	ND	mg/kg	5.3	0.22	1	11/02/22 12:18	11/04/22 02:35	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B								
	Pace Analytical Services - Indianapolis								
Arsenic	**1.5**	mg/kg	0.23	0.0077	2	11/01/22 08:20	11/02/22 07:08	7440-38-2	
Boron	**2.8**	mg/kg	1.2	0.30	2	11/01/22 08:20	11/02/22 07:08	7440-42-8	N2
Manganese	**74.1**	mg/kg	0.58	0.027	5	11/01/22 08:20	11/02/22 05:46	7439-96-5	
Molybdenum	**0.23**	mg/kg	0.23	0.0062	2	11/01/22 08:20	11/02/22 07:08	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	**18.1**	%	0.10	0.10	1		10/31/22 07:49		N2
9045 pH Soil	Analytical Method: EPA 9045								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		11/01/22 13:00		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**3860**	mg/kg	735	238	1		11/03/22 09:50	7440-44-0	
Total Organic Carbon	**3540**	mg/kg	736	238	1		11/03/22 09:56	7440-44-0	
Total Organic Carbon	**3820**	mg/kg	738	239	1		11/03/22 10:01	7440-44-0	
Total Organic Carbon	**3480**	mg/kg	736	238	1		11/03/22 10:06	7440-44-0	
Mean Total Organic Carbon	**3680**	mg/kg	736	238	1		11/03/22 09:50	7440-44-0	
Surrogates									
RSD%	**5.2**	%			1		11/03/22 09:50		

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ANALYTICAL RESULTS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Sample: DUP-3 **Lab ID: 50329629012** Collected: 10/18/22 08:00 Received: 10/28/22 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0 Pace Analytical Services - Indianapolis								
Sulfate	**275**	mg/kg	28.5	28.5	10	10/31/22 10:58	11/01/22 17:40	14808-79-8	N2
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis								
Calcium	**75600**	mg/kg	997	349	20	11/02/22 12:18	11/04/22 03:05	7440-70-2	
Iron	**6080**	mg/kg	49.9	12.8	1	11/02/22 12:18	11/04/22 02:37	7439-89-6	
Lithium	ND	mg/kg	5.0	0.21	1	11/02/22 12:18	11/04/22 02:37	7439-93-2	N2
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050B Pace Analytical Services - Indianapolis								
Arsenic	**1.3**	mg/kg	0.21	0.0070	2	11/01/22 08:20	11/02/22 07:11	7440-38-2	
Boron	**6.7**	mg/kg	1.1	0.28	2	11/01/22 08:20	11/02/22 07:11	7440-42-8	N2
Manganese	**284**	mg/kg	2.6	0.12	25	11/01/22 08:20	11/02/22 05:49	7439-96-5	
Molybdenum	**0.86**	mg/kg	0.21	0.0056	2	11/01/22 08:20	11/02/22 07:11	7439-98-7	N2
Percent Moisture	Analytical Method: SM 2540G Pace Analytical Services - Indianapolis								
Percent Moisture	**13.2**	%	0.10	0.10	1		10/29/22 10:29		N2
9045 pH Soil	Analytical Method: EPA 9045 Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.4**	Std. Units	0.10	0.10	1		11/01/22 13:02		H3
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**12800**	mg/kg	1280	413	1		11/03/22 10:11	7440-44-0	
Total Organic Carbon	**13300**	mg/kg	1280	414	1		11/03/22 10:17	7440-44-0	
Total Organic Carbon	**13300**	mg/kg	1270	412	1		11/03/22 10:22	7440-44-0	
Total Organic Carbon	**12500**	mg/kg	1270	410	1		11/03/22 10:28	7440-44-0	
Mean Total Organic Carbon	**13000**	mg/kg	1280	412	1		11/03/22 10:11	7440-44-0	
Surrogates									
RSD%	**3.1**	%			1		11/03/22 10:11		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

QC Batch: 703480 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50329629001, 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011, 50329629012

METHOD BLANK: 3234228 Matrix: Solid
Associated Lab Samples: 50329629001, 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011, 50329629012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/kg	ND	2.5	2.5	10/31/22 14:27	N2

LABORATORY CONTROL SAMPLE: 3234229

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	25	25.4	102	90-110	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234230 3234231

Parameter	Units	50329629001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	266	28.4	27.7	299	281	116	52	80-120	6	15	M0,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234232 3234233

Parameter	Units	50329629002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	277	27.8	29.2	294	306	60	101	80-120	4	15	M0,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

QC Batch: 703338
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50329629001, 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011, 50329629012

METHOD BLANK: 3233675 Matrix: Solid
Associated Lab Samples: 50329629001, 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011, 50329629012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/kg	ND	50.0	17.5	11/04/22 01:30	
Iron	mg/kg	ND	50.0	12.8	11/04/22 01:30	
Lithium	mg/kg	ND	5.0	0.21	11/04/22 01:30	N2

LABORATORY CONTROL SAMPLE: 3233676

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/kg	500	552	110	80-120	
Iron	mg/kg	500	532	106	80-120	
Lithium	mg/kg	50	54.0	108	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3233677 3233678

Parameter	Units	50329629001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/kg	93100	507	506	84700	84600	-1650	-1680	75-125	0	20	P6
Iron	mg/kg	4650	507	506	5070	5840	84	234	75-125	14	20	P6
Lithium	mg/kg	ND	50.7	50.6	58.1	57.4	106	105	75-125	1	20	N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

QC Batch: 703546
QC Batch Method: EPA 3050B
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50329629001, 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011, 50329629012

METHOD BLANK: 3234446 Matrix: Solid
Associated Lab Samples: 50329629001, 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011, 50329629012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.10	0.0034	11/02/22 00:42	
Boron	mg/kg	ND	0.50	0.13	11/02/22 04:30	N2
Manganese	mg/kg	ND	0.10	0.0047	11/02/22 00:42	
Molybdenum	mg/kg	ND	0.10	0.0027	11/02/22 00:42	N2

LABORATORY CONTROL SAMPLE: 3234447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	4	3.8	96	80-120	
Boron	mg/kg	4	4.1	102	80-120	N2
Manganese	mg/kg	4	4.0	100	80-120	
Molybdenum	mg/kg	4	4.1	103	80-120	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234448 3234449

Parameter	Units	50329442003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	4.7	4.2	4.6	6.8	8.1	51	74	75-125	16	20	M3
Boron	mg/kg	6.0	4.2	4.6	11.7	11.7	136	125	75-125	0	20	M0,N2
Manganese	mg/kg	227	4.2	4.6	218	237	-230	205	75-125	8	20	E,P6
Molybdenum	mg/kg	ND	4.2	4.6	4.1	4.7	74	82	75-125	14	20	M0,N2

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

QC Batch: 703351
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50329629001, 50329629012

SAMPLE DUPLICATE: 3233713

Parameter	Units	50329398017 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	17.0	16.3	5	5	N2

SAMPLE DUPLICATE: 3233714

Parameter	Units	50329398019 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.8	12.8	7	5	N2,R1

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

QC Batch: 703439
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011

SAMPLE DUPLICATE: 3234111

Parameter	Units	50329629002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	16.9	16.2	4	5	N2

SAMPLE DUPLICATE: 3234112

Parameter	Units	50329629009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.0	13.8	6	5	N2,R1

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

QC Batch: 703572
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50329629001, 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011, 50329629012

SAMPLE DUPLICATE: 3234538

Parameter	Units	50329629001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.0	1	2	H3

SAMPLE DUPLICATE: 3234539

Parameter	Units	50329548001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	13.0	13.1	0	2	H3,PO

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QUALITY CONTROL DATA

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

QC Batch: 430365 — Analysis Method: EPA 9060
QC Batch Method: EPA 9060 — Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 50329629001, 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011, 50329629012

METHOD BLANK: 2478481 — Matrix: Solid
Associated Lab Samples: 50329629001, 50329629002, 50329629003, 50329629004, 50329629005, 50329629006, 50329629007, 50329629008, 50329629009, 50329629010, 50329629011, 50329629012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	600	194	11/02/22 01:20	

LABORATORY CONTROL SAMPLE: 2478482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	115000	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2478483 2478484

Parameter	Units	50329629001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	11500	27000	27000	38800	38600	101	100	50-152	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2478485 2478486

Parameter	Units	50329629002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	16000	26400	26100	37100	35800	80	76	50-152	3	20	

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QUALIFIERS

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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.
PO	The reported result is outside the range of the pH buffer solutions used to check the calibration of the pH meter.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50329629001	**MW-38A (62-64)**	EPA 300.0	703480	EPA 300.0	703986
50329629002	**MW-38I (44-46)**	EPA 300.0	703480	EPA 300.0	703986
50329629003	**MW-38B (24-26)**	EPA 300.0	703480	EPA 300.0	703986
50329629004	**MW-39A (62-64)**	EPA 300.0	703480	EPA 300.0	703986
50329629005	**MW-39I (44-46)**	EPA 300.0	703480	EPA 300.0	703986
50329629006	**MW-39B (28-30)**	EPA 300.0	703480	EPA 300.0	703986
50329629007	**MW-41A (62-64)**	EPA 300.0	703480	EPA 300.0	703986
50329629008	**MW-41I (44-46)**	EPA 300.0	703480	EPA 300.0	703986
50329629009	**MW-41B (24-26)**	EPA 300.0	703480	EPA 300.0	703986
50329629010	**MW-47I (46-48)**	EPA 300.0	703480	EPA 300.0	703986
50329629011	**MW-47B (24-26)**	EPA 300.0	703480	EPA 300.0	703986
50329629012	**DUP-3**	EPA 300.0	703480	EPA 300.0	703986
50329629001	**MW-38A (62-64)**	EPA 3050	703338	EPA 6010	704360
50329629002	**MW-38I (44-46)**	EPA 3050	703338	EPA 6010	704360
50329629003	**MW-38B (24-26)**	EPA 3050	703338	EPA 6010	704360
50329629004	**MW-39A (62-64)**	EPA 3050	703338	EPA 6010	704360
50329629005	**MW-39I (44-46)**	EPA 3050	703338	EPA 6010	704360
50329629006	**MW-39B (28-30)**	EPA 3050	703338	EPA 6010	704360
50329629007	**MW-41A (62-64)**	EPA 3050	703338	EPA 6010	704360
50329629008	**MW-41I (44-46)**	EPA 3050	703338	EPA 6010	704360
50329629009	**MW-41B (24-26)**	EPA 3050	703338	EPA 6010	704360
50329629010	**MW-47I (46-48)**	EPA 3050	703338	EPA 6010	704360
50329629011	**MW-47B (24-26)**	EPA 3050	703338	EPA 6010	704360
50329629012	**DUP-3**	EPA 3050	703338	EPA 6010	704360
50329629001	**MW-38A (62-64)**	EPA 3050B	703546	EPA 6020	703812
50329629002	**MW-38I (44-46)**	EPA 3050B	703546	EPA 6020	703812
50329629003	**MW-38B (24-26)**	EPA 3050B	703546	EPA 6020	703812
50329629004	**MW-39A (62-64)**	EPA 3050B	703546	EPA 6020	703812
50329629005	**MW-39I (44-46)**	EPA 3050B	703546	EPA 6020	703812
50329629006	**MW-39B (28-30)**	EPA 3050B	703546	EPA 6020	703812
50329629007	**MW-41A (62-64)**	EPA 3050B	703546	EPA 6020	703812
50329629008	**MW-41I (44-46)**	EPA 3050B	703546	EPA 6020	703812
50329629009	**MW-41B (24-26)**	EPA 3050B	703546	EPA 6020	703812
50329629010	**MW-47I (46-48)**	EPA 3050B	703546	EPA 6020	703812
50329629011	**MW-47B (24-26)**	EPA 3050B	703546	EPA 6020	703812
50329629012	**DUP-3**	EPA 3050B	703546	EPA 6020	703812
50329629001	**MW-38A (62-64)**	SM 2540G	703351		
50329629002	**MW-38I (44-46)**	SM 2540G	703439		
50329629003	**MW-38B (24-26)**	SM 2540G	703439		
50329629004	**MW-39A (62-64)**	SM 2540G	703439		
50329629005	**MW-39I (44-46)**	SM 2540G	703439		
50329629006	**MW-39B (28-30)**	SM 2540G	703439		
50329629007	**MW-41A (62-64)**	SM 2540G	703439		
50329629008	**MW-41I (44-46)**	SM 2540G	703439		
50329629009	**MW-41B (24-26)**	SM 2540G	703439		
50329629010	**MW-47I (46-48)**	SM 2540G	703439		
50329629011	**MW-47B (24-26)**	SM 2540G	703439		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50329629012	DUP-3	SM 2540G	703351		
50329629001	MW-38A (62-64)	EPA 9045	703572		
50329629002	MW-38I (44-46)	EPA 9045	703572		
50329629003	MW-38B (24-26)	EPA 9045	703572		
50329629004	MW-39A (62-64)	EPA 9045	703572		
50329629005	MW-39I (44-46)	EPA 9045	703572		
50329629006	MW-39B (28-30)	EPA 9045	703572		
50329629007	MW-41A (62-64)	EPA 9045	703572		
50329629008	MW-41I (44-46)	EPA 9045	703572		
50329629009	MW-41B (24-26)	EPA 9045	703572		
50329629010	MW-47I (46-48)	EPA 9045	703572		
50329629011	MW-47B (24-26)	EPA 9045	703572		
50329629012	DUP-3	EPA 9045	703572		
50329629001	MW-38A (62-64)	EPA 9060	430365		
50329629001	MW-38A (62-64)	EPA 9060	430366		
50329629002	MW-38I (44-46)	EPA 9060	430365		
50329629002	MW-38I (44-46)	EPA 9060	430366		
50329629003	MW-38B (24-26)	EPA 9060	430365		
50329629003	MW-38B (24-26)	EPA 9060	430366		
50329629004	MW-39A (62-64)	EPA 9060	430365		
50329629004	MW-39A (62-64)	EPA 9060	430366		
50329629005	MW-39I (44-46)	EPA 9060	430365		
50329629005	MW-39I (44-46)	EPA 9060	430366		
50329629006	MW-39B (28-30)	EPA 9060	430365		
50329629006	MW-39B (28-30)	EPA 9060	430366		
50329629007	MW-41A (62-64)	EPA 9060	430365		
50329629007	MW-41A (62-64)	EPA 9060	430366		
50329629008	MW-41I (44-46)	EPA 9060	430365		
50329629008	MW-41I (44-46)	EPA 9060	430366		
50329629009	MW-41B (24-26)	EPA 9060	430365		
50329629009	MW-41B (24-26)	EPA 9060	430366		
50329629010	MW-47I (46-48)	EPA 9060	430365		
50329629010	MW-47I (46-48)	EPA 9060	430366		
50329629011	MW-47B (24-26)	EPA 9060	430365		
50329629011	MW-47B (24-26)	EPA 9060	430366		
50329629012	DUP-3	EPA 9060	430365		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES PB 2022 On-Site MW Soil
Pace Project No.: 50329629

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50329629012	**DUP-3**	EPA 9060	430366		

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WO#: 50329629

50329629

Pace

Submitting a sample via th

TODY / Analytical Request Document

a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A

Section C

Required Client Information:		Required Project Information:		Invoice Information:	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable - Paula Sedam
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Suite 100, Indianapolis, IN 46256			Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	317-313-8306 Fax	Project Name:	AES PB 2022 On-Site MW Soil	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10498/20

Regulatory Agency	
State / Location	IN

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Ca, Fe, Li by 6010	As, B, Mn, Mo by 6020	pH by 9045	Sulfate by 300.0 IC	TOC by 9060 to Pace GB	Residual Chlorine (Y/N)	
1	MW-38A (62-64)	SL	G			10/18/22	1650		2	2									X	X	X	X	X		001
2	MW-38I (44-46)					10/19/22	910		2	2									X	X	X	X	X		002
3	MW-38B (24-26)					10/19/22	1100		2	2									X	X	X	X	X		003
4	MW-39A (62-64)					10/19/22	1610		2	2									X	X	X	X	X		004
5	MW-39I (44-46)					10/20/22	910		2	2									X	X	X	X	X		005
6	MW-39B (28-30)					10/20/22	1050		2	2									X	X	X	X	X		006
7	MW-41A (62-64)					10/18/22	1122		2	2									X	X	X	X	X		007
8	MW-41I (44-46)						1131		2	2									X	X	X	X	X		008
9	MW-41B (24-26)						1140		2	2									X	X	X	X	X		009
10	MW-47I (46-48)						1154		2	2									X	X	X	X	X		010
11	MW-47B (24-26)						1202		2	2									X	X	X	X	X		011
12	DUP-3					10/18/22			2	2									X	X	X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		10-28-22			10/28/22	1405				
		10/28/22	1435		10/28/22	1435	4.0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palmer

SIGNATURE of SAMPLER: Colton Palmer

DATE Signed: 10-28-22

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

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DJ 10/28/22 1845

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(s):** 4.3/4.0 | | | |

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

Cooler temp should be above freezing to 6°C

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 preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			✓
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

Sample Container Count

** Place a RED dot on containers that are out of conformance **

		VIALS						AMBER GLASS							PLASTIC									OTHER				
COC Line Item	WGFU	MeOH (only) SBS DI 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
1																												SC
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
Red	Yellow	Green	Black
HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
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

Plastic

BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

ATTACHMENT C

PREDICTION LIMITS DOCUMENTATION

NOVEMBER 2021

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-2R	09/28/2016	ND	0.0500	5.0000	**
Antimony, total	ug/L	MW-2R	10/19/2016	ND	50.0000	5.0000	**
Antimony, total	ug/L	MW-2R	11/09/2016	ND	50.0000	5.0000	**
Antimony, total	ug/L	MW-2R	12/12/2016	ND	5.0000		
Antimony, total	ug/L	MW-2R	03/16/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-2R	03/17/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-2R	03/24/2017	ND	24.0000	5.0000	**
Antimony, total	ug/L	MW-2R	04/20/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-2R	04/24/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-2R	05/16/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-2R	06/20/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-2R	08/08/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-2R	05/09/2018	ND	5.0000		
Antimony, total	ug/L	MW-2R	09/12/2018	ND	1.4000	5.0000	**
Antimony, total	ug/L	MW-2R	05/16/2019	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-2R	11/06/2019	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-2R	05/13/2020	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-2R	11/03/2020	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-2R	05/05/2021	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-2R	11/01/2021	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-3	09/28/2016	ND	0.0500	5.0000	**
Antimony, total	ug/L	MW-3	10/19/2016	ND	50.0000	5.0000	**
Antimony, total	ug/L	MW-3	11/09/2016	ND	50.0000	5.0000	**
Antimony, total	ug/L	MW-3	12/12/2016	ND	5.0000		
Antimony, total	ug/L	MW-3	02/05/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-3	03/24/2017	ND	24.0000	5.0000	**
Antimony, total	ug/L	MW-3	05/25/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-3	06/20/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-3	08/08/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-3	05/09/2018	ND	5.0000		
Antimony, total	ug/L	MW-3	09/12/2018	ND	1.4000	5.0000	**
Antimony, total	ug/L	MW-3	05/16/2019	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-3	11/06/2019	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-3	05/13/2020	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-3	11/03/2020	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-3	05/05/2021	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-3	11/01/2021	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-4C	09/28/2016		0.2300		
Antimony, total	ug/L	MW-4C	10/19/2016	ND	50.0000	5.0000	**
Antimony, total	ug/L	MW-4C	11/09/2016	ND	50.0000	5.0000	**
Antimony, total	ug/L	MW-4C	12/12/2016	ND	5.0000		
Antimony, total	ug/L	MW-4C	02/05/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-4C	03/25/2017	ND	24.0000	5.0000	**
Antimony, total	ug/L	MW-4C	05/25/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-4C	06/20/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-4C	08/08/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-4C	05/09/2018	ND	5.0000		
Antimony, total	ug/L	MW-4C	09/12/2018	ND	1.4000	5.0000	**
Antimony, total	ug/L	MW-4C	05/16/2019	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-4C	11/06/2019	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-4C	05/13/2020	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-4C	11/03/2020	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-4C	05/05/2021	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-4C	11/01/2021	ND	1.0000	5.0000	**
Arsenic, total	ug/L	MW-2R	09/28/2016		4.3000		
Arsenic, total	ug/L	MW-2R	10/19/2016	ND	10.0000		
Arsenic, total	ug/L	MW-2R	11/09/2016		6.4000		
Arsenic, total	ug/L	MW-2R	12/12/2016	ND	5.0000	10.0000	**
Arsenic, total	ug/L	MW-2R	03/16/2017	ND	10.0000		
Arsenic, total	ug/L	MW-2R	03/17/2017	ND	10.0000		
Arsenic, total	ug/L	MW-2R	03/24/2017	ND	40.0000		*
Arsenic, total	ug/L	MW-2R	04/20/2017	ND	10.0000		
Arsenic, total	ug/L	MW-2R	04/24/2017	ND	10.0000		
Arsenic, total	ug/L	MW-2R	05/16/2017	ND	10.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Arsenic, total	ug/L	MW-2R	06/20/2017	ND	10.0000		
Arsenic, total	ug/L	MW-2R	08/08/2017	ND	10.0000		
Arsenic, total	ug/L	MW-2R	05/09/2018		31.0000		*
Arsenic, total	ug/L	MW-2R	09/12/2018		11.0000		
Arsenic, total	ug/L	MW-2R	05/16/2019		8.3000		
Arsenic, total	ug/L	MW-2R	11/06/2019		10.5000		
Arsenic, total	ug/L	MW-2R	05/13/2020		14.7000		
Arsenic, total	ug/L	MW-2R	11/03/2020		8.9000		
Arsenic, total	ug/L	MW-2R	05/05/2021		6.2000		
Arsenic, total	ug/L	MW-2R	11/01/2021		9.9000		
Arsenic, total	ug/L	MW-3	09/28/2016		4.0000		
Arsenic, total	ug/L	MW-3	10/19/2016	ND	10.0000		
Arsenic, total	ug/L	MW-3	11/09/2016		7.4000		
Arsenic, total	ug/L	MW-3	12/12/2016	ND	5.0000	10.0000	**
Arsenic, total	ug/L	MW-3	02/05/2017	ND	10.0000		
Arsenic, total	ug/L	MW-3	03/24/2017	ND	40.0000	10.0000	**
Arsenic, total	ug/L	MW-3	05/25/2017	ND	10.0000		
Arsenic, total	ug/L	MW-3	06/20/2017	ND	10.0000		
Arsenic, total	ug/L	MW-3	08/08/2017	ND	10.0000		
Arsenic, total	ug/L	MW-3	05/09/2018	ND	5.0000	10.0000	**
Arsenic, total	ug/L	MW-3	09/12/2018	ND	5.0000	10.0000	**
Arsenic, total	ug/L	MW-3	05/16/2019		12.9000		
Arsenic, total	ug/L	MW-3	11/06/2019		10.3000		
Arsenic, total	ug/L	MW-3	05/13/2020		16.2000		
Arsenic, total	ug/L	MW-3	11/03/2020		20.5000		
Arsenic, total	ug/L	MW-3	05/05/2021		17.0000		
Arsenic, total	ug/L	MW-3	11/01/2021		17.9000		
Arsenic, total	ug/L	MW-4C	09/28/2016		2.4000		
Arsenic, total	ug/L	MW-4C	10/19/2016	ND	10.0000		
Arsenic, total	ug/L	MW-4C	11/09/2016		4.9000		
Arsenic, total	ug/L	MW-4C	12/12/2016	ND	5.0000	10.0000	**
Arsenic, total	ug/L	MW-4C	02/05/2017	ND	10.0000		
Arsenic, total	ug/L	MW-4C	03/25/2017	ND	40.0000	10.0000	**
Arsenic, total	ug/L	MW-4C	05/25/2017	ND	10.0000		
Arsenic, total	ug/L	MW-4C	06/20/2017	ND	10.0000		
Arsenic, total	ug/L	MW-4C	08/08/2017	ND	10.0000		
Arsenic, total	ug/L	MW-4C	05/09/2018	ND	5.0000	10.0000	**
Arsenic, total	ug/L	MW-4C	09/12/2018	ND	1.2000	10.0000	**
Arsenic, total	ug/L	MW-4C	05/16/2019	ND	1.0000	10.0000	**
Arsenic, total	ug/L	MW-4C	11/06/2019	ND	1.0000	10.0000	**
Arsenic, total	ug/L	MW-4C	05/13/2020	ND	1.0000	10.0000	**
Arsenic, total	ug/L	MW-4C	11/03/2020	ND	1.0000	10.0000	**
Arsenic, total	ug/L	MW-4C	05/05/2021	ND	1.0000	10.0000	**
Arsenic, total	ug/L	MW-4C	11/01/2021	ND	1.0000	10.0000	**
Barium, total	ug/L	MW-2R	09/28/2016		43.0000		
Barium, total	ug/L	MW-2R	10/19/2016		37.0000		
Barium, total	ug/L	MW-2R	11/09/2016		37.0000		
Barium, total	ug/L	MW-2R	12/12/2016		29.0000		
Barium, total	ug/L	MW-2R	03/16/2017		53.0000		
Barium, total	ug/L	MW-2R	03/17/2017		66.0000		
Barium, total	ug/L	MW-2R	03/24/2017		54.0000		
Barium, total	ug/L	MW-2R	04/20/2017		46.0000		
Barium, total	ug/L	MW-2R	04/24/2017		56.0000		
Barium, total	ug/L	MW-2R	05/16/2017		46.0000		
Barium, total	ug/L	MW-2R	06/20/2017		45.0000		
Barium, total	ug/L	MW-2R	08/08/2017		42.0000		
Barium, total	ug/L	MW-2R	05/09/2018		73.0000		
Barium, total	ug/L	MW-2R	09/12/2018		44.0000		
Barium, total	ug/L	MW-2R	05/16/2019		35.5000		
Barium, total	ug/L	MW-2R	11/06/2019		39.0000		
Barium, total	ug/L	MW-2R	05/13/2020		42.5000		
Barium, total	ug/L	MW-2R	11/03/2020		45.0000		
Barium, total	ug/L	MW-2R	05/05/2021		44.6000		
Barium, total	ug/L	MW-2R	11/01/2021		54.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium, total	ug/L	MW-3	09/28/2016		32.0000		
Barium, total	ug/L	MW-3	10/19/2016		31.0000		
Barium, total	ug/L	MW-3	11/09/2016		36.0000		
Barium, total	ug/L	MW-3	12/12/2016		29.0000		
Barium, total	ug/L	MW-3	02/05/2017		37.0000		
Barium, total	ug/L	MW-3	03/24/2017		32.0000		
Barium, total	ug/L	MW-3	05/25/2017		36.0000		
Barium, total	ug/L	MW-3	06/20/2017		36.0000		
Barium, total	ug/L	MW-3	08/08/2017		40.0000		
Barium, total	ug/L	MW-3	05/09/2018		38.0000		
Barium, total	ug/L	MW-3	09/12/2018		45.0000		
Barium, total	ug/L	MW-3	05/16/2019		28.6000		
Barium, total	ug/L	MW-3	11/06/2019		42.8000		
Barium, total	ug/L	MW-3	05/13/2020		43.7000		
Barium, total	ug/L	MW-3	11/03/2020		39.4000		
Barium, total	ug/L	MW-3	05/05/2021		37.3000		
Barium, total	ug/L	MW-3	11/01/2021		38.2000		
Barium, total	ug/L	MW-4C	09/28/2016		27.0000		
Barium, total	ug/L	MW-4C	10/19/2016		28.0000		
Barium, total	ug/L	MW-4C	11/09/2016		32.0000		
Barium, total	ug/L	MW-4C	12/12/2016		26.0000		
Barium, total	ug/L	MW-4C	02/05/2017		30.0000		
Barium, total	ug/L	MW-4C	03/25/2017		25.0000		
Barium, total	ug/L	MW-4C	05/25/2017		28.0000		
Barium, total	ug/L	MW-4C	06/20/2017		27.0000		
Barium, total	ug/L	MW-4C	08/08/2017		27.0000		
Barium, total	ug/L	MW-4C	05/09/2018		14.0000		
Barium, total	ug/L	MW-4C	09/12/2018		29.0000		
Barium, total	ug/L	MW-4C	05/16/2019		26.2000		
Barium, total	ug/L	MW-4C	11/06/2019		29.1000		
Barium, total	ug/L	MW-4C	05/13/2020		28.3000		
Barium, total	ug/L	MW-4C	11/03/2020		30.7000		
Barium, total	ug/L	MW-4C	05/05/2021		28.6000		
Barium, total	ug/L	MW-4C	11/01/2021		30.7000		
Beryllium, total	ug/L	MW-2R	09/28/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-2R	10/19/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-2R	11/09/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-2R	12/12/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-2R	03/16/2017	ND	1.0000		
Beryllium, total	ug/L	MW-2R	03/17/2017	ND	1.0000		
Beryllium, total	ug/L	MW-2R	03/24/2017	ND	4.0000	1.0000	**
Beryllium, total	ug/L	MW-2R	04/20/2017	ND	1.0000		
Beryllium, total	ug/L	MW-2R	04/24/2017	ND	1.0000		
Beryllium, total	ug/L	MW-2R	05/16/2017	ND	1.0000		
Beryllium, total	ug/L	MW-2R	06/20/2017	ND	1.0000		
Beryllium, total	ug/L	MW-2R	08/08/2017	ND	1.0000		
Beryllium, total	ug/L	MW-2R	05/09/2018	ND	5.0000	1.0000	**
Beryllium, total	ug/L	MW-2R	09/12/2018	ND	0.6500	1.0000	**
Beryllium, total	ug/L	MW-2R	05/16/2019	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-2R	11/06/2019	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-2R	05/13/2020	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-2R	11/03/2020	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-2R	05/05/2021	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-2R	11/01/2021	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-3	09/28/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-3	10/19/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-3	11/09/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-3	12/12/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-3	02/05/2017	ND	4.0000	1.0000	**
Beryllium, total	ug/L	MW-3	03/24/2017	ND	4.0000	1.0000	**
Beryllium, total	ug/L	MW-3	05/25/2017	ND	1.0000		
Beryllium, total	ug/L	MW-3	06/20/2017	ND	1.0000		
Beryllium, total	ug/L	MW-3	08/08/2017	ND	1.0000		
Beryllium, total	ug/L	MW-3	05/09/2018	ND	5.0000	1.0000	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium, total	ug/L	MW-3	09/12/2018	ND	0.6500	1.0000	**
Beryllium, total	ug/L	MW-3	05/16/2019	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-3	11/06/2019	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-3	05/13/2020	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-3	11/03/2020	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-3	05/05/2021	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-3	11/01/2021	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-4C	09/28/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-4C	10/19/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-4C	11/09/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-4C	12/12/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-4C	02/05/2017	ND	4.0000	1.0000	**
Beryllium, total	ug/L	MW-4C	03/25/2017	ND	4.0000	1.0000	**
Beryllium, total	ug/L	MW-4C	05/25/2017	ND	1.0000		
Beryllium, total	ug/L	MW-4C	06/20/2017	ND	1.0000		
Beryllium, total	ug/L	MW-4C	08/08/2017	ND	1.0000		
Beryllium, total	ug/L	MW-4C	05/09/2018	ND	5.0000	1.0000	**
Beryllium, total	ug/L	MW-4C	09/12/2018	ND	0.6500	1.0000	**
Beryllium, total	ug/L	MW-4C	05/16/2019	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-4C	11/06/2019	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-4C	05/13/2020	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-4C	11/03/2020	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-4C	05/05/2021	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-4C	11/01/2021	ND	0.2000	1.0000	**
Cadmium, total	ug/L	MW-2R	09/28/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	10/19/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	11/09/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	12/12/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	03/16/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	03/17/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	03/24/2017	ND	4.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	04/20/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	04/24/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	05/16/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	06/20/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	08/08/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	05/09/2018	ND	5.0000	2.0000	**
Cadmium, total	ug/L	MW-2R	09/12/2018	ND	0.5500	2.0000	**
Cadmium, total	ug/L	MW-2R	05/16/2019	ND	2.0000		
Cadmium, total	ug/L	MW-2R	11/06/2019	ND	2.0000		
Cadmium, total	ug/L	MW-2R	05/13/2020	ND	2.0000		
Cadmium, total	ug/L	MW-2R	11/03/2020	ND	2.0000		
Cadmium, total	ug/L	MW-2R	05/05/2021	ND	2.0000		
Cadmium, total	ug/L	MW-2R	11/01/2021	ND	2.0000		
Cadmium, total	ug/L	MW-3	09/28/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-3	10/19/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-3	11/09/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-3	12/12/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-3	02/05/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-3	03/24/2017	ND	4.0000	2.0000	**
Cadmium, total	ug/L	MW-3	05/25/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-3	06/20/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-3	08/08/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-3	05/09/2018	ND	5.0000	2.0000	**
Cadmium, total	ug/L	MW-3	09/12/2018	ND	0.5500	2.0000	**
Cadmium, total	ug/L	MW-3	05/16/2019	ND	2.0000		
Cadmium, total	ug/L	MW-3	11/06/2019	ND	2.0000		
Cadmium, total	ug/L	MW-3	05/13/2020	ND	2.0000		
Cadmium, total	ug/L	MW-3	11/03/2020	ND	2.0000		
Cadmium, total	ug/L	MW-3	05/05/2021	ND	2.0000		
Cadmium, total	ug/L	MW-3	11/01/2021	ND	2.0000		
Cadmium, total	ug/L	MW-4C	09/28/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-4C	10/19/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-4C	11/09/2016	ND	10.0000	2.0000	**

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** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium, total	ug/L	MW-4C	12/12/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-4C	02/05/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-4C	03/25/2017	ND	4.0000	2.0000	**
Cadmium, total	ug/L	MW-4C	05/25/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-4C	06/20/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-4C	08/08/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-4C	05/09/2018	ND	5.0000	2.0000	**
Cadmium, total	ug/L	MW-4C	09/12/2018	ND	0.5500	2.0000	**
Cadmium, total	ug/L	MW-4C	05/16/2019	ND	2.0000		
Cadmium, total	ug/L	MW-4C	11/06/2019	ND	2.0000		
Cadmium, total	ug/L	MW-4C	05/13/2020	ND	2.0000		
Cadmium, total	ug/L	MW-4C	11/03/2020	ND	2.0000		
Cadmium, total	ug/L	MW-4C	05/05/2021	ND	2.0000		
Cadmium, total	ug/L	MW-4C	11/01/2021	ND	2.0000		
Chromium, total	ug/L	MW-2R	09/28/2016	ND	10.0000		
Chromium, total	ug/L	MW-2R	10/19/2016	ND	10.0000		
Chromium, total	ug/L	MW-2R	11/09/2016	ND	10.0000		
Chromium, total	ug/L	MW-2R	12/12/2016	ND	10.0000		
Chromium, total	ug/L	MW-2R	03/16/2017	ND	10.0000		
Chromium, total	ug/L	MW-2R	03/17/2017	ND	10.0000		
Chromium, total	ug/L	MW-2R	03/24/2017	ND	10.0000		
Chromium, total	ug/L	MW-2R	04/20/2017	ND	10.0000		
Chromium, total	ug/L	MW-2R	04/24/2017	ND	10.0000		
Chromium, total	ug/L	MW-2R	05/16/2017	ND	10.0000		
Chromium, total	ug/L	MW-2R	06/20/2017	ND	10.0000		
Chromium, total	ug/L	MW-2R	08/08/2017	ND	10.0000		
Chromium, total	ug/L	MW-2R	05/09/2018	ND	10.0000		
Chromium, total	ug/L	MW-2R	05/16/2019	ND	10.0000		
Chromium, total	ug/L	MW-2R	05/13/2020	ND	10.0000		
Chromium, total	ug/L	MW-2R	05/05/2021	ND	10.0000		
Chromium, total	ug/L	MW-2R	11/01/2021	ND	10.0000		
Chromium, total	ug/L	MW-3	09/28/2016	ND	10.0000		
Chromium, total	ug/L	MW-3	10/19/2016	ND	10.0000		
Chromium, total	ug/L	MW-3	11/09/2016	ND	10.0000		
Chromium, total	ug/L	MW-3	12/12/2016	ND	10.0000		
Chromium, total	ug/L	MW-3	02/05/2017	ND	10.0000		
Chromium, total	ug/L	MW-3	03/24/2017	ND	10.0000		
Chromium, total	ug/L	MW-3	05/25/2017	ND	10.0000		
Chromium, total	ug/L	MW-3	06/20/2017	ND	10.0000		
Chromium, total	ug/L	MW-3	08/08/2017	ND	10.0000		
Chromium, total	ug/L	MW-3	05/09/2018	ND	10.0000		
Chromium, total	ug/L	MW-3	05/16/2019	ND	10.0000		
Chromium, total	ug/L	MW-3	05/13/2020	ND	10.0000		
Chromium, total	ug/L	MW-3	05/05/2021	ND	10.0000		
Chromium, total	ug/L	MW-3	11/01/2021	ND	10.0000		
Chromium, total	ug/L	MW-4C	09/28/2016	ND	10.0000		
Chromium, total	ug/L	MW-4C	10/19/2016	ND	10.0000		
Chromium, total	ug/L	MW-4C	11/09/2016	ND	10.0000		
Chromium, total	ug/L	MW-4C	12/12/2016	ND	10.0000		
Chromium, total	ug/L	MW-4C	02/05/2017	ND	10.0000		
Chromium, total	ug/L	MW-4C	03/25/2017	ND	10.0000		
Chromium, total	ug/L	MW-4C	05/25/2017	ND	10.0000		
Chromium, total	ug/L	MW-4C	06/20/2017	ND	10.0000		
Chromium, total	ug/L	MW-4C	08/08/2017	ND	10.0000		
Chromium, total	ug/L	MW-4C	05/09/2018	ND	10.0000		
Chromium, total	ug/L	MW-4C	05/16/2019	ND	10.0000		
Chromium, total	ug/L	MW-4C	05/13/2020	ND	10.0000		
Chromium, total	ug/L	MW-4C	05/05/2021	ND	10.0000		
Chromium, total	ug/L	MW-4C	11/01/2021	ND	10.0000		
Cobalt, total	ug/L	MW-2R	09/28/2016	ND	20.0000		
Cobalt, total	ug/L	MW-2R	10/19/2016	ND	20.0000		
Cobalt, total	ug/L	MW-2R	11/09/2016	ND	20.0000		
Cobalt, total	ug/L	MW-2R	12/12/2016	ND	20.0000		
Cobalt, total	ug/L	MW-2R	03/16/2017	ND	20.0000		

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*** - ND value replaced with manual RL.
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Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cobalt, total	ug/L	MW-2R	03/17/2017	ND	20.0000		
Cobalt, total	ug/L	MW-2R	03/24/2017	ND	20.0000		
Cobalt, total	ug/L	MW-2R	04/20/2017	ND	20.0000		
Cobalt, total	ug/L	MW-2R	04/24/2017	ND	20.0000		
Cobalt, total	ug/L	MW-2R	05/16/2017	ND	20.0000		
Cobalt, total	ug/L	MW-2R	06/20/2017	ND	20.0000		
Cobalt, total	ug/L	MW-2R	08/08/2017	ND	20.0000		
Cobalt, total	ug/L	MW-2R	05/09/2018	ND	20.0000		
Cobalt, total	ug/L	MW-2R	09/12/2018	ND	3.6000	20.0000	**
Cobalt, total	ug/L	MW-2R	05/16/2019		3.3000		
Cobalt, total	ug/L	MW-2R	11/06/2019		3.1000		
Cobalt, total	ug/L	MW-2R	05/13/2020		2.8000		
Cobalt, total	ug/L	MW-2R	11/03/2020		3.1000		
Cobalt, total	ug/L	MW-2R	05/05/2021		2.9000		
Cobalt, total	ug/L	MW-2R	11/01/2021		2.2000		
Cobalt, total	ug/L	MW-3	09/28/2016	ND	20.0000		
Cobalt, total	ug/L	MW-3	10/19/2016	ND	20.0000		
Cobalt, total	ug/L	MW-3	11/09/2016	ND	20.0000		
Cobalt, total	ug/L	MW-3	12/12/2016	ND	20.0000		
Cobalt, total	ug/L	MW-3	02/05/2017	ND	20.0000		
Cobalt, total	ug/L	MW-3	03/24/2017	ND	20.0000		
Cobalt, total	ug/L	MW-3	05/25/2017	ND	20.0000		
Cobalt, total	ug/L	MW-3	06/20/2017	ND	20.0000		
Cobalt, total	ug/L	MW-3	08/08/2017	ND	20.0000		
Cobalt, total	ug/L	MW-3	05/09/2018	ND	20.0000		
Cobalt, total	ug/L	MW-3	09/12/2018	ND	3.6000	20.0000	**
Cobalt, total	ug/L	MW-3	05/16/2019		2.0000		
Cobalt, total	ug/L	MW-3	11/06/2019		2.6000		
Cobalt, total	ug/L	MW-3	05/13/2020		2.7000		
Cobalt, total	ug/L	MW-3	11/03/2020		2.1000		
Cobalt, total	ug/L	MW-3	05/05/2021		2.1000		
Cobalt, total	ug/L	MW-3	11/01/2021		2.3000		
Cobalt, total	ug/L	MW-4C	09/28/2016	ND	20.0000		
Cobalt, total	ug/L	MW-4C	10/19/2016	ND	20.0000		
Cobalt, total	ug/L	MW-4C	11/09/2016	ND	20.0000		
Cobalt, total	ug/L	MW-4C	12/12/2016	ND	20.0000		
Cobalt, total	ug/L	MW-4C	02/05/2017	ND	20.0000		
Cobalt, total	ug/L	MW-4C	03/25/2017	ND	20.0000		
Cobalt, total	ug/L	MW-4C	05/25/2017	ND	20.0000		
Cobalt, total	ug/L	MW-4C	06/20/2017	ND	20.0000		
Cobalt, total	ug/L	MW-4C	08/08/2017	ND	20.0000		
Cobalt, total	ug/L	MW-4C	05/09/2018	ND	20.0000		
Cobalt, total	ug/L	MW-4C	09/12/2018	ND	3.6000	20.0000	**
Cobalt, total	ug/L	MW-4C	05/16/2019		1.0000		
Cobalt, total	ug/L	MW-4C	11/06/2019	ND	1.0000	20.0000	**
Cobalt, total	ug/L	MW-4C	05/13/2020	ND	1.0000	20.0000	**
Cobalt, total	ug/L	MW-4C	11/03/2020		1.0000		
Cobalt, total	ug/L	MW-4C	05/05/2021		1.2000		
Cobalt, total	ug/L	MW-4C	11/01/2021		1.1000		
Fluoride	mg/L	MW-2R	09/28/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-2R	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-2R	11/09/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-2R	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-2R	03/16/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	03/17/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	03/24/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	04/20/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	04/24/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	05/16/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-2R	05/09/2018	ND	5.0000		
Fluoride	mg/L	MW-2R	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-2R	05/16/2019	ND	0.1000	5.0000	**

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Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Fluoride	mg/L	MW-2R	11/06/2019	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-2R	05/13/2020		0.1200		
Fluoride	mg/L	MW-2R	11/03/2020		0.1200		
Fluoride	mg/L	MW-2R	05/05/2021	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-2R	11/01/2021	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-3	09/28/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-3	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-3	11/09/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-3	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-3	02/05/2017	ND	5.0000		
Fluoride	mg/L	MW-3	03/24/2017	ND	5.0000		
Fluoride	mg/L	MW-3	05/25/2017	ND	5.0000		
Fluoride	mg/L	MW-3	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-3	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-3	05/09/2018	ND	5.0000		
Fluoride	mg/L	MW-3	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-3	05/16/2019		0.1900		
Fluoride	mg/L	MW-3	11/06/2019		0.1300		
Fluoride	mg/L	MW-3	05/13/2020		0.3500		
Fluoride	mg/L	MW-3	11/03/2020		0.1700		
Fluoride	mg/L	MW-3	05/05/2021		0.1400		
Fluoride	mg/L	MW-3	11/01/2021		0.1000		
Fluoride	mg/L	MW-4C	09/28/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-4C	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-4C	11/09/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-4C	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-4C	02/05/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	03/25/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	05/25/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-4C	05/09/2018	ND	5.0000		
Fluoride	mg/L	MW-4C	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-4C	05/16/2019		0.1100		
Fluoride	mg/L	MW-4C	11/06/2019		0.1200		
Fluoride	mg/L	MW-4C	05/13/2020		0.1900		
Fluoride	mg/L	MW-4C	11/03/2020		0.1200		
Fluoride	mg/L	MW-4C	05/05/2021	ND	0.1000	5.0000	**
Fluoride	mg/L	MW-4C	11/01/2021	ND	0.1000	5.0000	**
Lead, total	ug/L	MW-2R	09/28/2016	ND	10.0000		
Lead, total	ug/L	MW-2R	10/19/2016	ND	10.0000		
Lead, total	ug/L	MW-2R	11/09/2016	ND	10.0000		
Lead, total	ug/L	MW-2R	12/12/2016	ND	10.0000		
Lead, total	ug/L	MW-2R	03/16/2017	ND	10.0000		
Lead, total	ug/L	MW-2R	03/17/2017	ND	10.0000		
Lead, total	ug/L	MW-2R	03/24/2017	ND	10.0000		
Lead, total	ug/L	MW-2R	04/20/2017	ND	10.0000		
Lead, total	ug/L	MW-2R	04/24/2017	ND	10.0000		
Lead, total	ug/L	MW-2R	05/16/2017	ND	10.0000		
Lead, total	ug/L	MW-2R	06/20/2017	ND	10.0000		
Lead, total	ug/L	MW-2R	08/08/2017	ND	10.0000		
Lead, total	ug/L	MW-2R	05/09/2018	ND	10.0000		
Lead, total	ug/L	MW-2R	05/16/2019	ND	10.0000		
Lead, total	ug/L	MW-2R	11/06/2019	ND	10.0000		
Lead, total	ug/L	MW-2R	05/13/2020	ND	10.0000		
Lead, total	ug/L	MW-2R	11/03/2020	ND	10.0000		
Lead, total	ug/L	MW-2R	05/05/2021	ND	10.0000		
Lead, total	ug/L	MW-2R	11/01/2021	ND	10.0000		
Lead, total	ug/L	MW-3	09/28/2016	ND	10.0000		
Lead, total	ug/L	MW-3	10/19/2016	ND	10.0000		
Lead, total	ug/L	MW-3	11/09/2016	ND	10.0000		
Lead, total	ug/L	MW-3	12/12/2016	ND	10.0000		
Lead, total	ug/L	MW-3	02/05/2017	ND	10.0000		
Lead, total	ug/L	MW-3	03/24/2017	ND	10.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lead, total	ug/L	MW-3	05/25/2017	ND	10.0000		
Lead, total	ug/L	MW-3	06/20/2017	ND	10.0000		
Lead, total	ug/L	MW-3	08/08/2017	ND	10.0000		
Lead, total	ug/L	MW-3	05/09/2018	ND	10.0000		
Lead, total	ug/L	MW-3	05/16/2019		47.8000		
Lead, total	ug/L	MW-3	11/06/2019	ND	10.0000		
Lead, total	ug/L	MW-3	05/13/2020	ND	10.0000		
Lead, total	ug/L	MW-3	11/03/2020	ND	10.0000		
Lead, total	ug/L	MW-3	05/05/2021	ND	10.0000		
Lead, total	ug/L	MW-3	11/01/2021	ND	10.0000		
Lead, total	ug/L	MW-4C	09/28/2016	ND	10.0000		
Lead, total	ug/L	MW-4C	10/19/2016	ND	10.0000		
Lead, total	ug/L	MW-4C	11/09/2016	ND	10.0000		
Lead, total	ug/L	MW-4C	12/12/2016	ND	10.0000		
Lead, total	ug/L	MW-4C	02/05/2017	ND	10.0000		
Lead, total	ug/L	MW-4C	03/25/2017	ND	10.0000		
Lead, total	ug/L	MW-4C	05/25/2017	ND	10.0000		
Lead, total	ug/L	MW-4C	06/20/2017	ND	10.0000		
Lead, total	ug/L	MW-4C	08/08/2017	ND	10.0000		
Lead, total	ug/L	MW-4C	05/09/2018	ND	10.0000		
Lead, total	ug/L	MW-4C	05/16/2019	ND	10.0000		
Lead, total	ug/L	MW-4C	11/06/2019	ND	10.0000		
Lead, total	ug/L	MW-4C	05/13/2020	ND	10.0000		
Lead, total	ug/L	MW-4C	11/03/2020	ND	10.0000		
Lead, total	ug/L	MW-4C	05/05/2021	ND	10.0000		
Lead, total	ug/L	MW-4C	11/01/2021	ND	10.0000		
Lithium, total	ug/L	MW-2R	09/28/2016		1100.0000		
Lithium, total	ug/L	MW-2R	10/19/2016		820.0000		
Lithium, total	ug/L	MW-2R	11/09/2016		780.0000		
Lithium, total	ug/L	MW-2R	12/12/2016		510.0000		
Lithium, total	ug/L	MW-2R	03/16/2017		280.0000		
Lithium, total	ug/L	MW-2R	03/17/2017		410.0000		
Lithium, total	ug/L	MW-2R	03/24/2017		530.0000		
Lithium, total	ug/L	MW-2R	04/20/2017		780.0000		
Lithium, total	ug/L	MW-2R	04/24/2017		840.0000		
Lithium, total	ug/L	MW-2R	05/16/2017		1100.0000		
Lithium, total	ug/L	MW-2R	06/20/2017		1100.0000		
Lithium, total	ug/L	MW-2R	08/08/2017		1000.0000		
Lithium, total	ug/L	MW-2R	05/09/2018		960.0000		
Lithium, total	ug/L	MW-2R	09/12/2018		800.0000		
Lithium, total	ug/L	MW-2R	05/16/2019		616.0000		
Lithium, total	ug/L	MW-2R	11/06/2019		495.0000		
Lithium, total	ug/L	MW-2R	05/13/2020		638.0000		
Lithium, total	ug/L	MW-2R	11/03/2020		522.0000		
Lithium, total	ug/L	MW-2R	05/05/2021		890.0000		
Lithium, total	ug/L	MW-2R	11/01/2021		912.0000		
Lithium, total	ug/L	MW-3	09/28/2016		2000.0000		
Lithium, total	ug/L	MW-3	10/19/2016		1900.0000		
Lithium, total	ug/L	MW-3	11/09/2016		2200.0000		
Lithium, total	ug/L	MW-3	12/12/2016		2200.0000		
Lithium, total	ug/L	MW-3	02/05/2017		2100.0000		
Lithium, total	ug/L	MW-3	03/24/2017		2100.0000		
Lithium, total	ug/L	MW-3	05/25/2017		2000.0000		
Lithium, total	ug/L	MW-3	06/20/2017		2000.0000		
Lithium, total	ug/L	MW-3	08/08/2017		1600.0000		
Lithium, total	ug/L	MW-3	05/09/2018		2600.0000		
Lithium, total	ug/L	MW-3	09/12/2018		2600.0000		
Lithium, total	ug/L	MW-3	05/16/2019		1260.0000		
Lithium, total	ug/L	MW-3	11/06/2019		1930.0000		
Lithium, total	ug/L	MW-3	05/13/2020		1520.0000		
Lithium, total	ug/L	MW-3	11/03/2020		1760.0000		
Lithium, total	ug/L	MW-3	05/05/2021		1820.0000		
Lithium, total	ug/L	MW-3	11/01/2021		1880.0000		
Lithium, total	ug/L	MW-4C	09/28/2016		310.0000		

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ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lithium, total	ug/L	MW-4C	10/19/2016		280.0000		
Lithium, total	ug/L	MW-4C	11/09/2016		330.0000		
Lithium, total	ug/L	MW-4C	12/12/2016		260.0000		
Lithium, total	ug/L	MW-4C	02/05/2017		310.0000		
Lithium, total	ug/L	MW-4C	03/25/2017		290.0000		
Lithium, total	ug/L	MW-4C	05/25/2017		330.0000		
Lithium, total	ug/L	MW-4C	06/20/2017		250.0000		
Lithium, total	ug/L	MW-4C	08/08/2017		230.0000		
Lithium, total	ug/L	MW-4C	05/09/2018		250.0000		
Lithium, total	ug/L	MW-4C	09/12/2018		280.0000		
Lithium, total	ug/L	MW-4C	05/16/2019		316.0000		
Lithium, total	ug/L	MW-4C	11/06/2019		284.0000		
Lithium, total	ug/L	MW-4C	05/13/2020		242.0000		
Lithium, total	ug/L	MW-4C	11/03/2020		287.0000		
Lithium, total	ug/L	MW-4C	05/05/2021		359.0000		
Lithium, total	ug/L	MW-4C	11/01/2021		334.0000		
Mercury, total	ug/L	MW-2R	09/28/2016	ND	0.2000		
Mercury, total	ug/L	MW-2R	10/19/2016	ND	0.2000		
Mercury, total	ug/L	MW-2R	11/09/2016	ND	0.2000		
Mercury, total	ug/L	MW-2R	12/12/2016	ND	0.2000		
Mercury, total	ug/L	MW-2R	03/16/2017	ND	0.2000		
Mercury, total	ug/L	MW-2R	03/17/2017	ND	0.2000		
Mercury, total	ug/L	MW-2R	03/24/2017	ND	0.2000		
Mercury, total	ug/L	MW-2R	04/20/2017	ND	0.2000		
Mercury, total	ug/L	MW-2R	04/24/2017	ND	0.2000		
Mercury, total	ug/L	MW-2R	05/16/2017	ND	0.2000		
Mercury, total	ug/L	MW-2R	06/20/2017	ND	0.2000		
Mercury, total	ug/L	MW-2R	08/08/2017	ND	0.2000		
Mercury, total	ug/L	MW-2R	05/09/2018	ND	0.2000		
Mercury, total	ug/L	MW-2R	05/16/2019	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-2R	05/13/2020	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-2R	05/05/2021	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-3	09/28/2016	ND	0.2000		
Mercury, total	ug/L	MW-3	10/19/2016	ND	0.2000		
Mercury, total	ug/L	MW-3	11/09/2016	ND	0.2000		
Mercury, total	ug/L	MW-3	12/12/2016	ND	0.2000		
Mercury, total	ug/L	MW-3	02/05/2017	ND	0.2000		
Mercury, total	ug/L	MW-3	03/24/2017	ND	0.2000		
Mercury, total	ug/L	MW-3	05/25/2017	ND	0.2000		
Mercury, total	ug/L	MW-3	06/20/2017	ND	0.2000		
Mercury, total	ug/L	MW-3	08/08/2017	ND	0.2000		
Mercury, total	ug/L	MW-3	05/09/2018	ND	0.2000		
Mercury, total	ug/L	MW-3	05/16/2019	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-3	05/13/2020	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-3	05/05/2021	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-4C	09/28/2016	ND	0.2000		
Mercury, total	ug/L	MW-4C	10/19/2016	ND	0.2000		
Mercury, total	ug/L	MW-4C	11/09/2016	ND	0.2000		
Mercury, total	ug/L	MW-4C	12/12/2016	ND	0.2000		
Mercury, total	ug/L	MW-4C	02/05/2017	ND	0.2000		
Mercury, total	ug/L	MW-4C	03/25/2017	ND	0.2000		
Mercury, total	ug/L	MW-4C	05/25/2017	ND	0.2000		
Mercury, total	ug/L	MW-4C	06/20/2017		0.3500		
Mercury, total	ug/L	MW-4C	08/08/2017	ND	0.2000		
Mercury, total	ug/L	MW-4C	05/09/2018	ND	0.2000		
Mercury, total	ug/L	MW-4C	05/16/2019	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-4C	05/13/2020	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-4C	05/05/2021	ND	2.0000	0.2000	**
Molybdenum, total	ug/L	MW-2R	09/28/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	10/19/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	11/09/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	12/12/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	03/16/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	03/17/2017	ND	100.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Molybdenum, total	ug/L	MW-2R	03/24/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	04/20/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	04/24/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	05/16/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	06/20/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	08/08/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	05/09/2018	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	09/12/2018	ND	100.0000		
Molybdenum, total	ug/L	MW-2R	05/16/2019		11.2000		
Molybdenum, total	ug/L	MW-2R	11/06/2019	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-2R	05/13/2020		11.7000		
Molybdenum, total	ug/L	MW-2R	11/03/2020		12.8000		
Molybdenum, total	ug/L	MW-2R	05/05/2021		10.3000		
Molybdenum, total	ug/L	MW-2R	11/01/2021		11.0000		
Molybdenum, total	ug/L	MW-3	09/28/2016		350.0000		
Molybdenum, total	ug/L	MW-3	10/19/2016		330.0000		
Molybdenum, total	ug/L	MW-3	11/09/2016		280.0000		
Molybdenum, total	ug/L	MW-3	12/12/2016		390.0000		
Molybdenum, total	ug/L	MW-3	02/05/2017		660.0000		
Molybdenum, total	ug/L	MW-3	03/24/2017		660.0000		
Molybdenum, total	ug/L	MW-3	05/25/2017		570.0000		
Molybdenum, total	ug/L	MW-3	06/20/2017		510.0000		
Molybdenum, total	ug/L	MW-3	08/08/2017		330.0000		
Molybdenum, total	ug/L	MW-3	05/09/2018		390.0000		
Molybdenum, total	ug/L	MW-3	09/12/2018		520.0000		
Molybdenum, total	ug/L	MW-3	05/16/2019		338.0000		
Molybdenum, total	ug/L	MW-3	11/06/2019		508.0000		
Molybdenum, total	ug/L	MW-3	05/13/2020		529.0000		
Molybdenum, total	ug/L	MW-3	11/03/2020		549.0000		
Molybdenum, total	ug/L	MW-3	05/05/2021		532.0000		
Molybdenum, total	ug/L	MW-3	11/01/2021		501.0000		
Molybdenum, total	ug/L	MW-4C	09/28/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	10/19/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	11/09/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	12/12/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	02/05/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	03/25/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	05/25/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	06/20/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	08/08/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	05/09/2018	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	09/12/2018	ND	100.0000		
Molybdenum, total	ug/L	MW-4C	05/16/2019	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-4C	11/06/2019	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-4C	05/13/2020	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-4C	11/03/2020	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-4C	05/05/2021	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-4C	11/01/2021	ND	10.0000	100.0000	**
Selenium, total	ug/L	MW-2R	09/28/2016	ND	1.6000	5.0000	**
Selenium, total	ug/L	MW-2R	10/19/2016	ND	10.0000	5.0000	**
Selenium, total	ug/L	MW-2R	11/09/2016	ND	20.0000	5.0000	**
Selenium, total	ug/L	MW-2R	12/12/2016	ND	5.0000		
Selenium, total	ug/L	MW-2R	03/16/2017	ND	5.0000		
Selenium, total	ug/L	MW-2R	03/17/2017	ND	5.0000		
Selenium, total	ug/L	MW-2R	03/24/2017	ND	20.0000	5.0000	**
Selenium, total	ug/L	MW-2R	04/20/2017	ND	5.0000		
Selenium, total	ug/L	MW-2R	04/24/2017	ND	5.0000		
Selenium, total	ug/L	MW-2R	05/16/2017	ND	5.0000		
Selenium, total	ug/L	MW-2R	06/20/2017		5.9000		
Selenium, total	ug/L	MW-2R	08/08/2017	ND	5.0000		
Selenium, total	ug/L	MW-2R	05/09/2018	ND	5.0000		
Selenium, total	ug/L	MW-2R	09/12/2018	ND	5.0000		
Selenium, total	ug/L	MW-2R	05/16/2019	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-2R	11/06/2019	ND	1.0000	5.0000	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
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Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Selenium, total	ug/L	MW-2R	05/13/2020	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-2R	11/03/2020	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-2R	05/05/2021	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-2R	11/01/2021	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-3	09/28/2016		2.6000		
Selenium, total	ug/L	MW-3	10/19/2016	ND	10.0000	5.0000	**
Selenium, total	ug/L	MW-3	11/09/2016		2.3000		
Selenium, total	ug/L	MW-3	12/12/2016	ND	5.0000		
Selenium, total	ug/L	MW-3	02/05/2017	ND	30.0000	5.0000	**
Selenium, total	ug/L	MW-3	03/24/2017	ND	20.0000	5.0000	**
Selenium, total	ug/L	MW-3	05/25/2017	ND	5.0000		
Selenium, total	ug/L	MW-3	06/20/2017		5.2000		
Selenium, total	ug/L	MW-3	08/08/2017	ND	5.0000		
Selenium, total	ug/L	MW-3	05/09/2018	ND	5.0000		
Selenium, total	ug/L	MW-3	09/12/2018	ND	5.0000		
Selenium, total	ug/L	MW-3	05/16/2019	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-3	11/06/2019	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-3	05/13/2020	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-3	11/03/2020	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-3	05/05/2021	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-3	11/01/2021	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-4C	09/28/2016	ND	1.6000	5.0000	**
Selenium, total	ug/L	MW-4C	10/19/2016	ND	10.0000	5.0000	**
Selenium, total	ug/L	MW-4C	11/09/2016	ND	20.0000	5.0000	**
Selenium, total	ug/L	MW-4C	12/12/2016	ND	5.0000		
Selenium, total	ug/L	MW-4C	02/05/2017	ND	30.0000	5.0000	**
Selenium, total	ug/L	MW-4C	03/25/2017	ND	20.0000	5.0000	**
Selenium, total	ug/L	MW-4C	05/25/2017	ND	5.0000		
Selenium, total	ug/L	MW-4C	06/20/2017	ND	5.0000		
Selenium, total	ug/L	MW-4C	08/08/2017	ND	5.0000		
Selenium, total	ug/L	MW-4C	05/09/2018	ND	5.0000		
Selenium, total	ug/L	MW-4C	09/12/2018	ND	5.0000		
Selenium, total	ug/L	MW-4C	05/16/2019	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-4C	11/06/2019	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-4C	05/13/2020	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-4C	11/03/2020	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-4C	05/05/2021	ND	1.0000	5.0000	**
Selenium, total	ug/L	MW-4C	11/01/2021	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-2R	09/28/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-2R	10/19/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-2R	11/09/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-2R	12/12/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-2R	03/16/2017	ND	5.0000		
Thallium, total	ug/L	MW-2R	03/17/2017	ND	5.0000		
Thallium, total	ug/L	MW-2R	03/24/2017	ND	20.0000	5.0000	**
Thallium, total	ug/L	MW-2R	04/20/2017	ND	5.0000		
Thallium, total	ug/L	MW-2R	04/24/2017	ND	5.0000		
Thallium, total	ug/L	MW-2R	05/16/2017	ND	5.0000		
Thallium, total	ug/L	MW-2R	06/20/2017	ND	5.0000		
Thallium, total	ug/L	MW-2R	08/08/2017	ND	5.0000		
Thallium, total	ug/L	MW-2R	05/09/2018	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-2R	09/12/2018		2.3000		
Thallium, total	ug/L	MW-2R	05/16/2019	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-2R	11/06/2019	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-2R	05/13/2020	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-2R	11/03/2020	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-2R	05/05/2021	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-2R	11/01/2021	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-3	09/28/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-3	10/19/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-3	11/09/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-3	12/12/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-3	02/05/2017	ND	2.0000	5.0000	**
Thallium, total	ug/L	MW-3	03/24/2017	ND	20.0000	5.0000	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Thallium, total	ug/L	MW-3	05/25/2017	ND	5.0000		
Thallium, total	ug/L	MW-3	06/20/2017	ND	5.0000		
Thallium, total	ug/L	MW-3	08/08/2017	ND	5.0000		
Thallium, total	ug/L	MW-3	05/09/2018	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-3	09/12/2018	ND	0.6000	5.0000	**
Thallium, total	ug/L	MW-3	05/16/2019	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-3	11/06/2019	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-3	05/13/2020	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-3	11/03/2020	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-3	05/05/2021	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-3	11/01/2021	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-4C	09/28/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-4C	10/19/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-4C	11/09/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-4C	12/12/2016	ND	50.0000	5.0000	**
Thallium, total	ug/L	MW-4C	02/05/2017	ND	2.0000	5.0000	**
Thallium, total	ug/L	MW-4C	03/25/2017	ND	20.0000	5.0000	**
Thallium, total	ug/L	MW-4C	05/25/2017	ND	5.0000		
Thallium, total	ug/L	MW-4C	06/20/2017	ND	5.0000		
Thallium, total	ug/L	MW-4C	08/08/2017	ND	5.0000		
Thallium, total	ug/L	MW-4C	05/09/2018	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-4C	09/12/2018	ND	0.6000	5.0000	**
Thallium, total	ug/L	MW-4C	05/16/2019	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-4C	11/06/2019	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-4C	05/13/2020	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-4C	11/03/2020	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-4C	05/05/2021	ND	1.0000	5.0000	**
Thallium, total	ug/L	MW-4C	11/01/2021	ND	1.0000	5.0000	**
Total Radium	pCi/L	MW-2R	03/16/2017	ND	0.5500	1.0000	**
Total Radium	pCi/L	MW-2R	03/17/2017		2.2800		
Total Radium	pCi/L	MW-2R	03/24/2017		1.3600		
Total Radium	pCi/L	MW-2R	04/20/2017		1.3800		
Total Radium	pCi/L	MW-2R	04/24/2017		1.2000		
Total Radium	pCi/L	MW-2R	05/16/2017		0.9700		
Total Radium	pCi/L	MW-2R	06/20/2017		3.1200		
Total Radium	pCi/L	MW-2R	08/08/2017		0.8900		
Total Radium	pCi/L	MW-2R	05/09/2018		2.2000		
Total Radium	pCi/L	MW-2R	09/12/2018	ND	1.0000		
Total Radium	pCi/L	MW-2R	05/16/2019		1.1900		
Total Radium	pCi/L	MW-2R	11/06/2019		0.8510		
Total Radium	pCi/L	MW-2R	05/13/2020		1.0100		
Total Radium	pCi/L	MW-2R	11/03/2020	ND	1.6200	1.0000	**
Total Radium	pCi/L	MW-2R	05/05/2021		1.5900		
Total Radium	pCi/L	MW-2R	11/01/2021	ND	1.7700	1.0000	**
Total Radium	pCi/L	MW-3	09/28/2016		1.4000		
Total Radium	pCi/L	MW-3	10/19/2016		2.5000		
Total Radium	pCi/L	MW-3	11/09/2016		1.7700		
Total Radium	pCi/L	MW-3	12/12/2016		2.0800		
Total Radium	pCi/L	MW-3	02/05/2017		1.7000		
Total Radium	pCi/L	MW-3	03/24/2017	ND	0.6000	1.0000	**
Total Radium	pCi/L	MW-3	03/25/2017	ND	0.5000	1.0000	**
Total Radium	pCi/L	MW-3	06/20/2017		0.9600		
Total Radium	pCi/L	MW-3	08/08/2017		2.2000		
Total Radium	pCi/L	MW-3	05/09/2018		2.0700		
Total Radium	pCi/L	MW-3	09/12/2018	ND	1.0000		
Total Radium	pCi/L	MW-3	05/16/2019		0.7450		
Total Radium	pCi/L	MW-3	11/06/2019		4.4000		
Total Radium	pCi/L	MW-3	05/13/2020		1.8000		
Total Radium	pCi/L	MW-3	11/03/2020		0.7770		
Total Radium	pCi/L	MW-3	05/05/2021		2.5100		
Total Radium	pCi/L	MW-3	11/01/2021		1.5900		
Total Radium	pCi/L	MW-4C	09/28/2016		2.1000		
Total Radium	pCi/L	MW-4C	10/19/2016		1.1000		
Total Radium	pCi/L	MW-4C	11/09/2016		0.8600		

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*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Total Radium	pCi/L	MW-4C	12/12/2016		2.2800		
Total Radium	pCi/L	MW-4C	02/05/2017		2.5200		
Total Radium	pCi/L	MW-4C	03/25/2017		1.4000		
Total Radium	pCi/L	MW-4C	06/20/2017		3.0300		
Total Radium	pCi/L	MW-4C	08/08/2017		2.0300		
Total Radium	pCi/L	MW-4C	05/09/2018	ND	1.0000		
Total Radium	pCi/L	MW-4C	09/12/2018	ND	1.0000		
Total Radium	pCi/L	MW-4C	05/16/2019		0.7880		
Total Radium	pCi/L	MW-4C	11/06/2019	ND	1.3700	1.0000	**
Total Radium	pCi/L	MW-4C	05/13/2020	ND	1.9900	1.0000	**
Total Radium	pCi/L	MW-4C	11/03/2020		1.2200		
Total Radium	pCi/L	MW-4C	05/05/2021		2.0900		
Total Radium	pCi/L	MW-4C	11/01/2021		1.2500		

* - 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 C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	ug/L	AP-1R	11/04/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-2A	11/04/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-2BO	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-3	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-3A	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-4A	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-4B	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-4I	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-5	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-5A	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-6A	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-6B	11/07/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-7	11/03/2021	ND	1.0000		5.0000
Antimony, total	ug/L	AP-8	12/09/2021	ND	1.0000		5.0000
Arsenic, total	ug/L	AP-1R	11/04/2021		1.8000		20.5000
Arsenic, total	ug/L	AP-2A	11/04/2021		3.6000		20.5000
Arsenic, total	ug/L	AP-2BO	11/07/2021		2.5000		20.5000
Arsenic, total	ug/L	AP-3	11/07/2021	ND	1.0000		20.5000
Arsenic, total	ug/L	AP-3A	11/07/2021		1.8000		20.5000
Arsenic, total	ug/L	AP-4A	11/07/2021	ND	1.0000		20.5000
Arsenic, total	ug/L	AP-4B	11/07/2021	ND	1.0000		20.5000
Arsenic, total	ug/L	AP-4I	11/07/2021	ND	1.0000		20.5000
Arsenic, total	ug/L	AP-5	11/07/2021	ND	1.0000		20.5000
Arsenic, total	ug/L	AP-5A	11/07/2021	ND	1.0000		20.5000
Arsenic, total	ug/L	AP-6A	11/07/2021	ND	1.0000		20.5000
Arsenic, total	ug/L	AP-6B	11/07/2021	ND	1.0000		20.5000
Arsenic, total	ug/L	AP-7	11/03/2021		4.3000		20.5000
Arsenic, total	ug/L	AP-8	12/09/2021		7.2000		20.5000
Barium, total	ug/L	AP-1R	11/04/2021		68.9000		73.0000
Barium, total	ug/L	AP-2A	11/04/2021		46.5000		73.0000
Barium, total	ug/L	AP-2BO	11/07/2021		26.0000		73.0000
Barium, total	ug/L	AP-3	11/07/2021		38.2000		73.0000
Barium, total	ug/L	AP-3A	11/07/2021		34.5000		73.0000
Barium, total	ug/L	AP-4A	11/07/2021		30.9000		73.0000
Barium, total	ug/L	AP-4B	11/07/2021		108.0000	***	73.0000
Barium, total	ug/L	AP-4I	11/07/2021		29.1000		73.0000
Barium, total	ug/L	AP-5	11/07/2021		35.0000		73.0000
Barium, total	ug/L	AP-5A	11/07/2021		31.1000		73.0000
Barium, total	ug/L	AP-6A	11/07/2021		25.8000		73.0000
Barium, total	ug/L	AP-6B	11/07/2021		29.8000		73.0000
Barium, total	ug/L	AP-7	11/03/2021		81.2000	***	73.0000
Barium, total	ug/L	AP-8	12/09/2021		19.2000		73.0000
Beryllium, total	ug/L	AP-1R	11/04/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-2A	11/04/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-2BO	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-3	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-3A	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-4A	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-4B	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-4I	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-5	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-5A	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-6A	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-6B	11/07/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-7	11/03/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	AP-8	12/09/2021		1.8000	***	1.0000
Cadmium, total	ug/L	AP-1R	11/04/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-2A	11/04/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-2BO	11/07/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-3	11/07/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-3A	11/07/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-4A	11/07/2021	ND	2.0000		2.0000

* - 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 C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Cadmium, total	ug/L	AP-4B	11/07/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-4I	11/07/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-5	11/07/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-5A	11/07/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-6A	11/07/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-6B	11/07/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-7	11/03/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	AP-8	12/09/2021		4.2000	***	2.0000
Chromium, total	ug/L	AP-1R	11/04/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-2A	11/04/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-2BO	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-3	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-3A	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-4A	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-4B	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-4I	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-5	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-5A	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-6A	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-6B	11/07/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-7	11/03/2021	ND	10.0000		10.0000
Chromium, total	ug/L	AP-8	12/09/2021	ND	10.0000		10.0000
Cobalt, total	ug/L	AP-1R	11/04/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	AP-2A	11/04/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	AP-2BO	11/07/2021		3.4000		20.0000
Cobalt, total	ug/L	AP-3	11/07/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	AP-3A	11/07/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	AP-4A	11/07/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	AP-4B	11/07/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	AP-4I	11/07/2021		2.4000		20.0000
Cobalt, total	ug/L	AP-5	11/07/2021		1.6000		20.0000
Cobalt, total	ug/L	AP-5A	11/07/2021		1.1000		20.0000
Cobalt, total	ug/L	AP-6A	11/07/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	AP-6B	11/07/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	AP-7	11/03/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	AP-8	12/09/2021		319.0000	***	20.0000
Fluoride	mg/L	AP-1R	11/04/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-2A	11/04/2021		0.1600		5.0000
Fluoride	mg/L	AP-2BO	11/07/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-3	11/07/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-3A	11/07/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-4A	11/07/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-4B	11/07/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-4I	11/07/2021		0.1700		5.0000
Fluoride	mg/L	AP-5	11/07/2021		0.1300		5.0000
Fluoride	mg/L	AP-5A	11/07/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-6A	11/07/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-6B	11/07/2021	ND	0.1000		5.0000
Fluoride	mg/L	AP-7	11/03/2021		0.1500		5.0000
Fluoride	mg/L	AP-8	12/09/2021		0.4100		5.0000
Lead, total	ug/L	AP-1R	11/04/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-2A	11/04/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-2BO	11/07/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-3	11/07/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-3A	11/07/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-4A	11/07/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-4B	11/07/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-4I	11/07/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-5	11/07/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-5A	11/07/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-6A	11/07/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-6B	11/07/2021	ND	10.0000		47.8000

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ND = Not Detected, Result = detection limit.

Table C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Lead, total	ug/L	AP-7	11/03/2021	ND	10.0000		47.8000
Lead, total	ug/L	AP-8	12/09/2021	ND	10.0000		47.8000
Lithium, total	ug/L	AP-1R	11/04/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-2A	11/04/2021		99.2000		2772.7906
Lithium, total	ug/L	AP-2BO	11/07/2021		25.8000		2772.7906
Lithium, total	ug/L	AP-3	11/07/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-3A	11/07/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-4A	11/07/2021		51.3000		2772.7906
Lithium, total	ug/L	AP-4B	11/07/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-4I	11/07/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-5	11/07/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-5A	11/07/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-6A	11/07/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-6B	11/07/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-7	11/03/2021	ND	20.0000		2772.7906
Lithium, total	ug/L	AP-8	12/09/2021		45.7000		2772.7906
Mercury, total	ug/L	AP-1R	05/08/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-2A	05/08/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-2BO	05/08/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-3	05/08/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-3A	05/08/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-4A	05/08/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-4B	05/10/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-4I	05/08/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-5	05/10/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-5A	05/10/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-6A	05/10/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-6B	05/10/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-7	05/08/2021	ND	2.0000		0.3500
Mercury, total	ug/L	AP-8	05/07/2021	ND	2.0000		0.3500
Molybdenum, total	ug/L	AP-1R	11/04/2021		13.5000		660.0000
Molybdenum, total	ug/L	AP-2A	11/04/2021		1790.0000	***	660.0000
Molybdenum, total	ug/L	AP-2BO	11/07/2021		158.0000		660.0000
Molybdenum, total	ug/L	AP-3	11/07/2021	ND	10.0000		660.0000
Molybdenum, total	ug/L	AP-3A	11/07/2021		536.0000		660.0000
Molybdenum, total	ug/L	AP-4A	11/07/2021		214.0000		660.0000
Molybdenum, total	ug/L	AP-4B	11/07/2021	ND	10.0000		660.0000
Molybdenum, total	ug/L	AP-4I	11/07/2021		121.0000		660.0000
Molybdenum, total	ug/L	AP-5	11/07/2021		104.0000		660.0000
Molybdenum, total	ug/L	AP-5A	11/07/2021		244.0000		660.0000
Molybdenum, total	ug/L	AP-6A	11/07/2021	ND	10.0000		660.0000
Molybdenum, total	ug/L	AP-6B	11/07/2021	ND	10.0000		660.0000
Molybdenum, total	ug/L	AP-7	11/03/2021	ND	10.0000		660.0000
Molybdenum, total	ug/L	AP-8	12/09/2021	ND	10.0000		660.0000
Selenium, total	ug/L	AP-1R	11/04/2021	ND	1.0000		5.9000
Selenium, total	ug/L	AP-2A	11/04/2021	ND	1.0000		5.9000
Selenium, total	ug/L	AP-2BO	11/07/2021	ND	1.0000		5.9000
Selenium, total	ug/L	AP-3	11/07/2021		2.2000		5.9000
Selenium, total	ug/L	AP-3A	11/07/2021	ND	1.0000		5.9000
Selenium, total	ug/L	AP-4A	11/07/2021	ND	1.0000		5.9000
Selenium, total	ug/L	AP-4B	11/07/2021		9.2000	***	5.9000
Selenium, total	ug/L	AP-4I	11/07/2021	ND	1.0000		5.9000
Selenium, total	ug/L	AP-5	11/07/2021		1.2000		5.9000
Selenium, total	ug/L	AP-5A	11/07/2021	ND	1.0000		5.9000
Selenium, total	ug/L	AP-6A	11/07/2021	ND	1.0000		5.9000
Selenium, total	ug/L	AP-6B	11/07/2021		1.3000		5.9000
Selenium, total	ug/L	AP-7	11/03/2021	ND	1.0000		5.9000
Selenium, total	ug/L	AP-8	12/09/2021		1.9000		5.9000
Thallium, total	ug/L	AP-1R	11/04/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-2A	11/04/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-2BO	11/07/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-3	11/07/2021	ND	1.0000		5.0000

* - 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 C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Thallium, total	ug/L	AP-3A	11/07/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-4A	11/07/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-4B	11/07/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-4I	11/07/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-5	11/07/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-5A	11/07/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-6A	11/07/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-6B	11/07/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-7	11/03/2021	ND	1.0000		5.0000
Thallium, total	ug/L	AP-8	12/09/2021	ND	1.0000		5.0000
Total Radium	pCi/L	AP-1R	11/04/2021	ND	1.7800		4.0420
Total Radium	pCi/L	AP-2A	11/04/2021		1.4300		4.0420
Total Radium	pCi/L	AP-2BO	11/07/2021		1.0100		4.0420
Total Radium	pCi/L	AP-3	11/07/2021		0.8730		4.0420
Total Radium	pCi/L	AP-3A	11/07/2021		1.6300		4.0420
Total Radium	pCi/L	AP-4A	11/07/2021		1.7100		4.0420
Total Radium	pCi/L	AP-4B	11/07/2021		0.5520		4.0420
Total Radium	pCi/L	AP-4I	11/07/2021		1.6900		4.0420
Total Radium	pCi/L	AP-5	11/07/2021		2.1800		4.0420
Total Radium	pCi/L	AP-5A	11/07/2021		1.0000		4.0420
Total Radium	pCi/L	AP-6A	11/07/2021		0.8910		4.0420
Total Radium	pCi/L	AP-6B	11/07/2021	ND	1.5400		4.0420
Total Radium	pCi/L	AP-7	11/03/2021		1.3200		4.0420
Total Radium	pCi/L	AP-8	12/09/2021		0.9930		4.0420

* - 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 C-3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Detect	Upgradient N	Proportion	Detect	Downgradient N	Proportion
Antimony, total	1	54	0.019	7	238	0.029
Arsenic, total	19	52	0.365	73	238	0.307
Barium, total	54	54	1.000	237	238	0.996
Beryllium, total	0	54	0.000	9	238	0.038
Cadmium, total	0	54	0.000	17	238	0.071
Chromium, total	0	45	0.000	1	196	0.005
Cobalt, total	16	54	0.296	42	238	0.176
Fluoride	12	54	0.222	41	238	0.172
Lead, total	1	51	0.020	4	224	0.018
Lithium, total	54	54	1.000	56	238	0.235
Mercury, total	1	42	0.024	2	182	0.011
Molybdenum, total	22	54	0.407	122	238	0.513
Selenium, total	4	54	0.074	39	238	0.164
Thallium, total	1	54	0.019	0	238	0.000
Total Radium	38	49	0.776	187	237	0.789

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table C-4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value	Dist Form
Antimony, total	1	54	0.019	18.388	18.388					2.326	non-norm
Arsenic, total	19	52	0.365	7.225	7.689					2.326	non-norm
Barium, total	54	54	1.000	2.662	2.575					2.326	non-norm
Beryllium, total	0	54	0.000	8.417	8.417					2.326	non-norm
Cadmium, total	0	54	0.000	8.417	8.417					2.326	non-norm
Chromium, total	0	45	0.000	7.519	7.519					2.326	non-norm
Cobalt, total	16	54	0.296	9.174	8.932					2.326	non-norm
Fluoride	12	54	0.222	10.825	10.528					2.326	non-norm
Lead, total	1	51	0.020	8.171	8.171					2.326	non-norm
Lithium, total	54	54	1.000	0.370	0.540					2.326	normal
Mercury, total	1	42	0.024	16.856	16.856					2.326	non-norm
Molybdenum, total	22	54	0.407	6.658	6.712					2.326	non-norm
Selenium, total	4	54	0.074	22.751	22.805					2.326	non-norm
Thallium, total	1	54	0.019	21.479	21.479					2.326	non-norm
Total Radium	38	49	0.776	4.409	2.134					2.326	lognor

* - Distribution override for that constituent.
Fit to distribution is confirmed if G <= critical value.
Model type may not match distributional form when detection frequency < 50%.

Table C-4

Shapiro-Wilk Multiple Group Test of Normality

Model Type
nonpar
nonpar
nonpar
nonpar
nonpar
nonpar
nonpar
nonpar
nonpar
normal
nonpar
nonpar
nonpar
nonpar
lognor

* - Distribution override for that constituent.
Fit to distribution is confirmed if G <= critical value.
Model type may not match distributional form when detection frequency < 50%.

Table C-5

Summary Statistics and Prediction Limits

Constituent	Units	Detect	N	Mean	SD	alpha	Factor	Pred Limit	Type		Conf
Antimony, total	ug/L	1	54					5.0000	nonpar	***	0.99
Arsenic, total	ug/L	19	52					20.5000	nonpar		0.99
Barium, total	ug/L	54	54					73.0000	nonpar		0.99
Beryllium, total	ug/L	0	54					1.0000	nonpar	***	0.99
Cadmium, total	ug/L	0	54					2.0000	nonpar	***	0.99
Chromium, total	ug/L	0	45					10.0000	nonpar	***	0.99
Cobalt, total	ug/L	16	54					20.0000	nonpar	***	0.99
Fluoride	mg/L	12	54					5.0000	nonpar	***	0.99
Lead, total	ug/L	1	51					47.8000	nonpar		0.99
Lithium, total	ug/L	54	54	990.6481	736.1631	0.0100	2.4209	2772.7906	normal		
Mercury, total	ug/L	1	42					0.3500	nonpar		0.99
Molybdenum, total	ug/L	22	54					660.0000	nonpar		0.99
Selenium, total	ug/L	4	54					5.9000	nonpar		0.99
Thallium, total	ug/L	1	54					5.0000	nonpar	***	0.99
Total Radium	pCi/L	38	49	0.3445	0.4329	0.0100	2.4310	4.0420	lognor		

Conf = confidence level for passing initial test or one verification resample at all downgradient wells for a single constituent (nonparametric test only).
* - Insufficient Data.
** - Calculated limit raised to Manual Reporting Limit.
*** - Nonparametric limit based on ND value.
For transformed data, mean and SD in transformed units and prediction limit in original units.
All sample sizes and statistics are based on outlier free data.
For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table C-6

Dixon's Test Outliers
1% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Arsenic, total	ug/L	MW-2R	03/24/2017	40.0000	< 40.0000	09/28/2016-11/01/2021	20	0.5503
Arsenic, total	ug/L	MW-2R	05/09/2018	31.0000		09/28/2016-11/01/2021	20	0.5503

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 C-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	ug/L	AP-4B	09/29/2016		62.0000		73.0000
Barium, total	ug/L	AP-4B	10/18/2016		56.0000		73.0000
Barium, total	ug/L	AP-4B	11/08/2016		61.0000		73.0000
Barium, total	ug/L	AP-4B	12/13/2016		45.0000		73.0000
Barium, total	ug/L	AP-4B	02/04/2017		78.0000	*	73.0000
Barium, total	ug/L	AP-4B	03/23/2017		63.0000		73.0000
Barium, total	ug/L	AP-4B	05/24/2017		53.0000		73.0000
Barium, total	ug/L	AP-4B	06/21/2017		51.0000		73.0000
Barium, total	ug/L	AP-4B	08/09/2017		74.0000	*	73.0000
Barium, total	ug/L	AP-4B	05/08/2018		81.0000	*	73.0000
Barium, total	ug/L	AP-4B	09/30/2018		44.0000		73.0000
Barium, total	ug/L	AP-4B	05/14/2019		87.5000	*	73.0000
Barium, total	ug/L	AP-4B	11/04/2019		68.5000		73.0000
Barium, total	ug/L	AP-4B	05/07/2020		107.0000	*	73.0000
Barium, total	ug/L	AP-4B	11/07/2020		70.8000		73.0000
Barium, total	ug/L	AP-4B	05/10/2021		100.0000	*	73.0000
Barium, total	ug/L	AP-4B	11/07/2021		108.0000	*	73.0000
Barium, total	ug/L	AP-7	09/28/2016		49.0000		73.0000
Barium, total	ug/L	AP-7	10/19/2016		56.0000		73.0000
Barium, total	ug/L	AP-7	11/09/2016		54.0000		73.0000
Barium, total	ug/L	AP-7	12/12/2016		45.0000		73.0000
Barium, total	ug/L	AP-7	02/05/2017		53.0000		73.0000
Barium, total	ug/L	AP-7	03/25/2017		47.0000		73.0000
Barium, total	ug/L	AP-7	05/24/2017		52.0000		73.0000
Barium, total	ug/L	AP-7	06/21/2017		47.0000		73.0000
Barium, total	ug/L	AP-7	08/08/2017		50.0000		73.0000
Barium, total	ug/L	AP-7	05/09/2018		56.0000		73.0000
Barium, total	ug/L	AP-7	09/30/2018		48.0000		73.0000
Barium, total	ug/L	AP-7	05/15/2019		69.2000		73.0000
Barium, total	ug/L	AP-7	11/05/2019		53.4000		73.0000
Barium, total	ug/L	AP-7	05/12/2020		66.8000		73.0000
Barium, total	ug/L	AP-7	11/05/2020		67.8000		73.0000
Barium, total	ug/L	AP-7	05/08/2021		79.5000	*	73.0000
Barium, total	ug/L	AP-7	11/03/2021		81.2000	*	73.0000
Beryllium, total	ug/L	AP-8	09/28/2016	ND	10.0000		1.0000
Beryllium, total	ug/L	AP-8	10/19/2016	ND	10.0000		1.0000
Beryllium, total	ug/L	AP-8	11/09/2016	ND	10.0000		1.0000
Beryllium, total	ug/L	AP-8	12/12/2016	ND	10.0000		1.0000
Beryllium, total	ug/L	AP-8	02/05/2017	ND	4.0000		1.0000
Beryllium, total	ug/L	AP-8	03/25/2017	ND	4.0000		1.0000
Beryllium, total	ug/L	AP-8	05/24/2017	ND	2.0000		1.0000
Beryllium, total	ug/L	AP-8	06/20/2017		2.1000	*	1.0000
Beryllium, total	ug/L	AP-8	08/08/2017		2.4000	*	1.0000
Beryllium, total	ug/L	AP-8	05/09/2018	ND	5.0000		1.0000
Beryllium, total	ug/L	AP-8	09/30/2018		3.5000	*	1.0000
Beryllium, total	ug/L	AP-8	05/15/2019		1.9000	*	1.0000
Beryllium, total	ug/L	AP-8	11/04/2019		2.0000	*	1.0000
Beryllium, total	ug/L	AP-8	05/11/2020		1.5000	*	1.0000
Beryllium, total	ug/L	AP-8	11/05/2020		2.2000	*	1.0000
Beryllium, total	ug/L	AP-8	05/07/2021		6.5000	*	1.0000
Beryllium, total	ug/L	AP-8	12/09/2021		1.8000	*	1.0000
Cadmium, total	ug/L	AP-8	09/28/2016		16.0000	*	2.0000
Cadmium, total	ug/L	AP-8	10/19/2016		13.0000	*	2.0000
Cadmium, total	ug/L	AP-8	11/09/2016		12.0000	*	2.0000
Cadmium, total	ug/L	AP-8	12/12/2016		18.0000	*	2.0000
Cadmium, total	ug/L	AP-8	02/05/2017		15.0000	*	2.0000
Cadmium, total	ug/L	AP-8	03/25/2017		9.1000	*	2.0000
Cadmium, total	ug/L	AP-8	05/24/2017		6.8000	*	2.0000
Cadmium, total	ug/L	AP-8	06/20/2017		9.9000	*	2.0000
Cadmium, total	ug/L	AP-8	08/08/2017		11.0000	*	2.0000
Cadmium, total	ug/L	AP-8	05/09/2018		6.3000	*	2.0000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

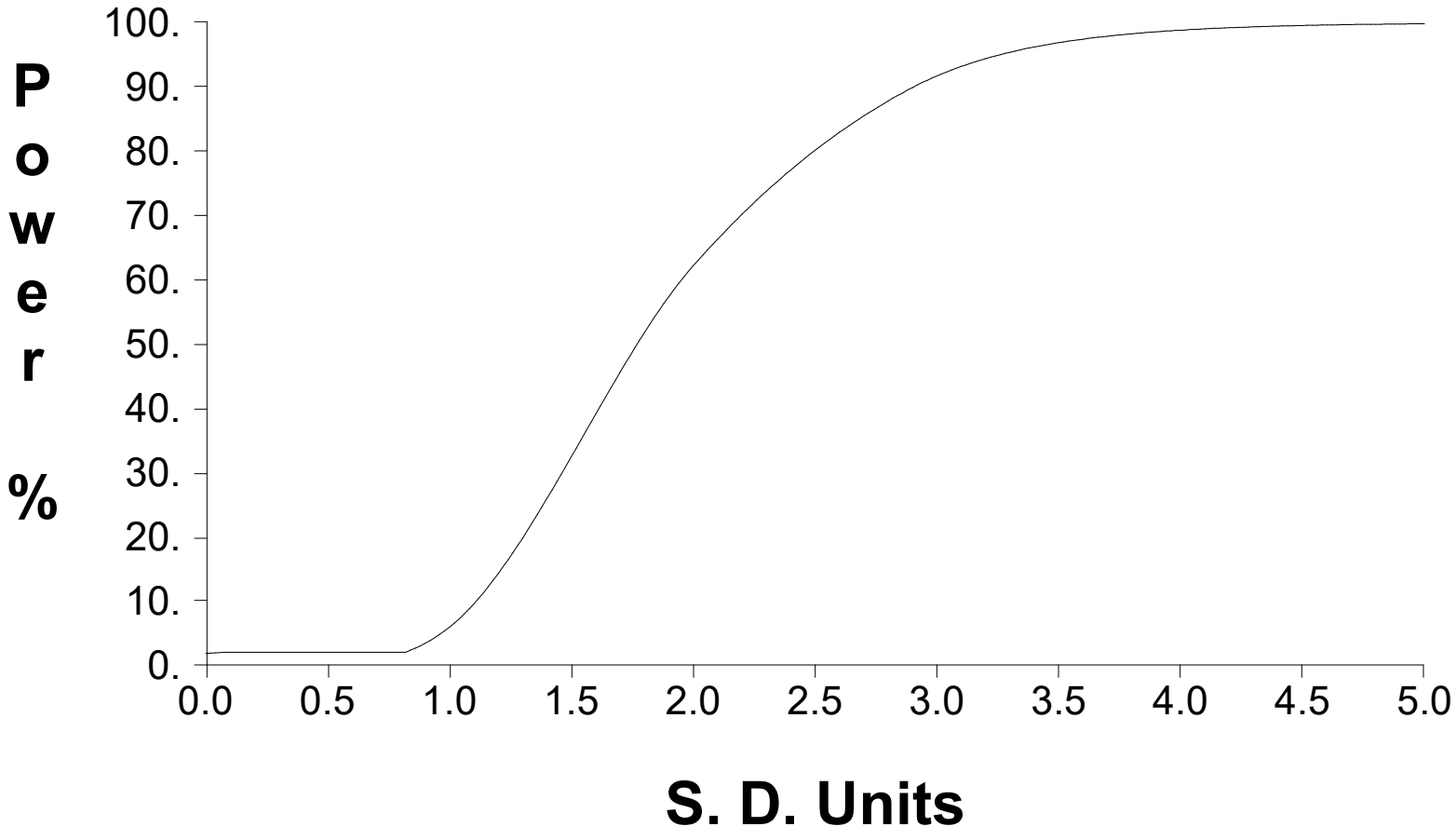
Table C-7

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Cadmium, total	ug/L	AP-8	09/30/2018		14.0000	*	2.0000
Cadmium, total	ug/L	AP-8	05/15/2019		7.0000	*	2.0000
Cadmium, total	ug/L	AP-8	11/04/2019		8.6000	*	2.0000
Cadmium, total	ug/L	AP-8	05/11/2020		6.2000	*	2.0000
Cadmium, total	ug/L	AP-8	11/05/2020		6.7000	*	2.0000
Cadmium, total	ug/L	AP-8	05/07/2021		10.5000	*	2.0000
Cadmium, total	ug/L	AP-8	12/09/2021		4.2000	*	2.0000
Cobalt, total	ug/L	AP-8	09/28/2016		440.0000	*	20.0000
Cobalt, total	ug/L	AP-8	10/19/2016		370.0000	*	20.0000
Cobalt, total	ug/L	AP-8	11/09/2016		410.0000	*	20.0000
Cobalt, total	ug/L	AP-8	12/12/2016		500.0000	*	20.0000
Cobalt, total	ug/L	AP-8	02/05/2017		500.0000	*	20.0000
Cobalt, total	ug/L	AP-8	03/25/2017		350.0000	*	20.0000
Cobalt, total	ug/L	AP-8	05/24/2017		290.0000	*	20.0000
Cobalt, total	ug/L	AP-8	06/20/2017		400.0000	*	20.0000
Cobalt, total	ug/L	AP-8	08/08/2017		410.0000	*	20.0000
Cobalt, total	ug/L	AP-8	05/09/2018		260.0000	*	20.0000
Cobalt, total	ug/L	AP-8	09/30/2018		450.0000	*	20.0000
Cobalt, total	ug/L	AP-8	05/15/2019		295.0000	*	20.0000
Cobalt, total	ug/L	AP-8	11/04/2019		364.0000	*	20.0000
Cobalt, total	ug/L	AP-8	05/11/2020		258.0000	*	20.0000
Cobalt, total	ug/L	AP-8	11/05/2020		372.0000	*	20.0000
Cobalt, total	ug/L	AP-8	05/07/2021		677.0000	*	20.0000
Cobalt, total	ug/L	AP-8	12/09/2021		319.0000	*	20.0000
Molybdenum, total	ug/L	AP-2A	09/28/2016		2600.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	10/19/2016		2700.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	11/09/2016		2700.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	12/12/2016		2100.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	02/05/2017		3000.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	03/24/2017		2700.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	05/24/2017		2900.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	06/21/2017		2800.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	08/10/2017		2800.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	05/09/2018		2100.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	09/30/2018		2300.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	05/15/2019		2200.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	11/05/2019		2600.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	05/11/2020		2650.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	11/09/2020		2430.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	05/08/2021		1920.0000	*	660.0000
Molybdenum, total	ug/L	AP-2A	11/04/2021		1790.0000	*	660.0000
Selenium, total	ug/L	AP-4B	09/29/2016		10.0000	*	5.9000
Selenium, total	ug/L	AP-4B	10/18/2016		11.0000	*	5.9000
Selenium, total	ug/L	AP-4B	11/08/2016		6.8000	*	5.9000
Selenium, total	ug/L	AP-4B	12/13/2016		6.4000	*	5.9000
Selenium, total	ug/L	AP-4B	02/04/2017	ND	30.0000		5.9000
Selenium, total	ug/L	AP-4B	03/23/2017		7.4000	*	5.9000
Selenium, total	ug/L	AP-4B	05/24/2017		8.2000	*	5.9000
Selenium, total	ug/L	AP-4B	06/21/2017		7.1000	*	5.9000
Selenium, total	ug/L	AP-4B	08/09/2017		6.3000	*	5.9000
Selenium, total	ug/L	AP-4B	05/08/2018		9.1000	*	5.9000
Selenium, total	ug/L	AP-4B	09/30/2018		6.2000	*	5.9000
Selenium, total	ug/L	AP-4B	05/14/2019		9.7000	*	5.9000
Selenium, total	ug/L	AP-4B	11/04/2019		9.2000	*	5.9000
Selenium, total	ug/L	AP-4B	05/07/2020		7.2000	*	5.9000
Selenium, total	ug/L	AP-4B	11/07/2020		6.6000	*	5.9000
Selenium, total	ug/L	AP-4B	05/10/2021		16.7000	*	5.9000
Selenium, total	ug/L	AP-4B	11/07/2021		9.2000	*	5.9000

* - 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 2022

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, Total (Federal)	ug/L	MW-2R	09/28/2016	ND	0.0500	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	50.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	11/09/2016	ND	50.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	5.0000		
Antimony, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	24.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	06/20/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	05/09/2018	ND	5.0000		
Antimony, Total (Federal)	ug/L	MW-2R	09/12/2018	ND	1.4000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	05/16/2019	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	11/06/2019	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	05/13/2020	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	11/03/2020	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	05/05/2021	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	11/01/2021	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-2R	05/08/2022	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	09/28/2016	ND	0.0500	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	10/19/2016	ND	50.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	11/09/2016	ND	50.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	12/12/2016	ND	5.0000		
Antimony, Total (Federal)	ug/L	MW-3	02/05/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	03/24/2017	ND	24.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	05/25/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	06/20/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	08/08/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	05/09/2018	ND	5.0000		
Antimony, Total (Federal)	ug/L	MW-3	09/12/2018	ND	1.4000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	05/16/2019	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	11/06/2019	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	05/13/2020	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	11/03/2020	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	05/05/2021	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	11/01/2021	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-3	05/08/2022	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	09/28/2016		0.2300		
Antimony, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	50.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	11/09/2016	ND	50.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	5.0000		
Antimony, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	24.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	6.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	5.0000		
Antimony, Total (Federal)	ug/L	MW-4C	09/12/2018	ND	1.4000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	05/16/2019	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	11/06/2019	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	11/03/2020	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	05/05/2021	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	11/01/2021	ND	1.0000	5.0000	**
Antimony, Total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000	5.0000	**
Arsenic, Total (Federal)	ug/L	MW-2R	09/28/2016		4.3000		
Arsenic, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	11/09/2016		6.4000		
Arsenic, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	5.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	40.0000	10.0000	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Arsenic, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	06/20/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	05/09/2018		31.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	09/12/2018		11.0000		
Arsenic, Total (Federal)	ug/L	MW-2R	05/16/2019		8.3000		
Arsenic, Total (Federal)	ug/L	MW-2R	11/06/2019		10.5000		
Arsenic, Total (Federal)	ug/L	MW-2R	05/13/2020		14.7000		
Arsenic, Total (Federal)	ug/L	MW-2R	11/03/2020		8.9000		
Arsenic, Total (Federal)	ug/L	MW-2R	05/05/2021		6.2000		
Arsenic, Total (Federal)	ug/L	MW-2R	11/01/2021		9.9000		
Arsenic, Total (Federal)	ug/L	MW-2R	05/08/2022		16.3000		
Arsenic, Total (Federal)	ug/L	MW-3	09/28/2016		4.0000		
Arsenic, Total (Federal)	ug/L	MW-3	10/19/2016	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-3	11/09/2016		7.4000		
Arsenic, Total (Federal)	ug/L	MW-3	12/12/2016	ND	5.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-3	02/05/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-3	03/24/2017	ND	40.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-3	05/25/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-3	06/20/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-3	08/08/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-3	05/09/2018	ND	5.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-3	09/12/2018	ND	5.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-3	05/16/2019		12.9000		
Arsenic, Total (Federal)	ug/L	MW-3	11/06/2019		10.3000		
Arsenic, Total (Federal)	ug/L	MW-3	05/13/2020		16.2000		
Arsenic, Total (Federal)	ug/L	MW-3	11/03/2020		20.5000		
Arsenic, Total (Federal)	ug/L	MW-3	05/05/2021		17.0000		
Arsenic, Total (Federal)	ug/L	MW-3	11/01/2021		17.9000		
Arsenic, Total (Federal)	ug/L	MW-3	05/08/2022		14.8000		
Arsenic, Total (Federal)	ug/L	MW-4C	09/28/2016		2.4000		
Arsenic, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-4C	11/09/2016		4.9000		
Arsenic, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	5.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	40.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	10.0000		
Arsenic, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	5.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	09/12/2018	ND	1.2000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	05/16/2019	ND	1.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	11/06/2019	ND	1.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	1.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	11/03/2020	ND	1.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	05/05/2021	ND	1.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	11/01/2021	ND	1.0000	10.0000	**
Arsenic, Total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000	10.0000	**
Barium, Total (Federal)	ug/L	MW-2R	09/28/2016		43.0000		
Barium, Total (Federal)	ug/L	MW-2R	10/19/2016		37.0000		
Barium, Total (Federal)	ug/L	MW-2R	11/09/2016		37.0000		
Barium, Total (Federal)	ug/L	MW-2R	12/12/2016		29.0000		
Barium, Total (Federal)	ug/L	MW-2R	03/16/2017		53.0000		
Barium, Total (Federal)	ug/L	MW-2R	03/17/2017		66.0000		
Barium, Total (Federal)	ug/L	MW-2R	03/24/2017		54.0000		
Barium, Total (Federal)	ug/L	MW-2R	04/20/2017		46.0000		
Barium, Total (Federal)	ug/L	MW-2R	04/24/2017		56.0000		
Barium, Total (Federal)	ug/L	MW-2R	05/16/2017		46.0000		
Barium, Total (Federal)	ug/L	MW-2R	06/20/2017		45.0000		
Barium, Total (Federal)	ug/L	MW-2R	08/08/2017		42.0000		
Barium, Total (Federal)	ug/L	MW-2R	05/09/2018		73.0000		
Barium, Total (Federal)	ug/L	MW-2R	09/12/2018		44.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium, Total (Federal)	ug/L	MW-2R	05/16/2019		35.5000		
Barium, Total (Federal)	ug/L	MW-2R	11/06/2019		39.0000		
Barium, Total (Federal)	ug/L	MW-2R	05/13/2020		42.5000		
Barium, Total (Federal)	ug/L	MW-2R	11/03/2020		45.0000		
Barium, Total (Federal)	ug/L	MW-2R	05/05/2021		44.6000		
Barium, Total (Federal)	ug/L	MW-2R	11/01/2021		54.0000		
Barium, Total (Federal)	ug/L	MW-2R	05/08/2022		45.2000		
Barium, Total (Federal)	ug/L	MW-3	09/28/2016		32.0000		
Barium, Total (Federal)	ug/L	MW-3	10/19/2016		31.0000		
Barium, Total (Federal)	ug/L	MW-3	11/09/2016		36.0000		
Barium, Total (Federal)	ug/L	MW-3	12/12/2016		29.0000		
Barium, Total (Federal)	ug/L	MW-3	02/05/2017		37.0000		
Barium, Total (Federal)	ug/L	MW-3	03/24/2017		32.0000		
Barium, Total (Federal)	ug/L	MW-3	05/25/2017		36.0000		
Barium, Total (Federal)	ug/L	MW-3	06/20/2017		36.0000		
Barium, Total (Federal)	ug/L	MW-3	08/08/2017		40.0000		
Barium, Total (Federal)	ug/L	MW-3	05/09/2018		38.0000		
Barium, Total (Federal)	ug/L	MW-3	09/12/2018		45.0000		
Barium, Total (Federal)	ug/L	MW-3	05/16/2019		28.6000		
Barium, Total (Federal)	ug/L	MW-3	11/06/2019		42.8000		
Barium, Total (Federal)	ug/L	MW-3	05/13/2020		43.7000		
Barium, Total (Federal)	ug/L	MW-3	11/03/2020		39.4000		
Barium, Total (Federal)	ug/L	MW-3	05/05/2021		37.3000		
Barium, Total (Federal)	ug/L	MW-3	11/01/2021		38.2000		
Barium, Total (Federal)	ug/L	MW-3	05/08/2022		55.0000		
Barium, Total (Federal)	ug/L	MW-4C	09/28/2016		27.0000		
Barium, Total (Federal)	ug/L	MW-4C	10/19/2016		28.0000		
Barium, Total (Federal)	ug/L	MW-4C	11/09/2016		32.0000		
Barium, Total (Federal)	ug/L	MW-4C	12/12/2016		26.0000		
Barium, Total (Federal)	ug/L	MW-4C	02/05/2017		30.0000		
Barium, Total (Federal)	ug/L	MW-4C	03/25/2017		25.0000		
Barium, Total (Federal)	ug/L	MW-4C	05/25/2017		28.0000		
Barium, Total (Federal)	ug/L	MW-4C	06/20/2017		27.0000		
Barium, Total (Federal)	ug/L	MW-4C	08/08/2017		27.0000		
Barium, Total (Federal)	ug/L	MW-4C	05/09/2018		14.0000		
Barium, Total (Federal)	ug/L	MW-4C	09/12/2018		29.0000		
Barium, Total (Federal)	ug/L	MW-4C	05/16/2019		26.2000		
Barium, Total (Federal)	ug/L	MW-4C	11/06/2019		29.1000		
Barium, Total (Federal)	ug/L	MW-4C	05/13/2020		28.3000		
Barium, Total (Federal)	ug/L	MW-4C	11/03/2020		30.7000		
Barium, Total (Federal)	ug/L	MW-4C	05/05/2021		28.6000		
Barium, Total (Federal)	ug/L	MW-4C	11/01/2021		30.7000		
Barium, Total (Federal)	ug/L	MW-4C	05/08/2022		26.6000		
Beryllium, Total (Federal)	ug/L	MW-2R	09/28/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	11/09/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	4.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-2R	06/20/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-2R	05/09/2018	ND	5.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	09/12/2018	ND	0.6500	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	05/16/2019	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	11/06/2019	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	05/13/2020	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	11/03/2020	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	05/05/2021	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	11/01/2021	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-2R	05/08/2022	ND	0.2000	1.0000	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium, Total (Federal)	ug/L	MW-3	09/28/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	10/19/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	11/09/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	12/12/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	02/05/2017	ND	4.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	03/24/2017	ND	4.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	05/25/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-3	06/20/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-3	08/08/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-3	05/09/2018	ND	5.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	09/12/2018	ND	0.6500	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	05/16/2019	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	11/06/2019	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	05/13/2020	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	11/03/2020	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	05/05/2021	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	11/01/2021	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-3	05/08/2022	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	09/28/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	11/09/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	10.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	4.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	4.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	1.0000		
Beryllium, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	5.0000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	09/12/2018	ND	0.6500	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	05/16/2019	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	11/06/2019	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	11/03/2020	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	05/05/2021	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	11/01/2021	ND	0.2000	1.0000	**
Beryllium, Total (Federal)	ug/L	MW-4C	05/08/2022	ND	0.2000	1.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	09/28/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	11/09/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	4.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	06/20/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	05/09/2018	ND	5.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	09/12/2018	ND	0.5500	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-2R	05/16/2019	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-2R	11/06/2019	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-2R	05/13/2020	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-2R	11/03/2020	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-2R	05/05/2021	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-2R	11/01/2021	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-2R	05/08/2022	ND	0.2000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	09/28/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	10/19/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	11/09/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	12/12/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	02/05/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	03/24/2017	ND	4.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	05/25/2017	ND	1.0000	2.0000	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium, Total (Federal)	ug/L	MW-3	06/20/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	08/08/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	05/09/2018	ND	5.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	09/12/2018	ND	0.5500	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-3	05/16/2019	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-3	11/06/2019	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-3	05/13/2020	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-3	11/03/2020	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-3	05/05/2021	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-3	11/01/2021	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-3	05/08/2022	ND	0.2000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	09/28/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	11/09/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	10.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	4.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	1.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	5.0000	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	09/12/2018	ND	0.5500	2.0000	**
Cadmium, Total (Federal)	ug/L	MW-4C	05/16/2019	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-4C	11/06/2019	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-4C	11/03/2020	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-4C	05/05/2021	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-4C	11/01/2021	ND	2.0000		
Cadmium, Total (Federal)	ug/L	MW-4C	05/08/2022		0.8800		
Chromium, Total (Federal)	ug/L	MW-2R	09/28/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	11/09/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	06/20/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	05/09/2018	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	05/16/2019	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	05/13/2020	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	05/05/2021	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	11/01/2021	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-2R	05/08/2022	ND	2.0000	10.0000	**
Chromium, Total (Federal)	ug/L	MW-3	09/28/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	10/19/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	11/09/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	12/12/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	02/05/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	03/24/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	05/25/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	06/20/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	08/08/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	05/09/2018	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	05/16/2019	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	05/13/2020	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	05/05/2021	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	11/01/2021	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-3	05/08/2022	ND	2.0000	10.0000	**
Chromium, Total (Federal)	ug/L	MW-4C	09/28/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	10.0000		

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*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Chromium, Total (Federal)	ug/L	MW-4C	11/09/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	05/16/2019	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	05/05/2021	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	11/01/2021	ND	10.0000		
Chromium, Total (Federal)	ug/L	MW-4C	05/08/2022	ND	2.0000	10.0000	**
Cobalt, Total (Federal)	ug/L	MW-2R	09/28/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	11/09/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	06/20/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	05/09/2018	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-2R	09/12/2018	ND	3.6000	20.0000	**
Cobalt, Total (Federal)	ug/L	MW-2R	05/16/2019		3.3000		
Cobalt, Total (Federal)	ug/L	MW-2R	11/06/2019		3.1000		
Cobalt, Total (Federal)	ug/L	MW-2R	05/13/2020		2.8000		
Cobalt, Total (Federal)	ug/L	MW-2R	11/03/2020		3.1000		
Cobalt, Total (Federal)	ug/L	MW-2R	05/05/2021		2.9000		
Cobalt, Total (Federal)	ug/L	MW-2R	11/01/2021		2.2000		
Cobalt, Total (Federal)	ug/L	MW-2R	05/08/2022		3.3000		
Cobalt, Total (Federal)	ug/L	MW-3	09/28/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	10/19/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	11/09/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	12/12/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	02/05/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	03/24/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	05/25/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	06/20/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	08/08/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	05/09/2018	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-3	09/12/2018	ND	3.6000	20.0000	**
Cobalt, Total (Federal)	ug/L	MW-3	05/16/2019		2.0000		
Cobalt, Total (Federal)	ug/L	MW-3	11/06/2019		2.6000		
Cobalt, Total (Federal)	ug/L	MW-3	05/13/2020		2.7000		
Cobalt, Total (Federal)	ug/L	MW-3	11/03/2020		2.1000		
Cobalt, Total (Federal)	ug/L	MW-3	05/05/2021		2.1000		
Cobalt, Total (Federal)	ug/L	MW-3	11/01/2021		2.3000		
Cobalt, Total (Federal)	ug/L	MW-3	05/08/2022		1.8000		
Cobalt, Total (Federal)	ug/L	MW-4C	09/28/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	11/09/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	20.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	09/12/2018	ND	3.6000	20.0000	**
Cobalt, Total (Federal)	ug/L	MW-4C	05/16/2019		1.0000		

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** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cobalt, Total (Federal)	ug/L	MW-4C	11/06/2019	ND	1.0000	20.0000	**
Cobalt, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	1.0000	20.0000	**
Cobalt, Total (Federal)	ug/L	MW-4C	11/03/2020		1.0000		
Cobalt, Total (Federal)	ug/L	MW-4C	05/05/2021		1.2000		
Cobalt, Total (Federal)	ug/L	MW-4C	11/01/2021		1.1000		
Cobalt, Total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000	20.0000	**
Fluoride (Federal)	mg/L	MW-2R	09/28/2016	ND	0.5000	5.0000	**
Fluoride (Federal)	mg/L	MW-2R	10/19/2016	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	11/09/2016	ND	0.5000	5.0000	**
Fluoride (Federal)	mg/L	MW-2R	12/12/2016	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	03/16/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	03/17/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	03/24/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	04/20/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	04/24/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	05/16/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	06/20/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	08/08/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	05/09/2018	ND	5.0000		
Fluoride (Federal)	mg/L	MW-2R	09/12/2018	ND	0.6000	5.0000	**
Fluoride (Federal)	mg/L	MW-2R	05/16/2019	ND	0.1000	5.0000	**
Fluoride (Federal)	mg/L	MW-2R	11/06/2019	ND	0.1000	5.0000	**
Fluoride (Federal)	mg/L	MW-2R	05/13/2020		0.1200		
Fluoride (Federal)	mg/L	MW-2R	11/03/2020		0.1200		
Fluoride (Federal)	mg/L	MW-2R	05/05/2021	ND	0.1000	5.0000	**
Fluoride (Federal)	mg/L	MW-2R	11/01/2021	ND	0.1000	5.0000	**
Fluoride (Federal)	mg/L	MW-2R	05/08/2022	ND	0.1000	5.0000	**
Fluoride (Federal)	mg/L	MW-3	09/28/2016	ND	0.5000	5.0000	**
Fluoride (Federal)	mg/L	MW-3	10/19/2016	ND	5.0000		
Fluoride (Federal)	mg/L	MW-3	11/09/2016	ND	0.5000	5.0000	**
Fluoride (Federal)	mg/L	MW-3	12/12/2016	ND	5.0000		
Fluoride (Federal)	mg/L	MW-3	02/05/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-3	03/24/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-3	05/25/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-3	06/20/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-3	08/08/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-3	05/09/2018	ND	5.0000		
Fluoride (Federal)	mg/L	MW-3	09/12/2018	ND	0.6000	5.0000	**
Fluoride (Federal)	mg/L	MW-3	05/16/2019		0.1900		
Fluoride (Federal)	mg/L	MW-3	11/06/2019		0.1300		
Fluoride (Federal)	mg/L	MW-3	05/13/2020		0.3500		
Fluoride (Federal)	mg/L	MW-3	11/03/2020		0.1700		
Fluoride (Federal)	mg/L	MW-3	05/05/2021		0.1400		
Fluoride (Federal)	mg/L	MW-3	11/01/2021		0.1000		
Fluoride (Federal)	mg/L	MW-3	05/08/2022	ND	0.1000	5.0000	**
Fluoride (Federal)	mg/L	MW-4C	09/28/2016	ND	0.5000	5.0000	**
Fluoride (Federal)	mg/L	MW-4C	10/19/2016	ND	5.0000		
Fluoride (Federal)	mg/L	MW-4C	11/09/2016	ND	0.5000	5.0000	**
Fluoride (Federal)	mg/L	MW-4C	12/12/2016	ND	5.0000		
Fluoride (Federal)	mg/L	MW-4C	02/05/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-4C	03/25/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-4C	05/25/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-4C	06/20/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-4C	08/08/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-4C	05/09/2018	ND	5.0000		
Fluoride (Federal)	mg/L	MW-4C	09/12/2018	ND	0.6000	5.0000	**
Fluoride (Federal)	mg/L	MW-4C	05/16/2019		0.1100		
Fluoride (Federal)	mg/L	MW-4C	11/06/2019		0.1200		
Fluoride (Federal)	mg/L	MW-4C	05/13/2020		0.1900		
Fluoride (Federal)	mg/L	MW-4C	11/03/2020		0.1200		
Fluoride (Federal)	mg/L	MW-4C	05/05/2021	ND	0.1000	5.0000	**
Fluoride (Federal)	mg/L	MW-4C	11/01/2021		0.1200		
Fluoride (Federal)	mg/L	MW-4C	05/08/2022	ND	0.1000	5.0000	**
Lead, Total (Federal)	ug/L	MW-2R	09/28/2016	ND	10.0000		

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** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lead, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	11/09/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	06/20/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	05/09/2018	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	05/16/2019	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	11/06/2019	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	05/13/2020	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	11/03/2020	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	05/05/2021	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	11/01/2021	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-2R	05/08/2022	ND	1.0000	10.0000	**
Lead, Total (Federal)	ug/L	MW-3	09/28/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	10/19/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	11/09/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	12/12/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	02/05/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	03/24/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	05/25/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	06/20/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	08/08/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	05/09/2018	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	05/16/2019		47.8000		
Lead, Total (Federal)	ug/L	MW-3	11/06/2019	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	05/13/2020	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	11/03/2020	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	05/05/2021	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	11/01/2021	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-3	05/08/2022	ND	1.0000	10.0000	**
Lead, Total (Federal)	ug/L	MW-4C	09/28/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	11/09/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	05/16/2019	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	11/06/2019	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	11/03/2020	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	05/05/2021	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	11/01/2021	ND	10.0000		
Lead, Total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000	10.0000	**
Lithium, Total (Federal)	ug/L	MW-2R	09/28/2016		1100.0000		
Lithium, Total (Federal)	ug/L	MW-2R	10/19/2016		820.0000		
Lithium, Total (Federal)	ug/L	MW-2R	11/09/2016		780.0000		
Lithium, Total (Federal)	ug/L	MW-2R	12/12/2016		510.0000		
Lithium, Total (Federal)	ug/L	MW-2R	03/16/2017		280.0000		
Lithium, Total (Federal)	ug/L	MW-2R	03/17/2017		410.0000		
Lithium, Total (Federal)	ug/L	MW-2R	03/24/2017		530.0000		
Lithium, Total (Federal)	ug/L	MW-2R	04/20/2017		780.0000		
Lithium, Total (Federal)	ug/L	MW-2R	04/24/2017		840.0000		
Lithium, Total (Federal)	ug/L	MW-2R	05/16/2017		1100.0000		
Lithium, Total (Federal)	ug/L	MW-2R	06/20/2017		1100.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lithium, Total (Federal)	ug/L	MW-2R	08/08/2017		1000.0000		
Lithium, Total (Federal)	ug/L	MW-2R	05/09/2018		960.0000		
Lithium, Total (Federal)	ug/L	MW-2R	09/12/2018		800.0000		
Lithium, Total (Federal)	ug/L	MW-2R	05/16/2019		616.0000		
Lithium, Total (Federal)	ug/L	MW-2R	11/06/2019		495.0000		
Lithium, Total (Federal)	ug/L	MW-2R	05/13/2020		638.0000		
Lithium, Total (Federal)	ug/L	MW-2R	11/03/2020		522.0000		
Lithium, Total (Federal)	ug/L	MW-2R	05/05/2021		890.0000		
Lithium, Total (Federal)	ug/L	MW-2R	11/01/2021		912.0000		
Lithium, Total (Federal)	ug/L	MW-2R	05/08/2022		897.0000		
Lithium, Total (Federal)	ug/L	MW-3	09/28/2016		2000.0000		
Lithium, Total (Federal)	ug/L	MW-3	10/19/2016		1900.0000		
Lithium, Total (Federal)	ug/L	MW-3	11/09/2016		2200.0000		
Lithium, Total (Federal)	ug/L	MW-3	12/12/2016		2200.0000		
Lithium, Total (Federal)	ug/L	MW-3	02/05/2017		2100.0000		
Lithium, Total (Federal)	ug/L	MW-3	03/24/2017		2100.0000		
Lithium, Total (Federal)	ug/L	MW-3	05/25/2017		2000.0000		
Lithium, Total (Federal)	ug/L	MW-3	06/20/2017		2000.0000		
Lithium, Total (Federal)	ug/L	MW-3	08/08/2017		1600.0000		
Lithium, Total (Federal)	ug/L	MW-3	05/09/2018		2600.0000		
Lithium, Total (Federal)	ug/L	MW-3	09/12/2018		2600.0000		
Lithium, Total (Federal)	ug/L	MW-3	05/16/2019		1260.0000		
Lithium, Total (Federal)	ug/L	MW-3	11/06/2019		1930.0000		
Lithium, Total (Federal)	ug/L	MW-3	05/13/2020		1520.0000		
Lithium, Total (Federal)	ug/L	MW-3	11/03/2020		1760.0000		
Lithium, Total (Federal)	ug/L	MW-3	05/05/2021		1820.0000		
Lithium, Total (Federal)	ug/L	MW-3	11/01/2021		1880.0000		
Lithium, Total (Federal)	ug/L	MW-3	05/08/2022		1960.0000		
Lithium, Total (Federal)	ug/L	MW-4C	09/28/2016		310.0000		
Lithium, Total (Federal)	ug/L	MW-4C	10/19/2016		280.0000		
Lithium, Total (Federal)	ug/L	MW-4C	11/09/2016		330.0000		
Lithium, Total (Federal)	ug/L	MW-4C	12/12/2016		260.0000		
Lithium, Total (Federal)	ug/L	MW-4C	02/05/2017		310.0000		
Lithium, Total (Federal)	ug/L	MW-4C	03/25/2017		290.0000		
Lithium, Total (Federal)	ug/L	MW-4C	05/25/2017		330.0000		
Lithium, Total (Federal)	ug/L	MW-4C	06/20/2017		250.0000		
Lithium, Total (Federal)	ug/L	MW-4C	08/08/2017		230.0000		
Lithium, Total (Federal)	ug/L	MW-4C	05/09/2018		250.0000		
Lithium, Total (Federal)	ug/L	MW-4C	09/12/2018		280.0000		
Lithium, Total (Federal)	ug/L	MW-4C	05/16/2019		316.0000		
Lithium, Total (Federal)	ug/L	MW-4C	11/06/2019		284.0000		
Lithium, Total (Federal)	ug/L	MW-4C	05/13/2020		242.0000		
Lithium, Total (Federal)	ug/L	MW-4C	11/03/2020		287.0000		
Lithium, Total (Federal)	ug/L	MW-4C	05/05/2021		359.0000		
Lithium, Total (Federal)	ug/L	MW-4C	11/01/2021		334.0000		
Lithium, Total (Federal)	ug/L	MW-4C	05/08/2022		442.0000		
Mercury, total (Federal)	ug/L	MW-2R	09/28/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	10/19/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	11/09/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	12/12/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	03/16/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	03/17/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	03/24/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	04/20/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	04/24/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	05/16/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	06/20/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	08/08/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	05/09/2018	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-2R	05/16/2019	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-2R	05/13/2020	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-2R	05/05/2021	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-2R	11/01/2021	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-2R	05/08/2022	ND	0.2000		

* - 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 C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Mercury, total (Federal)	ug/L	MW-3	09/28/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	10/19/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	11/09/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	12/12/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	02/05/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	03/24/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	05/25/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	06/20/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	08/08/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	05/09/2018	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-3	05/16/2019	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-3	05/13/2020	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-3	05/05/2021	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-3	11/01/2021	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-3	05/08/2022	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	09/28/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	10/19/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	11/09/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	12/12/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	02/05/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	03/25/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	05/25/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	06/20/2017		0.3500		
Mercury, total (Federal)	ug/L	MW-4C	08/08/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	05/09/2018	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-4C	05/16/2019	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-4C	05/13/2020	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-4C	05/05/2021	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-4C	11/01/2021	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-4C	05/08/2022	ND	0.2000		
Molybdenum, Total (Federal)	ug/L	MW-2R	09/28/2016	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	11/09/2016	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	06/20/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	05/09/2018	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	09/12/2018	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	05/16/2019		11.2000		
Molybdenum, Total (Federal)	ug/L	MW-2R	11/06/2019	ND	10.0000	100.0000	**
Molybdenum, Total (Federal)	ug/L	MW-2R	05/13/2020		11.7000		
Molybdenum, Total (Federal)	ug/L	MW-2R	11/03/2020		12.8000		
Molybdenum, Total (Federal)	ug/L	MW-2R	05/05/2021		10.3000		
Molybdenum, Total (Federal)	ug/L	MW-2R	11/01/2021		11.0000		
Molybdenum, Total (Federal)	ug/L	MW-2R	05/08/2022		10.2000		
Molybdenum, Total (Federal)	ug/L	MW-3	09/28/2016		350.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	10/19/2016		330.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	11/09/2016		280.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	12/12/2016		390.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	02/05/2017		660.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	03/24/2017		660.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	05/25/2017		570.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	06/20/2017		510.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	08/08/2017		330.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	05/09/2018		390.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	09/12/2018		520.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	05/16/2019		338.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	11/06/2019		508.0000		

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Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Molybdenum, Total (Federal)	ug/L	MW-3	05/13/2020		529.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	11/03/2020		549.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	05/05/2021		532.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	11/01/2021		501.0000		
Molybdenum, Total (Federal)	ug/L	MW-3	05/08/2022		273.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	09/28/2016	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	11/09/2016	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	09/12/2018	ND	100.0000		
Molybdenum, Total (Federal)	ug/L	MW-4C	05/16/2019	ND	10.0000	100.0000	**
Molybdenum, Total (Federal)	ug/L	MW-4C	11/06/2019	ND	10.0000	100.0000	**
Molybdenum, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	10.0000	100.0000	**
Molybdenum, Total (Federal)	ug/L	MW-4C	11/03/2020	ND	10.0000	100.0000	**
Molybdenum, Total (Federal)	ug/L	MW-4C	05/05/2021	ND	10.0000	100.0000	**
Molybdenum, Total (Federal)	ug/L	MW-4C	11/01/2021	ND	10.0000	100.0000	**
Molybdenum, Total (Federal)	ug/L	MW-4C	05/08/2022		7.8000		
Selenium, Total (Federal)	ug/L	MW-2R	09/28/2016	ND	1.6000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	10.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	11/09/2016	ND	20.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	20.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-2R	06/20/2017		5.9000		
Selenium, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-2R	05/09/2018	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-2R	09/12/2018	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-2R	05/16/2019	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	11/06/2019	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	05/13/2020	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	11/03/2020	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	05/05/2021	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	11/01/2021	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-2R	05/08/2022	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	09/28/2016		2.6000		
Selenium, Total (Federal)	ug/L	MW-3	10/19/2016	ND	10.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	11/09/2016		2.3000		
Selenium, Total (Federal)	ug/L	MW-3	12/12/2016	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-3	02/05/2017	ND	30.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	03/24/2017	ND	20.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	05/25/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-3	06/20/2017		5.2000		
Selenium, Total (Federal)	ug/L	MW-3	08/08/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-3	05/09/2018	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-3	09/12/2018	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-3	05/16/2019	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	11/06/2019	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	05/13/2020	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	11/03/2020	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	05/05/2021	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	11/01/2021	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-3	05/08/2022	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	09/28/2016	ND	1.6000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	10.0000	5.0000	**

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*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Selenium, Total (Federal)	ug/L	MW-4C	11/09/2016	ND	20.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	30.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	20.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-4C	09/12/2018	ND	5.0000		
Selenium, Total (Federal)	ug/L	MW-4C	05/16/2019	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	11/06/2019	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	11/03/2020	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	05/05/2021	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	11/01/2021	ND	1.0000	5.0000	**
Selenium, Total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000	5.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	09/28/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	10/19/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	11/09/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	12/12/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	03/16/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	03/17/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	03/24/2017	ND	20.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	04/20/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	04/24/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	05/16/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	06/20/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	08/08/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	05/09/2018	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	09/12/2018		2.3000		
Thallium, Total (Federal)	ug/L	MW-2R	05/16/2019	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	11/06/2019	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	05/13/2020	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	11/03/2020	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	05/05/2021	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	11/01/2021	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-2R	05/08/2022	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	09/28/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	10/19/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	11/09/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	12/12/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	02/05/2017	ND	2.0000		
Thallium, Total (Federal)	ug/L	MW-3	03/24/2017	ND	20.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	05/25/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	06/20/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	08/08/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	05/09/2018	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	09/12/2018	ND	0.6000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	05/16/2019	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	11/06/2019	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	05/13/2020	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	11/03/2020	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	05/05/2021	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	11/01/2021	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-3	05/08/2022	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	09/28/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	10/19/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	11/09/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	12/12/2016	ND	50.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	02/05/2017	ND	2.0000		
Thallium, Total (Federal)	ug/L	MW-4C	03/25/2017	ND	20.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	05/25/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	06/20/2017	ND	5.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	08/08/2017	ND	5.0000	2.0000	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Thallium, Total (Federal)	ug/L	MW-4C	05/09/2018	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	09/12/2018	ND	0.6000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	05/16/2019	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	11/06/2019	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	05/13/2020	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	11/03/2020	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	05/05/2021	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	11/01/2021	ND	1.0000	2.0000	**
Thallium, Total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000	2.0000	**
Total Radium (Federal)	pCi/L	MW-2R	03/16/2017	ND	0.5500	1.0000	**
Total Radium (Federal)	pCi/L	MW-2R	03/17/2017		2.2800		
Total Radium (Federal)	pCi/L	MW-2R	03/24/2017		1.3600		
Total Radium (Federal)	pCi/L	MW-2R	04/20/2017		1.3800		
Total Radium (Federal)	pCi/L	MW-2R	04/24/2017		1.2000		
Total Radium (Federal)	pCi/L	MW-2R	05/16/2017		0.9700		
Total Radium (Federal)	pCi/L	MW-2R	06/20/2017		3.1200		
Total Radium (Federal)	pCi/L	MW-2R	08/08/2017		0.8900		
Total Radium (Federal)	pCi/L	MW-2R	05/09/2018		2.2000		
Total Radium (Federal)	pCi/L	MW-2R	09/12/2018	ND	1.0000		
Total Radium (Federal)	pCi/L	MW-2R	05/16/2019		1.1900		
Total Radium (Federal)	pCi/L	MW-2R	11/06/2019		0.8510		
Total Radium (Federal)	pCi/L	MW-2R	05/13/2020		1.0100		
Total Radium (Federal)	pCi/L	MW-2R	11/03/2020	ND	1.6200	1.0000	**
Total Radium (Federal)	pCi/L	MW-2R	05/05/2021		1.5900		
Total Radium (Federal)	pCi/L	MW-2R	11/01/2021	ND	1.7700	1.0000	**
Total Radium (Federal)	pCi/L	MW-2R	05/08/2022		1.2200		
Total Radium (Federal)	pCi/L	MW-3	09/28/2016		1.4000		
Total Radium (Federal)	pCi/L	MW-3	10/19/2016		2.5000		
Total Radium (Federal)	pCi/L	MW-3	11/09/2016		1.7700		
Total Radium (Federal)	pCi/L	MW-3	12/12/2016		2.0800		
Total Radium (Federal)	pCi/L	MW-3	02/05/2017		1.7000		
Total Radium (Federal)	pCi/L	MW-3	03/24/2017	ND	0.6000	1.0000	**
Total Radium (Federal)	pCi/L	MW-3	03/25/2017	ND	0.5000	1.0000	**
Total Radium (Federal)	pCi/L	MW-3	06/20/2017		0.9600		
Total Radium (Federal)	pCi/L	MW-3	08/08/2017		2.2000		
Total Radium (Federal)	pCi/L	MW-3	05/09/2018		2.0700		
Total Radium (Federal)	pCi/L	MW-3	09/12/2018	ND	1.0000		
Total Radium (Federal)	pCi/L	MW-3	05/16/2019		0.7450		
Total Radium (Federal)	pCi/L	MW-3	11/06/2019		4.4000		
Total Radium (Federal)	pCi/L	MW-3	05/13/2020		1.8000		
Total Radium (Federal)	pCi/L	MW-3	11/03/2020		0.7770		
Total Radium (Federal)	pCi/L	MW-3	05/05/2021		2.5100		
Total Radium (Federal)	pCi/L	MW-3	11/01/2021		1.5900		
Total Radium (Federal)	pCi/L	MW-3	05/08/2022		1.2600		
Total Radium (Federal)	pCi/L	MW-4C	09/28/2016		2.1000		
Total Radium (Federal)	pCi/L	MW-4C	10/19/2016		1.1000		
Total Radium (Federal)	pCi/L	MW-4C	11/09/2016		0.8600		
Total Radium (Federal)	pCi/L	MW-4C	12/12/2016		2.2800		
Total Radium (Federal)	pCi/L	MW-4C	02/05/2017		2.5200		
Total Radium (Federal)	pCi/L	MW-4C	03/25/2017		1.4000		
Total Radium (Federal)	pCi/L	MW-4C	06/20/2017		3.0300		
Total Radium (Federal)	pCi/L	MW-4C	08/08/2017		2.0300		
Total Radium (Federal)	pCi/L	MW-4C	05/09/2018	ND	1.0000		
Total Radium (Federal)	pCi/L	MW-4C	09/12/2018	ND	1.0000		
Total Radium (Federal)	pCi/L	MW-4C	05/16/2019		0.7880		
Total Radium (Federal)	pCi/L	MW-4C	11/06/2019	ND	1.3700	1.0000	**
Total Radium (Federal)	pCi/L	MW-4C	05/13/2020	ND	1.9900	1.0000	**
Total Radium (Federal)	pCi/L	MW-4C	11/03/2020		1.2200		
Total Radium (Federal)	pCi/L	MW-4C	05/05/2021		2.0900		
Total Radium (Federal)	pCi/L	MW-4C	11/01/2021		1.2500		
Total Radium (Federal)	pCi/L	MW-4C	05/08/2022		1.1600		

* - 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 C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, Total (Federal)	ug/L	AP-1R	05/12/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-2A	05/12/2022		3.1000		5.0000
Antimony, Total (Federal)	ug/L	AP-2BO	05/12/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-3	05/15/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-3A	05/15/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-4A	05/15/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-4I	05/15/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-5	05/15/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-6B	05/15/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-7	05/12/2022	ND	1.0000		5.0000
Antimony, Total (Federal)	ug/L	AP-8	05/12/2022	ND	1.0000		5.0000
Arsenic, Total (Federal)	ug/L	AP-1R	05/12/2022		1.7000		31.0000
Arsenic, Total (Federal)	ug/L	AP-2A	05/12/2022		16.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-2BO	05/12/2022		2.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-3	05/15/2022	ND	1.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-3A	05/15/2022		1.4000		31.0000
Arsenic, Total (Federal)	ug/L	AP-4A	05/15/2022	ND	1.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	1.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-4I	05/15/2022	ND	1.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-5	05/15/2022	ND	1.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	1.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	1.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-6B	05/15/2022	ND	1.0000		31.0000
Arsenic, Total (Federal)	ug/L	AP-7	05/12/2022		1.5000		31.0000
Arsenic, Total (Federal)	ug/L	AP-8	05/12/2022		5.4000		31.0000
Barium, Total (Federal)	ug/L	AP-1R	05/12/2022		66.5000		73.0000
Barium, Total (Federal)	ug/L	AP-2A	05/12/2022		52.6000		73.0000
Barium, Total (Federal)	ug/L	AP-2BO	05/12/2022		25.8000		73.0000
Barium, Total (Federal)	ug/L	AP-3	05/15/2022		18.2000		73.0000
Barium, Total (Federal)	ug/L	AP-3A	05/15/2022		34.6000		73.0000
Barium, Total (Federal)	ug/L	AP-4A	05/15/2022		26.8000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	05/15/2022		97.5000	***	73.0000
Barium, Total (Federal)	ug/L	AP-4I	05/15/2022		21.8000		73.0000
Barium, Total (Federal)	ug/L	AP-5	05/15/2022		29.3000		73.0000
Barium, Total (Federal)	ug/L	AP-5A	05/15/2022		23.5000		73.0000
Barium, Total (Federal)	ug/L	AP-6A	05/15/2022		22.6000		73.0000
Barium, Total (Federal)	ug/L	AP-6B	05/15/2022		30.5000		73.0000
Barium, Total (Federal)	ug/L	AP-7	05/12/2022		82.2000	***	73.0000
Barium, Total (Federal)	ug/L	AP-8	05/12/2022		15.2000		73.0000
Beryllium, Total (Federal)	ug/L	AP-1R	05/12/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-2A	05/12/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-2BO	05/12/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-3	05/15/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-3A	05/15/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-4A	05/15/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-4I	05/15/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-5	05/15/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-6B	05/15/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-7	05/12/2022	ND	0.2000		1.0000
Beryllium, Total (Federal)	ug/L	AP-8	05/12/2022		4.2000	***	1.0000
Cadmium, Total (Federal)	ug/L	AP-1R	05/12/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-2A	05/12/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-2BO	05/12/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-3	05/15/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-3A	05/15/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-4A	05/15/2022	ND	0.2000		2.0000

* - 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 C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Cadmium, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-4I	05/15/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-5	05/15/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-6B	05/15/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-7	05/12/2022	ND	0.2000		2.0000
Cadmium, Total (Federal)	ug/L	AP-8	05/12/2022		15.4000	***	2.0000
Chromium, Total (Federal)	ug/L	AP-1R	05/12/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-2A	05/12/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-2BO	05/12/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-3	05/15/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-3A	05/15/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-4A	05/15/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-4I	05/15/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-5	05/15/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-6B	05/15/2022		2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-7	05/12/2022	ND	2.0000		10.0000
Chromium, Total (Federal)	ug/L	AP-8	05/12/2022	ND	2.0000		10.0000
Cobalt, Total (Federal)	ug/L	AP-1R	05/12/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-2A	05/12/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-2BO	05/12/2022		4.8000		20.0000
Cobalt, Total (Federal)	ug/L	AP-3	05/15/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-3A	05/15/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-4A	05/15/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-4I	05/15/2022		2.7000		20.0000
Cobalt, Total (Federal)	ug/L	AP-5	05/15/2022		1.7000		20.0000
Cobalt, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-6B	05/15/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-7	05/12/2022	ND	1.0000		20.0000
Cobalt, Total (Federal)	ug/L	AP-8	05/12/2022		663.0000	***	20.0000
Fluoride (Federal)	mg/L	AP-1R	05/12/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	AP-2A	05/12/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	AP-2BO	05/12/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	AP-3	05/15/2022		0.1300		5.0000
Fluoride (Federal)	mg/L	AP-3A	05/15/2022		0.1500		5.0000
Fluoride (Federal)	mg/L	AP-4A	05/15/2022		0.1500		5.0000
Fluoride (Federal)	mg/L	AP-4B	05/15/2022		0.1100		5.0000
Fluoride (Federal)	mg/L	AP-4I	05/15/2022		0.2500		5.0000
Fluoride (Federal)	mg/L	AP-5	05/15/2022		0.1800		5.0000
Fluoride (Federal)	mg/L	AP-5A	05/15/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	AP-6A	05/15/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	AP-6B	05/15/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	AP-7	05/12/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	AP-8	05/12/2022		1.0000		5.0000
Lead, Total (Federal)	ug/L	AP-1R	05/12/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-2A	05/12/2022		1.5000		47.8000
Lead, Total (Federal)	ug/L	AP-2BO	05/12/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-3	05/15/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-3A	05/15/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-4A	05/15/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-4I	05/15/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-5	05/15/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-6B	05/15/2022	ND	1.0000		47.8000

* - 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 C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Lead, Total (Federal)	ug/L	AP-7	05/12/2022	ND	1.0000		47.8000
Lead, Total (Federal)	ug/L	AP-8	05/12/2022	ND	1.0000		47.8000
Lithium, Total (Federal)	ug/L	AP-1R	05/12/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-2A	05/12/2022		66.8000		2763.6016
Lithium, Total (Federal)	ug/L	AP-2BO	05/12/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-3	05/15/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-3A	05/15/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-4A	05/15/2022		45.2000		2763.6016
Lithium, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-4I	05/15/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-5	05/15/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-6B	05/15/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-7	05/12/2022	ND	20.0000		2763.6016
Lithium, Total (Federal)	ug/L	AP-8	05/12/2022		83.0000		2763.6016
Mercury, total (Federal)	ug/L	AP-1R	05/12/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-2A	05/12/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-2BO	05/12/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-3	05/15/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-3A	05/15/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-4A	05/15/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-4B	05/15/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-4I	05/15/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-5	05/15/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-5A	05/15/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-6A	05/15/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-6B	05/15/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-7	05/12/2022	ND	0.0002		0.3500
Mercury, total (Federal)	ug/L	AP-8	05/12/2022	ND	0.0002		0.3500
Molybdenum, Total (Federal)	ug/L	AP-1R	05/12/2022		13.4000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	05/12/2022		1570.0000	***	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2BO	05/12/2022		155.0000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-3	05/15/2022		1.1000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-3A	05/15/2022		639.0000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-4A	05/15/2022		183.0000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	1.0000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-4I	05/15/2022		56.7000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-5	05/15/2022		27.6000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-5A	05/15/2022		210.0000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	1.0000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-6B	05/15/2022	ND	1.0000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-7	05/12/2022	ND	1.0000		660.0000
Molybdenum, Total (Federal)	ug/L	AP-8	05/12/2022	ND	1.0000		660.0000
Selenium, Total (Federal)	ug/L	AP-1R	05/12/2022	ND	1.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-2A	05/12/2022	ND	1.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-2BO	05/12/2022	ND	1.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-3	05/15/2022		2.9000		5.9000
Selenium, Total (Federal)	ug/L	AP-3A	05/15/2022	ND	1.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-4A	05/15/2022	ND	1.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-4B	05/15/2022		14.4000	***	5.9000
Selenium, Total (Federal)	ug/L	AP-4I	05/15/2022	ND	1.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-5	05/15/2022		4.2000		5.9000
Selenium, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	1.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	1.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-6B	05/15/2022		3.1000		5.9000
Selenium, Total (Federal)	ug/L	AP-7	05/12/2022	ND	1.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-8	05/12/2022	ND	1.0000		5.9000
Thallium, Total (Federal)	ug/L	AP-1R	05/12/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-2A	05/12/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-2BO	05/12/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-3	05/15/2022	ND	1.0000		2.3000

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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 C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Thallium, Total (Federal)	ug/L	AP-3A	05/15/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-4A	05/15/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-4B	05/15/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-4I	05/15/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-5	05/15/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-5A	05/15/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-6A	05/15/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-6B	05/15/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-7	05/12/2022	ND	1.0000		2.3000
Thallium, Total (Federal)	ug/L	AP-8	05/12/2022	ND	1.0000		2.3000
Total Radium (Federal)	pCi/L	AP-1R	05/12/2022		1.1800		3.8866
Total Radium (Federal)	pCi/L	AP-2A	05/12/2022		1.7900		3.8866
Total Radium (Federal)	pCi/L	AP-2BO	05/12/2022		1.3500		3.8866
Total Radium (Federal)	pCi/L	AP-3	05/15/2022	ND	1.1400		3.8866
Total Radium (Federal)	pCi/L	AP-3A	05/15/2022		0.9810		3.8866
Total Radium (Federal)	pCi/L	AP-4A	05/15/2022	ND	1.3300		3.8866
Total Radium (Federal)	pCi/L	AP-4B	05/15/2022	ND	1.1700		3.8866
Total Radium (Federal)	pCi/L	AP-4I	05/15/2022		0.8630		3.8866
Total Radium (Federal)	pCi/L	AP-5	05/15/2022		0.8840		3.8866
Total Radium (Federal)	pCi/L	AP-5A	05/15/2022		1.2800		3.8866
Total Radium (Federal)	pCi/L	AP-6A	05/15/2022	ND	1.4000		3.8866
Total Radium (Federal)	pCi/L	AP-6B	05/15/2022	ND	0.9740		3.8866
Total Radium (Federal)	pCi/L	AP-7	05/12/2022		1.4200		3.8866
Total Radium (Federal)	pCi/L	AP-8	05/12/2022		0.7900		3.8866

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*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table C-3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, Total (Federal)	1	57	0.018	8	252	0.032
Arsenic, Total (Federal)	22	57	0.386	79	252	0.313
Barium, Total (Federal)	57	57	1.000	251	252	0.996
Beryllium, Total (Federal)	0	57	0.000	10	252	0.040
Cadmium, Total (Federal)	1	57	0.018	18	252	0.071
Chromium, Total (Federal)	0	48	0.000	2	210	0.010
Cobalt, Total (Federal)	18	57	0.316	46	252	0.183
Fluoride (Federal)	13	57	0.228	48	252	0.190
Lead, Total (Federal)	1	54	0.019	5	238	0.021
Lithium, Total (Federal)	57	57	1.000	59	252	0.234
Mercury, total (Federal)	1	48	0.021	2	196	0.010
Molybdenum, Total (Federal)	25	57	0.439	131	252	0.520
Selenium, Total (Federal)	4	57	0.070	43	252	0.171
Thallium, Total (Federal)	1	57	0.018	0	252	0.000
Total Radium (Federal)	41	52	0.788	196	251	0.781

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table C-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 (Federal)	1	57	0.018	8.695	8.695					2.326
Arsenic, Total (Federal)	22	57	0.386	8.575	7.683					2.326
Barium, Total (Federal)	57	57	1.000	3.566	2.732					2.326
Beryllium, Total (Federal)	0	57	0.000	8.695	8.695					2.326
Cadmium, Total (Federal)	1	57	0.018	8.695	8.695					2.326
Chromium, Total (Federal)	0	48	0.000	7.870	7.870					2.326
Cobalt, Total (Federal)	18	57	0.316	9.245	8.949					2.326
Fluoride (Federal)	13	57	0.228	10.977	10.697					2.326
Lead, Total (Federal)	1	54	0.019	18.388	18.388					2.326
Lithium, Total (Federal)	57	57	1.000	1.014	1.173					2.326
Mercury, total (Federal)	1	48	0.021	7.870	7.870					2.326
Molybdenum, Total (Federal)	25	57	0.439	6.701	6.739					2.326
Selenium, Total (Federal)	4	57	0.070	10.040	10.096					2.326
Thallium, Total (Federal)	1	57	0.018	8.695	8.695					2.326
Total Radium (Federal)	41	52	0.788	4.722	2.050					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 C-4

Shapiro-Wilk Multiple Group Test of Normality

Dist Form	Model Type
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
normal	normal
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
lognor	lognor

* - Distribution override for that constituent.
Fit to distribution is confirmed if G <= critical value.
Model type may not match distributional form when detection frequency < 50%.

Table C-5

Summary Statistics and Prediction Limits

Constituent	Units	Detect	N	Mean	SD	alpha	Factor	Pred Limit	Type	
Antimony, Total (Federal)	ug/L	1	57					5.0000	nonpar	***
Arsenic, Total (Federal)	ug/L	22	57					31.0000	nonpar	
Barium, Total (Federal)	ug/L	57	57					73.0000	nonpar	
Beryllium, Total (Federal)	ug/L	0	57					1.0000	nonpar	***
Cadmium, Total (Federal)	ug/L	1	57					2.0000	nonpar	***
Chromium, Total (Federal)	ug/L	0	48					10.0000	nonpar	***
Cobalt, Total (Federal)	ug/L	18	57					20.0000	nonpar	***
Fluoride (Federal)	mg/L	13	57					5.0000	nonpar	***
Lead, Total (Federal)	ug/L	1	54					47.8000	nonpar	
Lithium, Total (Federal)	ug/L	57	57	996.3860	731.5610	0.0100	2.4157	2763.6016	normal	
Mercury, total (Federal)	ug/L	1	48					0.3500	nonpar	
Molybdenum, Total (Federal)	ug/L	25	57					660.0000	nonpar	
Selenium, Total (Federal)	ug/L	4	57					5.9000	nonpar	
Thallium, Total (Federal)	ug/L	1	57					2.3000	nonpar	
Total Radium (Federal)	pCi/L	41	52	0.3357	0.4214	0.0100	2.4246	3.8866	lognor	

Conf = confidence level for passing initial test or one verification resample at all downgradient wells for a single constituent (nonparametric test only).
* - Insufficient Data.
** - Calculated limit raised to Manual Reporting Limit.
*** - Nonparametric limit based on ND value.
For transformed data, mean and SD in transformed units and prediction limit in original units.
All sample sizes and statistics are based on outlier free data.
For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table C-5

Summary Statistics and Prediction Limits

Conf
0.99
0.99
0.99
0.99
0.99
0.99
0.99
0.99
0.99
0.99
0.99
0.99
0.99

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 C-6

Dixon's Test Outliers
1% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value

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 C-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 (Federal)	ug/L	AP-4B	09/29/2016		62.0000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	10/18/2016		56.0000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	11/08/2016		61.0000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	12/13/2016		45.0000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	02/04/2017		78.0000	*	73.0000
Barium, Total (Federal)	ug/L	AP-4B	03/23/2017		63.0000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	05/24/2017		53.0000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	06/21/2017		51.0000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	08/09/2017		74.0000	*	73.0000
Barium, Total (Federal)	ug/L	AP-4B	05/08/2018		81.0000	*	73.0000
Barium, Total (Federal)	ug/L	AP-4B	09/30/2018		44.0000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	05/14/2019		87.5000	*	73.0000
Barium, Total (Federal)	ug/L	AP-4B	11/04/2019		68.5000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	05/07/2020		107.0000	*	73.0000
Barium, Total (Federal)	ug/L	AP-4B	11/07/2020		70.8000		73.0000
Barium, Total (Federal)	ug/L	AP-4B	05/10/2021		100.0000	*	73.0000
Barium, Total (Federal)	ug/L	AP-4B	11/07/2021		108.0000	*	73.0000
Barium, Total (Federal)	ug/L	AP-4B	05/15/2022		97.5000	*	73.0000
Barium, Total (Federal)	ug/L	AP-7	09/28/2016		49.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	10/19/2016		56.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	11/09/2016		54.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	12/12/2016		45.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	02/05/2017		53.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	03/25/2017		47.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	05/24/2017		52.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	06/21/2017		47.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	08/08/2017		50.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	05/09/2018		56.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	09/30/2018		48.0000		73.0000
Barium, Total (Federal)	ug/L	AP-7	05/15/2019		69.2000		73.0000
Barium, Total (Federal)	ug/L	AP-7	11/05/2019		53.4000		73.0000
Barium, Total (Federal)	ug/L	AP-7	05/12/2020		66.8000		73.0000
Barium, Total (Federal)	ug/L	AP-7	11/05/2020		67.8000		73.0000
Barium, Total (Federal)	ug/L	AP-7	05/08/2021		79.5000	*	73.0000
Barium, Total (Federal)	ug/L	AP-7	11/03/2021		81.2000	*	73.0000
Barium, Total (Federal)	ug/L	AP-7	05/12/2022		82.2000	*	73.0000
Beryllium, Total (Federal)	ug/L	AP-8	09/28/2016	ND	10.0000		1.0000
Beryllium, Total (Federal)	ug/L	AP-8	10/19/2016	ND	10.0000		1.0000
Beryllium, Total (Federal)	ug/L	AP-8	11/09/2016	ND	10.0000		1.0000
Beryllium, Total (Federal)	ug/L	AP-8	12/12/2016	ND	10.0000		1.0000
Beryllium, Total (Federal)	ug/L	AP-8	02/05/2017	ND	4.0000		1.0000
Beryllium, Total (Federal)	ug/L	AP-8	03/25/2017	ND	4.0000		1.0000
Beryllium, Total (Federal)	ug/L	AP-8	05/24/2017	ND	2.0000		1.0000
Beryllium, Total (Federal)	ug/L	AP-8	06/20/2017		2.1000	*	1.0000
Beryllium, Total (Federal)	ug/L	AP-8	08/08/2017		2.4000	*	1.0000
Beryllium, Total (Federal)	ug/L	AP-8	05/09/2018	ND	5.0000		1.0000
Beryllium, Total (Federal)	ug/L	AP-8	09/30/2018		3.5000	*	1.0000
Beryllium, Total (Federal)	ug/L	AP-8	05/15/2019		1.9000	*	1.0000
Beryllium, Total (Federal)	ug/L	AP-8	11/04/2019		2.0000	*	1.0000
Beryllium, Total (Federal)	ug/L	AP-8	05/11/2020		1.5000	*	1.0000
Beryllium, Total (Federal)	ug/L	AP-8	11/05/2020		2.2000	*	1.0000
Beryllium, Total (Federal)	ug/L	AP-8	05/07/2021		6.5000	*	1.0000
Beryllium, Total (Federal)	ug/L	AP-8	12/09/2021		1.8000	*	1.0000
Beryllium, Total (Federal)	ug/L	AP-8	05/12/2022		4.2000	*	1.0000
Cadmium, Total (Federal)	ug/L	AP-8	09/28/2016		16.0000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	10/19/2016		13.0000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	11/09/2016		12.0000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	12/12/2016		18.0000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	02/05/2017		15.0000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	03/25/2017		9.1000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	05/24/2017		6.8000	*	2.0000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table C-7

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Cadmium, Total (Federal)	ug/L	AP-8	06/20/2017		9.9000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	08/08/2017		11.0000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	05/09/2018		6.3000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	09/30/2018		14.0000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	05/15/2019		7.0000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	11/04/2019		8.6000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	05/11/2020		6.2000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	11/05/2020		6.7000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	05/07/2021		10.5000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	12/09/2021		4.2000	*	2.0000
Cadmium, Total (Federal)	ug/L	AP-8	05/12/2022		15.4000	*	2.0000
Cobalt, Total (Federal)	ug/L	AP-8	09/28/2016		440.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	10/19/2016		370.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	11/09/2016		410.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	12/12/2016		500.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	02/05/2017		500.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	03/25/2017		350.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	05/24/2017		290.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	06/20/2017		400.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	08/08/2017		410.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	05/09/2018		260.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	09/30/2018		450.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	05/15/2019		295.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	11/04/2019		364.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	05/11/2020		258.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	11/05/2020		372.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	05/07/2021		677.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	12/09/2021		319.0000	*	20.0000
Cobalt, Total (Federal)	ug/L	AP-8	05/12/2022		663.0000	*	20.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	09/28/2016		2600.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	10/19/2016		2700.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	11/09/2016		2700.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	12/12/2016		2100.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	02/05/2017		3000.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	03/24/2017		2700.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	05/24/2017		2900.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	06/21/2017		2800.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	08/10/2017		2800.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	05/09/2018		2100.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	09/30/2018		2300.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	05/15/2019		2200.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	11/05/2019		2600.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	05/11/2020		2650.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	11/09/2020		2430.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	05/08/2021		1920.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	11/04/2021		1790.0000	*	660.0000
Molybdenum, Total (Federal)	ug/L	AP-2A	05/12/2022		1570.0000	*	660.0000
Selenium, Total (Federal)	ug/L	AP-4B	09/29/2016		10.0000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	10/18/2016		11.0000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	11/08/2016		6.8000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	12/13/2016		6.4000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	02/04/2017	ND	30.0000		5.9000
Selenium, Total (Federal)	ug/L	AP-4B	03/23/2017		7.4000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	05/24/2017		8.2000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	06/21/2017		7.1000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	08/09/2017		6.3000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	05/08/2018		9.1000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	09/30/2018		6.2000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	05/14/2019		9.7000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	11/04/2019		9.2000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	05/07/2020		7.2000	*	5.9000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

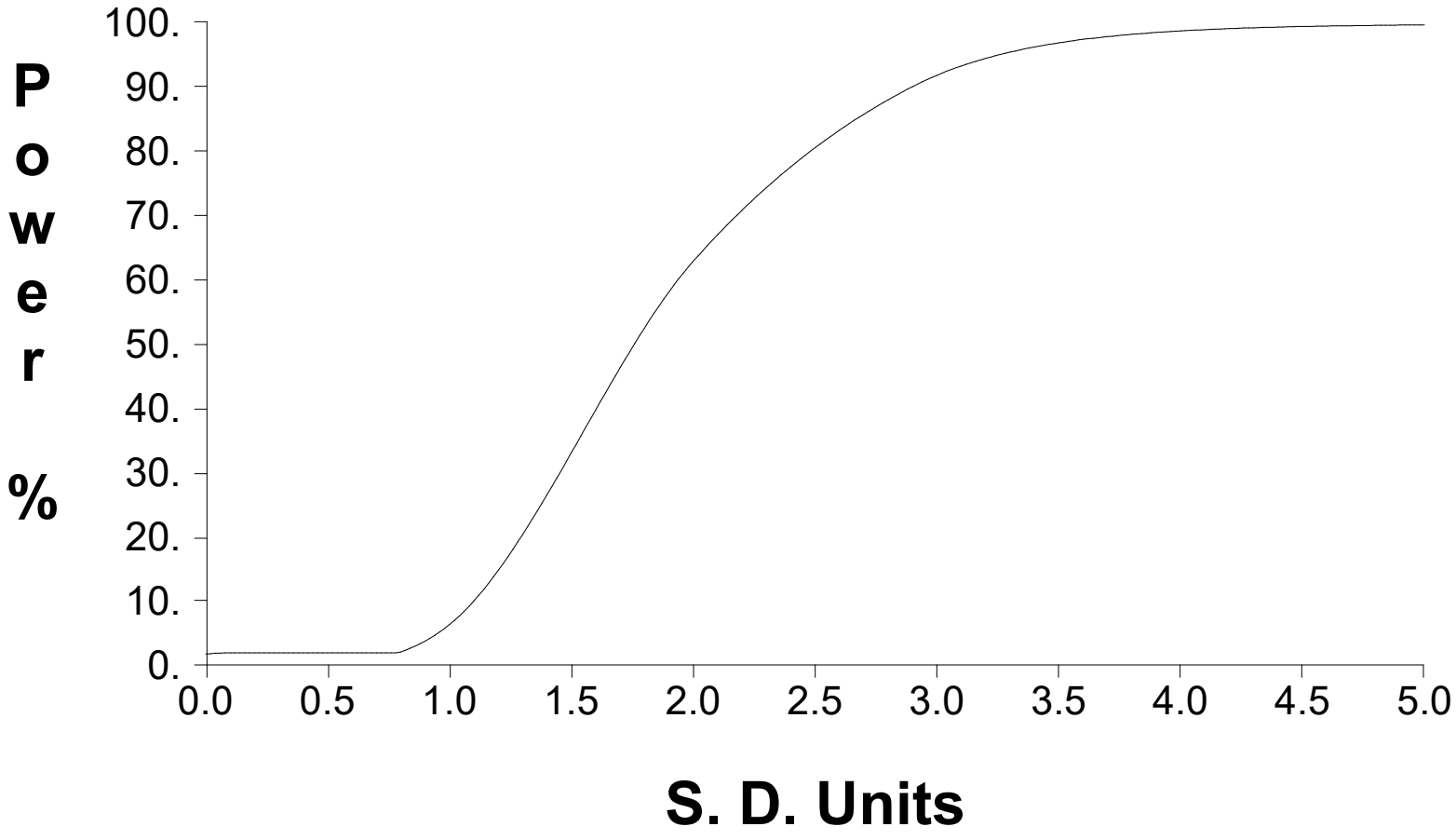
Table C-7

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Selenium, Total (Federal)	ug/L	AP-4B	11/07/2020		6.6000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	05/10/2021		16.7000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	11/07/2021		9.2000	*	5.9000
Selenium, Total (Federal)	ug/L	AP-4B	05/15/2022		14.4000	*	5.9000

* - 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



95% LCL DOCUMENTATION

NOVEMBER 2021

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	ug/L	AP-1R	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-2A	4	2.375	0.250	1.176	2.081	2.669	6.000		
Antimony, total	ug/L	AP-2BO	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-3	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-3A	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-4A	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-4B	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-4I	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-5	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-5A	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-6A	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-6B	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-7	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total	ug/L	AP-8	4	2.500	0.000	1.176	2.500	2.500	6.000		
Arsenic, total	ug/L	AP-1R	4	1.775	0.126	1.176	1.627	1.923	20.500		
Arsenic, total	ug/L	AP-2A	4	4.350	1.630	1.176	2.433	6.267	20.500		
Arsenic, total	ug/L	AP-2BO	4	2.300	0.392	1.176	1.839	2.761	20.500		
Arsenic, total	ug/L	AP-3	4	2.425	0.150	1.176	2.249	2.601	20.500		
Arsenic, total	ug/L	AP-3A	4	1.600	0.283	1.176	1.267	1.933	20.500		
Arsenic, total	ug/L	AP-4A	4	2.500	0.000	1.176	2.500	2.500	20.500		
Arsenic, total	ug/L	AP-4B	4	2.500	0.000	1.176	2.500	2.500	20.500		
Arsenic, total	ug/L	AP-4I	4	2.500	0.000	1.176	2.500	2.500	20.500		
Arsenic, total	ug/L	AP-5	4	2.500	0.000	1.176	2.500	2.500	20.500		
Arsenic, total	ug/L	AP-5A	4	2.175	0.650	1.176	1.410	2.940	20.500		
Arsenic, total	ug/L	AP-6A	4	2.325	0.350	1.176	1.913	2.737	20.500		
Arsenic, total	ug/L	AP-6B	4	2.500	0.000	1.176	2.500	2.500	20.500		
Arsenic, total	ug/L	AP-7	4	3.400	1.485	1.176	1.653	5.147	20.500		
Arsenic, total	ug/L	AP-8	4	5.775	1.372	1.176	4.161	7.389	20.500		
Barium, total	ug/L	AP-1R	4	64.200	5.558	1.176	57.663	70.737	2000.000	dec	
Barium, total	ug/L	AP-2A	4	46.125	2.313	1.176	43.404	48.846	2000.000	dec	
Barium, total	ug/L	AP-2BO	4	25.175	1.212	1.176	23.749	26.601	2000.000		
Barium, total	ug/L	AP-3	4	31.050	5.950	1.176	24.051	38.049	2000.000		
Barium, total	ug/L	AP-3A	4	36.000	2.093	1.176	33.538	38.462	2000.000		
Barium, total	ug/L	AP-4A	4	31.275	0.618	1.176	30.548	32.002	2000.000		
Barium, total	ug/L	AP-4B	4	96.450	17.466	1.176	75.904	116.996	2000.000	inc	
Barium, total	ug/L	AP-4I	4	28.575	1.871	1.176	26.374	30.776	2000.000		
Barium, total	ug/L	AP-5	4	28.650	9.170	1.176	17.864	39.436	2000.000		
Barium, total	ug/L	AP-5A	4	30.275	3.281	1.176	26.416	34.134	2000.000		
Barium, total	ug/L	AP-6A	4	28.275	2.238	1.176	25.642	30.908	2000.000		
Barium, total	ug/L	AP-6B	4	33.575	4.045	1.176	28.817	38.333	2000.000		
Barium, total	ug/L	AP-7	4	73.825	7.577	1.176	64.912	82.738	2000.000	inc	
Barium, total	ug/L	AP-8	4	16.425	2.076	1.176	13.983	18.867	2000.000		
Beryllium, total	ug/L	AP-1R	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-2A	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-2BO	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-3	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-3A	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-4A	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-4B	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-4I	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-5	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-5A	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-6A	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-6B	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-7	4	0.500	0.000	1.176	0.500	0.500	4.000		
Beryllium, total	ug/L	AP-8	4	3.000	2.351	1.176	0.235	5.765	4.000		
Cadmium, total	ug/L	AP-1R	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-2A	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-2BO	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-3	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-3A	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-4A	4	1.000	0.000	1.176	1.000	1.000	5.000		

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

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Cadmium, total	ug/L	AP-4B	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-4I	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-5	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-5A	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-6A	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-6B	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-7	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total	ug/L	AP-8	4	6.900	2.632	1.176	3.804	9.996	5.000	dec	
Chromium, total	ug/L	AP-1R	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-2A	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-2BO	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-3	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-3A	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-4A	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-4B	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-4I	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-5	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-5A	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-6A	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-6B	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-7	4	5.000	0.000	1.176	5.000	5.000	100.000		
Chromium, total	ug/L	AP-8	4	5.000	0.000	1.176	5.000	5.000	100.000		
Cobalt, total	ug/L	AP-1R	4	10.000	0.000	1.176	10.000	10.000	6.000		**
Cobalt, total	ug/L	AP-2A	4	10.000	0.000	1.176	10.000	10.000	6.000		**
Cobalt, total	ug/L	AP-2BO	4	3.100	0.455	1.176	2.565	3.635	6.000		
Cobalt, total	ug/L	AP-3	4	8.225	3.550	1.176	4.049	12.401	6.000		
Cobalt, total	ug/L	AP-3A	4	10.000	0.000	1.176	10.000	10.000	6.000		**
Cobalt, total	ug/L	AP-4A	4	10.000	0.000	1.176	10.000	10.000	6.000		**
Cobalt, total	ug/L	AP-4B	4	10.000	0.000	1.176	10.000	10.000	6.000		**
Cobalt, total	ug/L	AP-4I	4	2.300	0.392	1.176	1.839	2.761	6.000		
Cobalt, total	ug/L	AP-5	4	1.825	0.457	1.176	1.287	2.363	6.000		
Cobalt, total	ug/L	AP-5A	4	5.525	5.167	1.176	0.000	11.603	6.000		
Cobalt, total	ug/L	AP-6A	4	10.000	0.000	1.176	10.000	10.000	6.000		**
Cobalt, total	ug/L	AP-6B	4	10.000	0.000	1.176	10.000	10.000	6.000		**
Cobalt, total	ug/L	AP-7	4	10.000	0.000	1.176	10.000	10.000	6.000		**
Cobalt, total	ug/L	AP-8	4	406.500	186.252	1.176	187.414	625.586	6.000		**
Fluoride	mg/L	AP-1R	4	0.255	0.090	1.176	0.149	0.361	4.000		
Fluoride	mg/L	AP-2A	4	0.173	0.022	1.176	0.146	0.199	4.000		
Fluoride	mg/L	AP-2BO	4	0.300	0.000	1.176	0.300	0.300	4.000		
Fluoride	mg/L	AP-3	4	1.908	1.185	1.176	0.514	3.301	4.000		
Fluoride	mg/L	AP-3A	4	1.315	1.368	1.176	0.000	2.925	4.000		
Fluoride	mg/L	AP-4A	4	1.310	1.374	1.176	0.000	2.926	4.000		
Fluoride	mg/L	AP-4B	4	0.300	0.000	1.176	0.300	0.300	4.000		
Fluoride	mg/L	AP-4I	4	0.193	0.036	1.176	0.150	0.235	4.000		
Fluoride	mg/L	AP-5	4	0.755	1.164	1.176	0.000	2.124	4.000		
Fluoride	mg/L	AP-5A	4	0.253	0.095	1.176	0.141	0.364	4.000		
Fluoride	mg/L	AP-6A	4	0.300	0.000	1.176	0.300	0.300	4.000		
Fluoride	mg/L	AP-6B	4	0.300	0.000	1.176	0.300	0.300	4.000		
Fluoride	mg/L	AP-7	4	0.148	0.019	1.176	0.125	0.170	4.000		
Fluoride	mg/L	AP-8	4	0.780	0.576	1.176	0.103	1.457	4.000		
Lead, total	ug/L	AP-1R	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-2A	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-2BO	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-3	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-3A	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-4A	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-4B	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-4I	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-5	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-5A	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-6A	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-6B	4	5.000	0.000	1.176	5.000	5.000	47.800		

* - 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	ug/L	AP-7	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lead, total	ug/L	AP-8	4	5.000	0.000	1.176	5.000	5.000	47.800		
Lithium, total	ug/L	AP-1R	4	50.000	0.000	1.176	50.000	50.000	2787.100		
Lithium, total	ug/L	AP-2A	4	83.675	14.280	1.176	66.877	100.473	2787.100		
Lithium, total	ug/L	AP-2BO	4	43.950	12.100	1.176	29.717	58.183	2787.100		
Lithium, total	ug/L	AP-3	4	50.000	0.000	1.176	50.000	50.000	2787.100		
Lithium, total	ug/L	AP-3A	4	50.000	0.000	1.176	50.000	50.000	2787.100		
Lithium, total	ug/L	AP-4A	4	50.200	10.843	1.176	37.445	62.955	2787.100		
Lithium, total	ug/L	AP-4B	4	50.000	0.000	1.176	50.000	50.000	2787.100		
Lithium, total	ug/L	AP-4I	4	44.500	11.000	1.176	31.561	57.439	2787.100		
Lithium, total	ug/L	AP-5	4	38.500	13.550	1.176	22.562	54.438	2787.100		
Lithium, total	ug/L	AP-5A	4	43.400	13.200	1.176	27.873	58.927	2787.100		
Lithium, total	ug/L	AP-6A	4	50.000	0.000	1.176	50.000	50.000	2787.100		
Lithium, total	ug/L	AP-6B	4	50.000	0.000	1.176	50.000	50.000	2787.100		
Lithium, total	ug/L	AP-7	4	50.000	0.000	1.176	50.000	50.000	2787.100		
Lithium, total	ug/L	AP-8	4	52.700	17.372	1.176	32.266	73.134	2787.100		
Mercury, total	ug/L	AP-1R	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-2A	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-2BO	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-3	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-3A	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-4A	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-4B	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-4I	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-5	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-5A	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-6A	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-6B	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-7	4	0.100	0.000	1.176	0.100	0.100	2.000		
Mercury, total	ug/L	AP-8	4	0.100	0.000	1.176	0.100	0.100	2.000		
Molybdenum, total	ug/L	AP-1R	4	15.125	1.391	1.176	13.488	16.762	660.000		
Molybdenum, total	ug/L	AP-2A	4	2197.500	409.013	1.176	1716.383	2678.617	660.000		**
Molybdenum, total	ug/L	AP-2BO	4	300.250	214.175	1.176	48.318	552.182	660.000	dec	
Molybdenum, total	ug/L	AP-3	4	50.000	0.000	1.176	50.000	50.000	660.000		
Molybdenum, total	ug/L	AP-3A	4	654.000	129.298	1.176	501.908	806.092	660.000	dec	
Molybdenum, total	ug/L	AP-4A	4	221.000	5.774	1.176	214.209	227.791	660.000		
Molybdenum, total	ug/L	AP-4B	4	50.000	0.000	1.176	50.000	50.000	660.000		
Molybdenum, total	ug/L	AP-4I	4	125.475	39.049	1.176	79.542	171.408	660.000		
Molybdenum, total	ug/L	AP-5	4	113.525	32.826	1.176	74.912	152.138	660.000		
Molybdenum, total	ug/L	AP-5A	4	228.250	19.973	1.176	204.756	251.744	660.000		
Molybdenum, total	ug/L	AP-6A	4	50.000	0.000	1.176	50.000	50.000	660.000		
Molybdenum, total	ug/L	AP-6B	4	50.000	0.000	1.176	50.000	50.000	660.000		
Molybdenum, total	ug/L	AP-7	4	50.000	0.000	1.176	50.000	50.000	660.000		
Molybdenum, total	ug/L	AP-8	4	50.000	0.000	1.176	50.000	50.000	660.000		
Selenium, total	ug/L	AP-1R	4	2.500	0.000	1.176	2.500	2.500	50.000		
Selenium, total	ug/L	AP-2A	4	2.500	0.000	1.176	2.500	2.500	50.000		
Selenium, total	ug/L	AP-2BO	4	2.500	0.000	1.176	2.500	2.500	50.000		
Selenium, total	ug/L	AP-3	4	1.900	0.424	1.176	1.401	2.399	50.000		
Selenium, total	ug/L	AP-3A	4	2.500	0.000	1.176	2.500	2.500	50.000		
Selenium, total	ug/L	AP-4A	4	2.500	0.000	1.176	2.500	2.500	50.000		
Selenium, total	ug/L	AP-4B	4	9.925	4.651	1.176	4.454	15.396	50.000		
Selenium, total	ug/L	AP-4I	4	2.500	0.000	1.176	2.500	2.500	50.000		
Selenium, total	ug/L	AP-5	4	2.100	0.804	1.176	1.154	3.046	50.000		
Selenium, total	ug/L	AP-5A	4	2.500	0.000	1.176	2.500	2.500	50.000		
Selenium, total	ug/L	AP-6A	4	2.500	0.000	1.176	2.500	2.500	50.000		
Selenium, total	ug/L	AP-6B	4	1.875	0.723	1.176	1.025	2.725	50.000		
Selenium, total	ug/L	AP-7	4	2.500	0.000	1.176	2.500	2.500	50.000		
Selenium, total	ug/L	AP-8	4	2.775	0.991	1.176	1.609	3.941	50.000		
Thallium, total	ug/L	AP-1R	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-2A	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-2BO	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-3	4	1.000	0.000	1.176	1.000	1.000	2.000		

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** - Significant Exceedance
LCL = Lower Confidence Limit
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Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Thallium, total	ug/L	AP-3A	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-4A	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-4B	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-4I	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-5	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-5A	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-6A	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-6B	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-7	4	1.000	0.000	1.176	1.000	1.000	2.000		
Thallium, total	ug/L	AP-8	4	1.000	0.000	1.176	1.000	1.000	2.000		
Total Radium	pCi/L	AP-1R	4	0.884	0.077	1.176	0.793	0.974	5.000		
Total Radium	pCi/L	AP-2A	4	1.192	0.184	1.176	0.975	1.409	5.000		
Total Radium	pCi/L	AP-2BO	4	1.096	0.178	1.176	0.886	1.306	5.000		
Total Radium	pCi/L	AP-3	4	0.683	0.127	1.176	0.534	0.832	5.000		
Total Radium	pCi/L	AP-3A	4	1.406	0.395	1.176	0.942	1.871	5.000		
Total Radium	pCi/L	AP-4A	4	1.415	0.345	1.176	1.009	1.821	5.000		
Total Radium	pCi/L	AP-4B	4	0.905	0.318	1.176	0.530	1.279	5.000		
Total Radium	pCi/L	AP-4I	4	1.248	0.848	1.176	0.251	2.245	5.000		
Total Radium	pCi/L	AP-5	4	1.150	0.812	1.176	0.195	2.105	5.000		
Total Radium	pCi/L	AP-5A	4	0.788	0.338	1.176	0.390	1.185	5.000		
Total Radium	pCi/L	AP-6A	4	0.790	0.369	1.176	0.356	1.224	5.000		
Total Radium	pCi/L	AP-6B	4	0.800	0.000	1.176	0.800	0.800	5.000		
Total Radium	pCi/L	AP-7	4	1.221	0.604	1.176	0.510	1.931	5.000		
Total Radium	pCi/L	AP-8	4	1.028	0.491	1.176	0.451	1.605	5.000		

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LCL = Lower Confidence Limit
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Table 1: 95% LCL Compared to GWPS

Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01113

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	**6**	**20.5**	**2000**	**4**	**5**	**100**	**6****	**4****	**47.8**	**2772.8**	**2**	**660**	**50**	**2****	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2021)	5	20.5	73	1	2	10	20	5	47.8	2772.8	0.35	660	5.9	5	4.042
Shallow Zone																
AP-1R	September 2018	3	5	46	2	1	5	10	2.5	5	50	0	50	2	2	0
	May 2019	3	2	47	1	1	5	10	2.5	5	50	0	24	2	2	0.511
	November 2019	3	1	47	1	1	5	10	2.5	5	50	0	10	2	2	0.549
	May 2020	3	0	49	1	1	5	10	0.505	5	50	0	5	2	2	0.182
	November 2020	2	1	54	1	1	5	10	0.505	5	50	0	14	2	2	0.182
	May 2021	2	1	52	1	1	5	10	0.505	5	50	0	14	2	1	0.081
	November 2021	2.500	1.627	57.663	0.500	1.000	5.000	10.000	0.149	5.000	50.000	0.100	13.488	2.500	1.000	0.793
AP-2BO	September 2018	3	5	18	2	1	5	10	2.5	5	50	0	406	2	2	0.413
	May 2019	3	3	17	1	1	5	4	2.5	5	50	0	298	2	2	0.371
	November 2019	3	2	17	1	1	5	1	2.5	5	50	0	183	2	2	0.501
	May 2020	3	1	21	1	1	5	0	2.5	5	50	0	157	2	2	0.212
	November 2020	2	2	23	1	1	5	3	2.5	5	50	0	99	2	2	0.845
	May 2021	2	2	24	1	1	5	2	0.300	5	50	0	65	2	1	0.623
	November 2021	2.500	1.839	23.749	0.5	1.000	5.000	2.565	0.300	5.000	29.717	0.100	48.318 264.819 (N=10)	2.500	1.000	0.886
AP-3	September 2018	3	5	13	2	1	5	10	2.5	5	50	0	50	2	2	0.248
	May 2019	3	5	14	1	1	5	3	0.505	5	50	0	50	2	2	0.260
	November 2019	3	5	13	1	1	5	3	0.505	5	50	0	50	2	2	0.336
	May 2020	2	3	19	1	1	5	0	0	5	50	0	50	2	2	0.049
	November 2020	2	2	22	1	1	5	0	0	5	50	0	50	1	2	0.049
	May 2021	2	2	25	1	1	5	4	0.514	5	50	0	50	1	1	0.000
	November 2021	2.500	2.249	24.051	0.500	1.000	5.000	4.049 5.499 (N=8)	0.514	5.000	50.000	0.100	50.000	1.401	1.000	0.534
AP-4B	September 2018	2	5	42	2	1	5	10	2.5	5	50	0	50	6	2	0.094
	May 2019	3	5	49	1	1	5	10	0.497	5	50	0	50	6	2	0
	November 2019	3	5	48	1	1	5	10	0.497	5	50	0	50	7	2	0.132
	May 2020	2	2	45	1	1	5	10	0.497	5	50	0	50	6	2	0.328
	November 2020	2	2	62	1	1	5	10	0.497	5	50	0	50	6	2	0.708
	May 2021	2	2	63	1	1	5	10	2.5	5	50	0	50	4	1	0.704
	November 2021	2.500	2.500	75.904	0.500	1.000	5.000	10.000	0.300	5.000	50.000	0.100	50.000	4.454	1.000	0.530
AP-4I	September 2018	3	5	19	2	1	5	10	2.5	5	50	0	35	2	2	1.161
	May 2019	3	5	19	2	1	5	3	0.547	5	50	0	37	2	2	1.219
	November 2019	3	5	19	2	1	5	1	0	5	50	0	54	2	2	1.096
	May 2020	3	2	22	1	1	5	0	0	5	32	0	85	2	2	0.413
	November 2020	2	2	28	1	1	5	2	0.15	5	32	0	77	2	2	0.302
	May 2021	2	2	26	1	1	5	2	0.145	5	32	0	84	2	1	0.161
	November 2021	2.500	2.500	26.374	0.500	1.000	5.000	1.839	0.15	5.000	31.561	0.100	79.542	2.500	1.000	0.251

Table 1: 95% LCL Compared to GWPS
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01113

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	**6**	**20.5**	**2000**	**4**	**5**	**100**	**6****	**4****	**47.8**	**2772.8**	**2**	**660**	**50**	**2****	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2021)	5	20.5	73	1	2	10	20	5	47.8	2772.8	0.35	660	5.9	5	4.042
AP-5	September 2018	3	5	17	2	1	5	10	2.5	5	50	0	60	2	2	0.107
	May 2019	3	5	19	2	1	5	3	0.564	5	26	0	62	2	2	0
	November 2019	3	5	22	2	1	5	1	0	5	16	0	114	2	2	0.248
	May 2020	2	2	23	1	1	5	0	0	5	14	0	123	2	2	0.000
	November 2020	2	2	26	1	1	5	2	0.18	5	19	0	108	2	2	0.365
	May 2021	2	2	17	1	1	5	1	0	5	16	0	69	2	1	0.237
	November 2021	2.500	2.500	17.864	0.500	1.000	5.000	1.287	0.000	5.000	22.562	0.100	74.912	1.154	1.000	0.195
AP-6B	September 2018	3	5	24	2	1	5	10	2.5	5	50	0	50	2	2	0.122
	May 2019	3	5	23	2	1	5	10	0.497	5	50	0	50	2	2	0.219
	November 2019	3	5	23	2	1	5	10	0.497	5	50	0	50	1	2	0.219
	May 2020	2	5	23	1	1	5	10	0.497	5	50	0	50	1	2	0.895
	November 2020	2	2	24	1	1	5	10	0.295	5	50	0	50	1	2	0.8
	May 2021	2	2	29	1	1	5	10	1.250	5	50	0	50	1	1	0.890
	November 2021	2.500	2.500	28.817	0.500	1.000	5.000	10.000	0.300	5.000	50.000	0.100	50.000	1.025	1.000	0.800
AP-7	September 2018	3	5	46	2	2	5	10	2.5	5	50	0	50	2	2	0.608
	May 2019	3	3	45	2	1	5	10	0.505	5	50	0	50	2	2	0
	November 2019	3	1	46	2	1	5	10	0	5	50	0	50	2	2	0
	May 2020	2	1	47	1	1	5	10	0	5	50	0	50	2	2	0.191
	November 2020	2	1	56	1	1	5	10	0.122	5	50	0	50	2	2	0.124
	May 2021	2	1	54	1	1	5	10	0.122	5	50	0	50	2	1	0.073
	November 2021	2.500	1.653	64.912	0.500	1.000	5.000	10.000	0.125	5.000	50.000	0.100	50.000	2.500	1.000	0.510
AP-8	September 2018	3	5	12	2	**7**	5	**283**	2.5	5	50	0	50	2	2	1.163
	May 2019	3	5	12	2	**5**	5	**247**	0.782	5	40	0	50	2	2	0.798
	November 2019	3	5	12	2	**5**	5	**244**	0.152	5	40	0	50	2	2	0.813
	May 2020	2	6	14	1	**5**	5	**242**	0	5	33	0	50	2	2	0.297
	November 2020	2	6	15	2	**6**	5	**258**	0.325	5	32	0	50	2	2	0.297
	May 2021	2	4	14	0	**6**	5	**205**	0.177	5	33	0	50	2	1	0.508
	November 2021	2.500	4.161	13.983	0.235 1.794 (N=10)	3.804 **5.883 (N=8)**	5.000	**187.414**	0.103	5.000	32.266	0.100	50.000	1.609	1.000	0.451 0.888 (N=8)

Table 1: 95% LCL Compared to GWPS

Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01113

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	**6**	**20.5**	**2000**	**4**	**5**	**100**	**6****	**4****	**47.8**	**2772.8**	**2**	**660**	**50**	**2****	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2021)	5	20.5	73	1	2	10	20	5	47.8	2772.8	0.35	660	5.9	5	4.042
Deep Zone																
AP-2A	September 2018	3	0	35	2	1	5	10	2.5	5	33	0	**2081**	2	2	1.08
	May 2019	3	0	35	1	1	5	3	0.497	5	41	0	**1984**	2	2	0.768
	November 2019	3	0	36	1	1	5	0	0	5	53	0	**2046**	2	2	0.504
	May 2020	2	0	40	1	1	5	0	0	5	55	0	**2177**	2	2	0
	November 2020	2	4	44	1	1	5	0	0.117	5	79	0	**2231**	2	2	0
	May 2021	2	3	44	1	1	5	3	0.146	5	68	0	**2008**	2	1	0
	November 2021	2.081	2.433	43.404	0.500	1.000	5.000	10.000	0.146	5.000	66.877	0.100	**1716.383**	2.500	1.000	0.975 0.957 (N=8)
AP-3A	September 2018	3	5	27	2	1	5	10	2.5	5	50	0	**676**	2	2	0.528
	May 2019	3	2	27	1	1	5	10	2.5	5	50	0	**672**	2	2	0.518
	November 2019	3	1	28	1	1	5	3	2.5	5	50	0	612	2	2	0.770
	May 2020	2	0	35	1	1	5	3	0.522	5	50	0	617	2	2	0.798
	November 2020	2	1	35	1	1	5	3	0	5	50	0	595	2	2	0.834
	May 2021	2	1	35	1	1	5	3	0	5	50	0	575	2	1	0.796
	November 2021	2.500	1.267	33.538	0.500	1.000	5.000	10.000	0.000	5.000	50.000	0.100	501.908 678.165 (N=10)[1]	2.500	1.000	0.942
AP-4A	September 2018	3	5	24	2	1	5	10	2.5	5	50	0	150	2	2	0.559
	May 2019	3	5	24	1	1	5	10	2.5	5	45	0	173	2	2	0.589
	November 2019	3	5	25	1	1	5	10	2.5	5	42	0	184	2	2	0.713
	May 2020	2	2	29	1	1	5	10	0.514	5	39	0	212	2	2	1.289
	November 2020	2	2	30	1	1	5	10	0	5	39	0	216	2	2	1.28
	May 2021	2	2	30	1	1	5	10	0	5	35	0	209	2	1	0.998
	November 2021	2.500	2.500	30.548	0.500	1.000	5.000	10.000	0.000	5.000	37.445	0.100	214.209	2.500	1.000	1.009
AP-5A	September 2018	3	5	7	2	1	5	10	2.5	5	50	0	173	2	2	0
	May 2019	3	5	7	2	1	5	10	2.5	5	50	0	173	2	2	0.205
	November 2019	3	2	7	2	1	5	10	2.5	5	50	0	170	2	2	0.521
	May 2020	2	2	20	1	1	5	10	0.497	5	28	0	180	2	2	0.221
	November 2020	2	1	22	1	1	5	10	0.497	5	28	0	174	2	2	0.532
	May 2021	2	1	23	1	1	5	2	0.497	5	28	0	179	2	1	0.357
	November 2021	2.500	1.410	26.416	0.500	1.000	5.000	0.000	0.141	5.000	27.873	0.100	204.756	2.500	1.000	0.390

Table 1: 95% LCL Compared to GWPS
Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01113

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	**6**	**20.5**	**2000**	**4**	**5**	**100**	**6****	**4****	**47.8**	**2772.8**	**2**	**660**	**50**	**2****	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2021)	5	20.5	73	1	2	10	20	5	47.8	2772.8	0.35	660	5.9	5	4.042
AP-6A	September 2018	3	5	22	2	1	5	10	2.5	5	50	0	50	2	2	0
	May 2019	3	5	23	2	1	5	10	2.5	5	50	0	50	2	2	0.045
	November 2019	3	5	24	2	1	5	10	2.5	5	50	0	50	2	2	0.120
	May 2020	2	2	24	1	1	5	10	2.5	5	50	0	50	2	2	0.276
	November 2020	2	2	25	1	1	5	10	2.5	5	50	0	50	2	2	0.590
	May 2021	2	2	25	1	1	5	10	0.3	5	50	0	50	2	1	0.272
	November 2021	2.500	1.913	25.642	0.500	1.000	5.000	10.000	0.300	5.000	50.000	0.100	50.000	2.500	1.000	0.356

Notes:
GWPS = Groundwater Protection Standard
MCL = Maximum Contaminant Level
LCL = Lower Confidence Limit
Bold font with gray shading indicates 95% LCL of the mean of the last four measurements that is in exceedance of GWPS.
Bold font with green shading indicates 95% LCL of the mean of the last eight measurements that is in exceedance of GWPS; trend analyses did not identify a decreasing trend to override the exceedance identified from an expanded dataset.
ug/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)
Std. Units = Standard Units
*USEPA'S *Amendments to the National Minimum Criteria (Phase One, Part One), Disposal of Coal Combustion Residuals from Electric Utilities;* effective August 29, 2018 (page 36444).
** Utilizing MCL or USEPA's Ammendment value as GWPS.
1 - Exceedance not declared due to decreasing trend identified over the corresponding dataset. A decreasing trend indicates improvements in water quality are occuring and the use of the expanded dataset does not accurately reflect current conditions.
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.
summary
Reporting units of measure for certain constituents in DUMPStat output tables were changed from units of mg/L (ppm) to ug/L (ppb) beginning with November 2021 LCL analysis to allow for reporting of calculated LCLs to more significant digits.
Table updated to include November 2021 assessment sampling results.

MAY 2022

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 (Federal)	ug/L	AP-1R	4	2.500	0.000	1.176	2.500	2.500	6.000	
Antimony, Total (Federal)	ug/L	AP-2A	4	2.650	0.300	1.176	2.297	3.003	6.000	
Antimony, Total (Federal)	ug/L	AP-2BO	4	2.500	0.000	1.176	2.500	2.500	6.000	
Antimony, Total (Federal)	ug/L	AP-3	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, Total (Federal)	ug/L	AP-3A	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, Total (Federal)	ug/L	AP-4A	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, Total (Federal)	ug/L	AP-4B	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, Total (Federal)	ug/L	AP-4I	4	2.500	0.000	1.176	2.500	2.500	6.000	
Antimony, Total (Federal)	ug/L	AP-5	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, Total (Federal)	ug/L	AP-5A	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, Total (Federal)	ug/L	AP-6A	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, Total (Federal)	ug/L	AP-6B	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, Total (Federal)	ug/L	AP-7	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, Total (Federal)	ug/L	AP-8	4	0.700	0.000	1.176	0.700	0.700	6.000	
Arsenic, Total (Federal)	ug/L	AP-1R	4	1.800	0.082	1.176	1.704	1.896	31.000	
Arsenic, Total (Federal)	ug/L	AP-2A	4	6.725	6.232	1.176	0.000	14.055	31.000	
Arsenic, Total (Federal)	ug/L	AP-2BO	4	2.250	0.420	1.176	1.756	2.744	31.000	
Arsenic, Total (Federal)	ug/L	AP-3	4	2.500	0.000	1.176	2.500	2.500	31.000	
Arsenic, Total (Federal)	ug/L	AP-3A	4	1.500	0.258	1.176	1.196	1.804	31.000	
Arsenic, Total (Federal)	ug/L	AP-4A	4	0.600	0.000	1.176	0.600	0.600	31.000	
Arsenic, Total (Federal)	ug/L	AP-4B	4	0.600	0.000	1.176	0.600	0.600	31.000	
Arsenic, Total (Federal)	ug/L	AP-4I	4	0.600	0.000	1.176	0.600	0.600	31.000	
Arsenic, Total (Federal)	ug/L	AP-5	4	0.600	0.000	1.176	0.600	0.600	31.000	
Arsenic, Total (Federal)	ug/L	AP-5A	4	2.175	0.650	1.176	1.410	2.940	31.000	
Arsenic, Total (Federal)	ug/L	AP-6A	4	2.325	0.350	1.176	1.913	2.737	31.000	
Arsenic, Total (Federal)	ug/L	AP-6B	4	2.500	0.000	1.176	2.500	2.500	31.000	
Arsenic, Total (Federal)	ug/L	AP-7	4	3.175	1.735	1.176	1.134	5.216	31.000	
Arsenic, Total (Federal)	ug/L	AP-8	4	5.525	1.310	1.176	3.984	7.066	31.000	
Barium, Total (Federal)	ug/L	AP-1R	4	65.425	5.329	1.176	59.157	71.693	2000.000	dec
Barium, Total (Federal)	ug/L	AP-2A	4	47.000	3.918	1.176	42.391	51.609	2000.000	dec
Barium, Total (Federal)	ug/L	AP-2BO	4	25.150	1.193	1.176	23.747	26.553	2000.000	
Barium, Total (Federal)	ug/L	AP-3	4	27.300	8.376	1.176	17.448	37.152	2000.000	
Barium, Total (Federal)	ug/L	AP-3A	4	34.875	0.377	1.176	34.431	35.319	2000.000	
Barium, Total (Federal)	ug/L	AP-4A	4	30.225	2.358	1.176	27.451	32.999	2000.000	
Barium, Total (Federal)	ug/L	AP-4B	4	94.075	16.150	1.176	75.078	113.072	2000.000	inc
Barium, Total (Federal)	ug/L	AP-4I	4	26.900	3.881	1.176	22.335	31.465	2000.000	
Barium, Total (Federal)	ug/L	AP-5	4	28.825	9.175	1.176	18.032	39.618	2000.000	
Barium, Total (Federal)	ug/L	AP-5A	4	29.725	4.322	1.176	24.641	34.809	2000.000	
Barium, Total (Federal)	ug/L	AP-6A	4	26.825	3.597	1.176	22.594	31.056	2000.000	dec
Barium, Total (Federal)	ug/L	AP-6B	4	31.800	3.149	1.176	28.096	35.504	2000.000	
Barium, Total (Federal)	ug/L	AP-7	4	77.675	6.677	1.176	69.821	85.529	2000.000	inc
Barium, Total (Federal)	ug/L	AP-8	4	16.025	2.133	1.176	13.516	18.534	2000.000	
Beryllium, Total (Federal)	ug/L	AP-1R	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-2A	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-2BO	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-3	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-3A	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-4A	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-4B	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-4I	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-5	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-5A	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-6A	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-6B	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-7	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, Total (Federal)	ug/L	AP-8	4	3.675	2.156	1.176	1.139	6.211	4.000	
Cadmium, Total (Federal)	ug/L	AP-1R	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-2A	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-2BO	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-3	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-3A	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-4A	4	1.000	0.000	1.176	1.000	1.000	5.000	

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

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard



* - 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 (Federal)	ug/L	AP-4B	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-4I	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-5	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-5A	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-6A	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-6B	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-7	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, Total (Federal)	ug/L	AP-8	4	9.200	4.878	1.176	3.462	14.938	5.000	dec
Chromium, Total (Federal)	ug/L	AP-1R	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-2A	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-2BO	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-3	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-3A	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-4A	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-4B	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-4I	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-5	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-5A	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-6A	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-6B	4	4.250	1.500	1.176	2.486	6.014	100.000	
Chromium, Total (Federal)	ug/L	AP-7	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, Total (Federal)	ug/L	AP-8	4	5.000	0.000	1.176	5.000	5.000	100.000	
Cobalt, Total (Federal)	ug/L	AP-1R	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, Total (Federal)	ug/L	AP-2A	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, Total (Federal)	ug/L	AP-2BO	4	3.675	0.780	1.176	2.757	4.593	6.000	
Cobalt, Total (Federal)	ug/L	AP-3	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, Total (Federal)	ug/L	AP-3A	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, Total (Federal)	ug/L	AP-4A	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, Total (Federal)	ug/L	AP-4B	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, Total (Federal)	ug/L	AP-4I	4	2.275	0.350	1.176	1.863	2.687	6.000	
Cobalt, Total (Federal)	ug/L	AP-5	4	1.825	0.457	1.176	1.287	2.363	6.000	
Cobalt, Total (Federal)	ug/L	AP-5A	4	5.525	5.167	1.176	0.000	11.603	6.000	
Cobalt, Total (Federal)	ug/L	AP-6A	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, Total (Federal)	ug/L	AP-6B	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, Total (Federal)	ug/L	AP-7	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, Total (Federal)	ug/L	AP-8	4	507.750	188.682	1.176	285.805	729.695	6.000	
Fluoride (Federal)	mg/L	AP-1R	4	0.300	0.000	1.176	0.300	0.300	4.000	
Fluoride (Federal)	mg/L	AP-2A	4	0.748	1.168	1.176	0.000	2.122	4.000	
Fluoride (Federal)	mg/L	AP-2BO	4	0.250	0.000	1.176	0.250	0.250	4.000	
Fluoride (Federal)	mg/L	AP-3	4	1.908	1.185	1.176	0.514	3.301	4.000	
Fluoride (Federal)	mg/L	AP-3A	4	1.318	1.365	1.176	0.000	2.924	4.000	
Fluoride (Federal)	mg/L	AP-4A	4	1.315	1.368	1.176	0.000	2.925	4.000	
Fluoride (Federal)	mg/L	AP-4B	4	0.253	0.095	1.176	0.141	0.364	4.000	
Fluoride (Federal)	mg/L	AP-4I	4	0.195	0.040	1.176	0.147	0.243	4.000	
Fluoride (Federal)	mg/L	AP-5	4	0.750	1.167	1.176	0.000	2.123	4.000	
Fluoride (Federal)	mg/L	AP-5A	4	0.300	0.000	1.176	0.300	0.300	4.000	
Fluoride (Federal)	mg/L	AP-6A	4	0.250	0.000	1.176	0.250	0.250	4.000	
Fluoride (Federal)	mg/L	AP-6B	4	0.300	0.000	1.176	0.300	0.300	4.000	
Fluoride (Federal)	mg/L	AP-7	4	0.733	1.178	1.176	0.000	2.119	4.000	
Fluoride (Federal)	mg/L	AP-8	4	0.943	0.501	1.176	0.353	1.532	4.000	
Lead, Total (Federal)	ug/L	AP-1R	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-2A	4	4.125	1.750	1.176	2.066	6.184	47.800	
Lead, Total (Federal)	ug/L	AP-2BO	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-3	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-3A	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-4A	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-4B	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-4I	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-5	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-5A	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-6A	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-6B	4	5.000	0.000	1.176	5.000	5.000	47.800	

* - 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

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 (Federal)	ug/L	AP-7	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lead, Total (Federal)	ug/L	AP-8	4	5.000	0.000	1.176	5.000	5.000	47.800	
Lithium, Total (Federal)	ug/L	AP-1R	4	50.000	0.000	1.176	50.000	50.000	2763.602	
Lithium, Total (Federal)	ug/L	AP-2A	4	78.875	16.320	1.176	59.678	98.072	2763.602	
Lithium, Total (Federal)	ug/L	AP-2BO	4	43.950	12.100	1.176	29.717	58.183	2763.602	
Lithium, Total (Federal)	ug/L	AP-3	4	50.000	0.000	1.176	50.000	50.000	2763.602	
Lithium, Total (Federal)	ug/L	AP-3A	4	50.000	0.000	1.176	50.000	50.000	2763.602	
Lithium, Total (Federal)	ug/L	AP-4A	4	45.725	6.614	1.176	37.945	53.505	2763.602	
Lithium, Total (Federal)	ug/L	AP-4B	4	50.000	0.000	1.176	50.000	50.000	2763.602	
Lithium, Total (Federal)	ug/L	AP-4I	4	50.000	0.000	1.176	50.000	50.000	2763.602	
Lithium, Total (Federal)	ug/L	AP-5	4	43.425	13.150	1.176	27.957	58.893	2763.602	
Lithium, Total (Federal)	ug/L	AP-5A	4	50.000	0.000	1.176	50.000	50.000	2763.602	
Lithium, Total (Federal)	ug/L	AP-6A	4	50.000	0.000	1.176	50.000	50.000	2763.602	
Lithium, Total (Federal)	ug/L	AP-6B	4	50.000	0.000	1.176	50.000	50.000	2763.602	
Lithium, Total (Federal)	ug/L	AP-7	4	50.000	0.000	1.176	50.000	50.000	2763.602	
Lithium, Total (Federal)	ug/L	AP-8	4	65.075	16.756	1.176	45.366	84.784	2763.602	
Mercury, total (Federal)	ug/L	AP-1R	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-2A	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-2BO	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-3	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-3A	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-4A	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-4B	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-4I	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-5	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-5A	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-6A	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-6B	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-7	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	AP-8	4	0.100	0.000	1.176	0.100	0.100	2.000	
Molybdenum, Total (Federal)	ug/L	AP-1R	4	14.250	0.926	1.176	13.161	15.339	660.000	
Molybdenum, Total (Federal)	ug/L	AP-2A	4	1927.500	364.817	1.176	1498.370	2356.630	660.000	dec
Molybdenum, Total (Federal)	ug/L	AP-2BO	4	184.500	37.207	1.176	140.734	228.266	660.000	dec
Molybdenum, Total (Federal)	ug/L	AP-3	4	37.775	24.450	1.176	9.015	66.535	660.000	
Molybdenum, Total (Federal)	ug/L	AP-3A	4	604.750	50.176	1.176	545.729	663.771	660.000	dec
Molybdenum, Total (Federal)	ug/L	AP-4A	4	211.750	20.006	1.176	188.217	235.283	660.000	
Molybdenum, Total (Federal)	ug/L	AP-4B	4	50.000	0.000	1.176	50.000	50.000	660.000	
Molybdenum, Total (Federal)	ug/L	AP-4I	4	115.175	52.025	1.176	53.979	176.371	660.000	
Molybdenum, Total (Federal)	ug/L	AP-5	4	83.675	44.464	1.176	31.372	135.978	660.000	
Molybdenum, Total (Federal)	ug/L	AP-5A	4	231.000	14.652	1.176	213.766	248.234	660.000	
Molybdenum, Total (Federal)	ug/L	AP-6A	4	50.000	0.000	1.176	50.000	50.000	660.000	
Molybdenum, Total (Federal)	ug/L	AP-6B	4	50.000	0.000	1.176	50.000	50.000	660.000	
Molybdenum, Total (Federal)	ug/L	AP-7	4	50.000	0.000	1.176	50.000	50.000	660.000	
Molybdenum, Total (Federal)	ug/L	AP-8	4	50.000	0.000	1.176	50.000	50.000	660.000	
Selenium, Total (Federal)	ug/L	AP-1R	4	0.500	0.000	1.176	0.500	0.500	50.000	
Selenium, Total (Federal)	ug/L	AP-2A	4	0.800	0.000	1.176	0.800	0.800	50.000	
Selenium, Total (Federal)	ug/L	AP-2BO	4	0.500	0.000	1.176	0.500	0.500	50.000	
Selenium, Total (Federal)	ug/L	AP-3	4	2.200	0.616	1.176	1.475	2.925	50.000	
Selenium, Total (Federal)	ug/L	AP-3A	4	2.500	0.000	1.176	2.500	2.500	50.000	
Selenium, Total (Federal)	ug/L	AP-4A	4	2.500	0.000	1.176	2.500	2.500	50.000	
Selenium, Total (Federal)	ug/L	AP-4B	4	11.725	4.639	1.176	6.269	17.181	50.000	
Selenium, Total (Federal)	ug/L	AP-4I	4	0.800	0.000	1.176	0.800	0.800	50.000	
Selenium, Total (Federal)	ug/L	AP-5	4	2.725	1.242	1.176	1.264	4.186	50.000	
Selenium, Total (Federal)	ug/L	AP-5A	4	2.500	0.000	1.176	2.500	2.500	50.000	
Selenium, Total (Federal)	ug/L	AP-6A	4	0.800	0.000	1.176	0.800	0.800	50.000	
Selenium, Total (Federal)	ug/L	AP-6B	4	2.350	0.755	1.176	1.462	3.238	50.000	
Selenium, Total (Federal)	ug/L	AP-7	4	0.800	0.000	1.176	0.800	0.800	50.000	
Selenium, Total (Federal)	ug/L	AP-8	4	2.775	0.991	1.176	1.609	3.941	50.000	
Thallium, Total (Federal)	ug/L	AP-1R	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-2A	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-2BO	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-3	4	0.500	0.000	1.176	0.500	0.500	2.300	

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

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

**											

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LCL = Lower Confidence Limit
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Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend
Thallium, Total (Federal)	ug/L	AP-3A	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-4A	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-4B	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-4I	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-5	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-5A	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-6A	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-6B	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-7	4	0.500	0.000	1.176	0.500	0.500	2.300	
Thallium, Total (Federal)	ug/L	AP-8	4	0.500	0.000	1.176	0.500	0.500	2.300	
Total Radium (Federal)	pCi/L	AP-1R	4	0.967	0.159	1.176	0.780	1.155	5.000	
Total Radium (Federal)	pCi/L	AP-2A	4	1.362	0.335	1.176	0.968	1.756	5.000	
Total Radium (Federal)	pCi/L	AP-2BO	4	1.198	0.178	1.176	0.988	1.407	5.000	
Total Radium (Federal)	pCi/L	AP-3	4	0.646	0.152	1.176	0.468	0.824	5.000	
Total Radium (Federal)	pCi/L	AP-3A	4	1.433	0.348	1.176	1.023	1.842	5.000	
Total Radium (Federal)	pCi/L	AP-4A	4	1.243	0.585	1.176	0.555	1.930	5.000	
Total Radium (Federal)	pCi/L	AP-4B	4	0.843	0.377	1.176	0.399	1.287	5.000	
Total Radium (Federal)	pCi/L	AP-4I	4	1.391	0.659	1.176	0.616	2.167	5.000	
Total Radium (Federal)	pCi/L	AP-5	4	1.246	0.728	1.176	0.390	2.102	5.000	
Total Radium (Federal)	pCi/L	AP-5A	4	0.982	0.341	1.176	0.581	1.384	5.000	
Total Radium (Federal)	pCi/L	AP-6A	4	0.790	0.369	1.176	0.356	1.224	5.000	
Total Radium (Federal)	pCi/L	AP-6B	4	0.800	0.000	1.176	0.800	0.800	5.000	
Total Radium (Federal)	pCi/L	AP-7	4	1.361	0.555	1.176	0.709	2.014	5.000	
Total Radium (Federal)	pCi/L	AP-8	4	1.138	0.300	1.176	0.785	1.491	5.000	

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Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

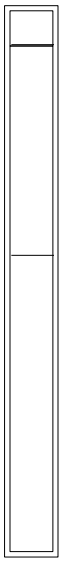

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Table 1: 95% LCL Compared to GWPS

Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01278

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**	**31**	**2000**	**4**	**5**	**100**	**6****	**4****	**47.8**	**2763.6016**	**2**	**660**	**50**	**2.3**	**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 2022)	5	31	73	1	2	10	20	5	47.8	2763.6016	0.35	660	5.9	2.3	3.8866
Shallow Zone																
AP-1R	September 2018	3	5	46	2	1	5	10	2.5	5	50	0	50	2	2	0
	May 2019	3	2	47	1	1	5	10	2.5	5	50	0	24	2	2	0.511
	November 2019	3	1	47	1	1	5	10	2.5	5	50	0	10	2	2	0.549
	May 2020	3	0	49	1	1	5	10	0.505	5	50	0	5	2	2	0.182
	November 2020	2	1	54	1	1	5	10	0.505	5	50	0	14	2	2	0.182
	May 2021	2	1	52	1	1	5	10	0.505	5	50	0	14	2	1	0.081
	November 2021	2.500	1.627	57.663	0.500	1.000	5.000	10.000	0.149	5.000	50.000	0.100	13.488	2.500	1.000	0.793
	May 2022	2.500	1.704	59.157	0.500	1.000	5.000	10.000	0.300	5.000	50.000	0.100	13.161	0.500	0.500	0.780
AP-2BO	September 2018	3	5	18	2	1	5	10	2.5	5	50	0	406	2	2	0.413
	May 2019	3	3	17	1	1	5	4	2.5	5	50	0	298	2	2	0.371
	November 2019	3	2	17	1	1	5	1	2.5	5	50	0	183	2	2	0.501
	May 2020	3	1	21	1	1	5	0	2.5	5	50	0	157	2	2	0.212
	November 2020	2	2	23	1	1	5	3	2.5	5	50	0	99	2	2	0.845
	May 2021	2	2	24	1	1	5	2	0.300	5	50	0	65	2	1	0.623
	November 2021	2.500	1.839	23.749	0.5	1.000	5.000	2.565	0.300	5.000	29.717	0.100	48.318 264.819 (N=10)	2.500	1.000	0.886
	May 2022	2.500	1.756	23.747	0.500	1.000	5.000	2.757	0.250	5.000	29.717	0.100	140.734	0.500	0.500	0.988
AP-3	September 2018	3	5	13	2	1	5	10	2.5	5	50	0	50	2	2	0.248
	May 2019	3	5	14	1	1	5	3	0.505	5	50	0	50	2	2	0.260
	November 2019	3	5	13	1	1	5	3	0.505	5	50	0	50	2	2	0.336
	May 2020	2	3	19	1	1	5	0	0	5	50	0	50	2	2	0.049
	November 2020	2	2	22	1	1	5	0	0	5	50	0	50	1	2	0.049
	May 2021	2	2	25	1	1	5	4	0.514	5	50	0	50	1	1	0.000
	November 2021	2.500	2.249	24.051	0.500	1.000	5.000	4.049 5.499 (N=8)	0.514	5.000	50.000	0.100	50.000	1.401	1.000	0.534
	May 2022	0.700	2.5	17.448	0.500	1.000	5.000	10	0.514	5.000	50.000	0.100	9.015	1.475	0.500	0.468
AP-4B	September 2018	2	5	42	2	1	5	10	2.5	5	50	0	50	6	2	0.094
	May 2019	3	5	49	1	1	5	10	0.497	5	50	0	50	6	2	0
	November 2019	3	5	48	1	1	5	10	0.497	5	50	0	50	7	2	0.132
	May 2020	2	2	45	1	1	5	10	0.497	5	50	0	50	6	2	0.328
	November 2020	2	2	62	1	1	5	10	0.497	5	50	0	50	6	2	0.708
	May 2021	2	2	63	1	1	5	10	2.5	5	50	0	50	4	1	0.704
	November 2021	2.500	2.500	75.904	0.500	1.000	5.000	10.000	0.300	5.000	50.000	0.100	50.000	4.454	1.000	0.530
	May 2022	0.700	0.600	75.078	0.500	1.000	5.000	10.000	0.141	5.000	50.000	0.100	50.000	6.269	0.500	0.399

Table 1: 95% LCL Compared to GWPS

Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01278

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**	**31**	**2000**	**4**	**5**	**100**	**6****	**4****	**47.8**	**2763.6016**	**2**	**660**	**50**	**2.3**	**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 2022)	5	31	73	1	2	10	20	5	47.8	2763.6016	0.35	660	5.9	2.3	3.8866
AP-4I	September 2018	3	5	19	2	1	5	10	2.5	5	50	0	35	2	2	1.161
	May 2019	3	5	19	2	1	5	3	0.547	5	50	0	37	2	2	1.219
	November 2019	3	5	19	2	1	5	1	0	5	50	0	54	2	2	1.096
	May 2020	3	2	22	1	1	5	0	0	5	32	0	85	2	2	0.413
	November 2020	2	2	28	1	1	5	2	0.15	5	32	0	77	2	2	0.302
	May 2021	2	2	26	1	1	5	2	0.145	5	32	0	84	2	1	0.161
	November 2021	2.500	2.500	26.374	0.500	1.000	5.000	1.839	0.15	5.000	31.561	0.100	79.542	2.500	1.000	0.251
	May 2022	2.500	0.600	22.335	0.500	1.000	5.000	1.863	0.147	5.000	50	0.100	53.979	0.800	0.500	0.616
AP-5	September 2018	3	5	17	2	1	5	10	2.5	5	50	0	60	2	2	0.107
	May 2019	3	5	19	2	1	5	3	0.564	5	26	0	62	2	2	0
	November 2019	3	5	22	2	1	5	1	0	5	16	0	114	2	2	0.248
	May 2020	2	2	23	1	1	5	0	0	5	14	0	123	2	2	0.000
	November 2020	2	2	26	1	1	5	2	0.18	5	19	0	108	2	2	0.365
	May 2021	2	2	17	1	1	5	1	0	5	16	0	69	2	1	0.237
	November 2021	2.500	2.500	17.864	0.500	1.000	5.000	1.287	0.000	5.000	22.562	0.100	74.912	1.154	1.000	0.195
	May 2022	0.700	0.600	18.032	0.500	1.000	5.000	1.287	0.000	5.000	27.957	0.100	31.372	1.264	0.500	0.390
AP-6B	September 2018	3	5	24	2	1	5	10	2.5	5	50	0	50	2	2	0.122
	May 2019	3	5	23	2	1	5	10	0.497	5	50	0	50	2	2	0.219
	November 2019	3	5	23	2	1	5	10	0.497	5	50	0	50	1	2	0.219
	May 2020	2	5	23	1	1	5	10	0.497	5	50	0	50	1	2	0.895
	November 2020	2	2	24	1	1	5	10	0.295	5	50	0	50	1	2	0.8
	May 2021	2	2	29	1	1	5	10	1.250	5	50	0	50	1	1	0.890
	November 2021	2.500	2.500	28.817	0.500	1.000	5.000	10.000	0.300	5.000	50.000	0.100	50.000	1.025	1.000	0.800
	May 2022	0.700	2.500	28.096	0.500	1.000	2.486	10.000	0.300	5.000	50.000	0.100	50.000	1.462	0.500	0.800
AP-7	September 2018	3	5	46	2	2	5	10	2.5	5	50	0	50	2	2	0.608
	May 2019	3	3	45	2	1	5	10	0.505	5	50	0	50	2	2	0
	November 2019	3	1	46	2	1	5	10	0	5	50	0	50	2	2	0
	May 2020	2	1	47	1	1	5	10	0	5	50	0	50	2	2	0.191
	November 2020	2	1	56	1	1	5	10	0.122	5	50	0	50	2	2	0.124
	May 2021	2	1	54	1	1	5	10	0.122	5	50	0	50	2	1	0.073
	November 2021	2.500	1.653	64.912	0.500	1.000	5.000	10.000	0.125	5.000	50.000	0.100	50.000	2.500	1.000	0.510
	May 2022	0.700	1.134	69.821	0.500	1.000	5.000	10.000	0.000	5.000	50.000	0.100	50.000	0.800	0.500	0.709

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Multiunit Ash Pond System
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01278

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**	**31**	**2000**	**4**	**5**	**100**	**6****	**4****	**47.8**	**2763.6016**	**2**	**660**	**50**	**2.3**	**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 2022)	5	31	73	1	2	10	20	5	47.8	2763.6016	0.35	660	5.9	2.3	3.8866
AP-8	September 2018	3	5	12	2	**7**	5	**283**	2.5	5	50	0	50	2	2	1.163
	May 2019	3	5	12	2	**5**	5	**247**	0.782	5	40	0	50	2	2	0.798
	November 2019	3	5	12	2	**5**	5	**244**	0.152	5	40	0	50	2	2	0.813
	May 2020	2	6	14	1	**5**	5	**242**	0	5	33	0	50	2	2	0.297
	November 2020	2	6	15	2	**6**	5	**258**	0.325	5	32	0	50	2	2	0.297
	May 2021	2	4	14	0	**6**	5	**205**	0.177	5	33	0	50	2	1	0.508
	November 2021	2.500	4.161	13.983	0.235 1.794 (N=10)	3.804 **5.883 (N=8)**	5.000	**187.414**	0.103	5.000	32.266	0.100	50.000	1.609	1.000	0.451 0.888 (N=8)
	May 2022	0.700	3.984	13.516	1.139	3.462 **6.438 (N=8)**	5.000	**285.805**	0.353	5.000	45.366	0.100	50.000	1.609	0.500	0.785

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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**	**31**	**2000**	**4**	**5**	**100**	**6****	**4****	**47.8**	**2763.6016**	**2**	**660**	**50**	**2.3**	**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 2022)	5	31	73	1	2	10	20	5	47.8	2763.6016	0.35	660	5.9	2.3	3.8866
Deep Zone																
AP-2A	September 2018	3	0	35	2	1	5	10	2.5	5	33	0	**2081**	2	2	1.08
	May 2019	3	0	35	1	1	5	3	0.497	5	41	0	**1984**	2	2	0.768
	November 2019	3	0	36	1	1	5	0	0	5	53	0	**2046**	2	2	0.504
	May 2020	2	0	40	1	1	5	0	0	5	55	0	**2177**	2	2	0
	November 2020	2	4	44	1	1	5	0	0.117	5	79	0	**2231**	2	2	0
	May 2021	2	3	44	1	1	5	3	0.146	5	68	0	**2008**	2	1	0
	November 2021	2.081	2.433	43.404	0.500	1.000	5.000	10.000	0.146	5.000	66.877	0.100	**1716.383**	2.500	1.000	0.975 0.957 (N=8)
	May 2022	2.297	0.000	42.391	0.500	1.000	5.000	10.000	0.000	2.066	59.678	0.100	**1498.37**	0.800	0.500	0.968
AP-3A	September 2018	3	5	27	2	1	5	10	2.5	5	50	0	**676**	2	2	0.528
	May 2019	3	2	27	1	1	5	10	2.5	5	50	0	**672**	2	2	0.518
	November 2019	3	1	28	1	1	5	3	2.5	5	50	0	612	2	2	0.770
	May 2020	2	0	35	1	1	5	3	0.522	5	50	0	617	2	2	0.798
	November 2020	2	1	35	1	1	5	3	0	5	50	0	595	2	2	0.834
	May 2021	2	1	35	1	1	5	3	0	5	50	0	575	2	1	0.796
	November 2021	2.500	1.267	33.538	0.500	1.000	5.000	10.000	0.000	5.000	50.000	0.100	501.908 678.165 (N=10)[1]	2.500	1.000	0.942
	May 2022	0.700	1.196	34.431	0.500	1.000	5.000	10.000	0.000	5.000	50.000	0.100	545.729 625.593 (N=9)	2.500	0.500	1.023
AP-4A	September 2018	3	5	24	2	1	5	10	2.5	5	50	0	150	2	2	0.559
	May 2019	3	5	24	1	1	5	10	2.5	5	45	0	173	2	2	0.589
	November 2019	3	5	25	1	1	5	10	2.5	5	42	0	184	2	2	0.713
	May 2020	2	2	29	1	1	5	10	0.514	5	39	0	212	2	2	1.289
	November 2020	2	2	30	1	1	5	10	0	5	39	0	216	2	2	1.28
	May 2021	2	2	30	1	1	5	10	0	5	35	0	209	2	1	0.998
	November 2021	2.500	2.500	30.548	0.500	1.000	5.000	10.000	0.000	5.000	37.445	0.100	214.209	2.500	1.000	1.009
	May 2022	0.700	0.600	27.451	0.500	1.000	5.000	10.000	0.000	5.000	37.945	0.100	188.217	2.500	0.500	0.555
AP-5A	September 2018	3	5	7	2	1	5	10	2.5	5	50	0	173	2	2	0
	May 2019	3	5	7	2	1	5	10	2.5	5	50	0	173	2	2	0.205
	November 2019	3	2	7	2	1	5	10	2.5	5	50	0	170	2	2	0.521
	May 2020	2	2	20	1	1	5	10	0.497	5	28	0	180	2	2	0.221
	November 2020	2	1	22	1	1	5	10	0.497	5	28	0	174	2	2	0.532
	May 2021	2	1	23	1	1	5	2	0.497	5	28	0	179	2	1	0.357
	November 2021	2.500	1.410	26.416	0.500	1.000	5.000	0.000	0.141	5.000	27.873	0.100	204.756	2.500	1.000	0.390
	May 2022	0.700	1.410	24.641	0.500	1.000	5.000	0.000	0.300	5.000	50	0.100	213.766	2.500	0.500	0.581

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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**	**31**	**2000**	**4**	**5**	**100**	**6****	**4****	**47.8**	**2763.6016**	**2**	**660**	**50**	**2.3**	**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 2022)	5	31	73	1	2	10	20	5	47.8	2763.6016	0.35	660	5.9	2.3	3.8866
AP-6A	September 2018	3	5	22	2	1	5	10	2.5	5	50	0	50	2	2	0
	May 2019	3	5	23	2	1	5	10	2.5	5	50	0	50	2	2	0.045
	November 2019	3	5	24	2	1	5	10	2.5	5	50	0	50	2	2	0.120
	May 2020	2	2	24	1	1	5	10	2.5	5	50	0	50	2	2	0.276
	November 2020	2	2	25	1	1	5	10	2.5	5	50	0	50	2	2	0.590
	May 2021	2	2	25	1	1	5	10	0.3	5	50	0	50	2	1	0.272
	November 2021	2.500	1.913	25.642	0.500	1.000	5.000	10.000	0.300	5.000	50.000	0.100	50.000	2.500	1.000	0.356
	May 2022	0.700	1.913	22.594	0.500	1.000	5.000	10.000	0.250	5.000	50.000	0.100	50.000	0.800	0.500	0.356

Notes:
GWPS = Groundwater Protection Standard
MCL = Maximum Contaminant Level
LCL = Lower Confidence Limit
Bold font with gray shading indicates 95% LCL of the mean of the last four measurements that is in exceedance of GWPS.
Bold font with green shading indicates 95% LCL of the mean of the last eight measurements (or as otherwise indicated) that is in exceedance of GWPS.
ug/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)
Std. Units = Standard Units
*USEPA'S *Amendments to the National Minimum Criteria (Phase One, Part One), Disposal of Coal Combustion Residuals from Electric Utilities;* effective August 29, 2018 (page 36444).
** Utilizing MCL or USEPA's Ammendment value as GWPS.
1 - Exceedance not declared due to trend identified over the corresponding dataset. Datasets containing trends do not display stationality and are not appropriate to utilize for LCL calculations.
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.
summary
Reporting units of measure for certain constituents in DUMPStat output tables were changed from units of mg/L (ppm) to ug/L (ppb) beginning with November 2021 LCL analysis to allow for reporting of calculated LCLs to more significant digits.
Table updated to include May 2022 assessment sampling results.